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SPAAR Information System

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WEST & CENTRAL AFRICA



SPAAR

Special Program for African Agricultural Research
Programme Spécial pour la Recherche Agricole en Afrique

internationaal agrarisch centrum

INTERNATIONAL AGRICULTURAL CENTRE
CENTRE INTERNATIONAL D'AGRICULTURE
CENTRO INTERNACIONAL DE AGRICULTURA



Wageningen 14 September 1994

Dear reader,

This is a hardcopy selection of data from the SPAAR Information System (SIS) per March 1994.

The SIS-database contains information regarding current agricultural research projects funded or executed by organizations in donor countries.

At the last SIS-meeting Rome 1994 the International Agricultural Centre (IAC) in the Netherlands was asked to distribute hardcopy-printouts on demand during 1994/1995.

This document contains a selection of projects concerning **West & Central Africa** (Benin, Cameroon, Congo, Côte d'Ivoire, Equatorial Guinea, Gabon, Ghana, Guinea, Guinea-Bissau, Liberia, Nigeria, Sao Tome and Principe, Sierra Leone, Togo, Zaire) and is presented in 3 parts:

- an overview of projects by **research discipline** (yellow pages);
- an overview of projects by **country** (grey pages);
- **descriptions** of project-content (white pages).

The **Special Programme for African Agricultural Research (SPAAR)** emerged as an initiative in the mid-eighties to enhance agricultural production in Africa by increasing donor co-ordination in the field of agricultural research. The SPAAR Information System (SIS) was developed to come to grips with the increasing number of activities. It complements the registration of national funded projects in FAO's database CARIS. At present over 4000 projects are recorded in SIS which are now available on various CD-ROM's (AGRISEARCH-Silver Platter and DAI-INDEX/IDRC)

The SIS operates as a system in which focal points in donor countries or -agencies are responsible for collection of donor-project data. Focal points are ATSAF (Germany), NRI (United Kingdom), IDRC (Canada and for Japanese data), USAID (United States of America), CIRAD (France) and IAC (the Netherlands). Other focal points are located in aid-agencies such as the World Bank.

The SPAAR Secretariat at the World Bank is responsible for updating and distributing the database to SIS focal points, users in national research systems and other relevant organizations.

The software is based on CDS-ISIS in order to facilitate free distribution. The classification of projects is done on the basis of AGRIS-CARIS keywords and in addition keywords are allotted from FAO's AGROVOC-thesaurus.

Free classification terms are developed by IAC to aggregate projects under major themes by combining AGRIS/CARIS categories.

You are welcome to contact the SPAAR-Secretariat, Mr F. Neuman/ K. Vermooten at IAC or your nearest SIS-focal point for further information regarding SIS or for obtaining the database.

Yours sincerely,

Frans Neuman

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Agrarian systems

Cassava and household food security in rural area of Makeni/Segbwema in Sierra Leone.
(01787) Overseas Development Administration (NRRD).

Developpement Bas Fonds de Riz production Bafata.
(05600) SNV (Association Neerlandais d'Assistance au Developpement).

Methodology for agricultural marketing systems policy and practise. and its application to current reforms.
(01721) Overseas Development Administration (NRRD).

Socio-economic assessment of biotechnologies for small farmers.
(04707) Overseas Development Administration (NRRD).

Sustainable use of natural resources? Case study on the dynamics of land use in Northern Ghana.
(05705) Institut fuer Agrarökonomie der Universitaet Goettingen.

The role of plant residues in soil management for food production in the humid tropics.
(05626) AB (Research Institute for Agrobiolgy and Soil Fertility).

Agricultural economics and policies

Agricultural marketing.
(04426) World Bank; Ghana.

Agricultural policy and planning.
(03668) U.S. Agency for International Development.

Agricultural sector.
(04425) World Bank; Ghana.

Agricultural services rehabilitation project.
(01105) World Bank; Ghana.

Agriculture.
(04413) World Bank; Benin.

Agriculture.
(04422) World Bank; Cote d'Ivoire.

Agriculture services.
(01119) World Bank; Central African Republic.

Agroeconomic study of cassava in Sub-Saharan Africa.
(01222) Rockefeller Foundation.

Cassava and household food security in rural area of Makeni/Segbwema in Sierra Leone.

Index of projects by discipline

(01787) Overseas Development Administration (NRRD).

Developing graduate training in agricultural economics.
(02041) Winrock International.

Dynamics of intensification on traditional farms and efficiency of innovations concerning farming systems at sub-humid sites.
(04604) Universitaet Hohenheim.

Economic role of women in the cocoa industry (Nigeria).
(04262) International Development Research Centre.

Economics of post harvest loss reducing measures.
(03772) University of Hohenheim.

Food security.
(04411) World Bank: Benin.

Food security project.
(04160) World Bank: Cameroon.

Food technology policy (Nigeria).
(02586) International Development Research Centre.

Micro-economic potentials and limits to the introduction of Alley cropping systems in traditional farming systems in South Benin.
(04605) Universitaet Hohenheim.

Peri-urban vegetable production and consumption in Sub-saharan Africa.
(04905) The Asian Vegetable Research and Development Center (AVRDC).

Promotion and financing of micro-industries, especially in the informal sector of Nigeria/West Africa.
(04632) Ruhr-Universitaet Bochum.

Public works in Africa to improve food-security.
(04626) Deutsche Gesellschaft fuer technische Zusammenarbeit (GTZ).

Research programme on food security, strategies and policies.
(03417) CILSS-Sahel Institute.

Rural financing systems and agricultural price policy in support of innovations. F2.1: The rural households financial requirements and formal and informal financial institutions analysed in the province Oueme in the Peoples Republic of Benin. F2.2: Agricultural price policy and its effects on production, income and employment.
(04658) Universitaet Hohenheim.

SADAOC (Securite Alimentaire durable en Afrique de l'Ouest Centrale).
(05662) ECDPM (European Centre for Development Policy Management).

Index of projects by discipline

Strategies Alimentaires (STRA) [Food Strategies Network].
(02655) ORSTOM/Institut Francais de Recherche Scientifique pour le Developpement en
Cooperation.

Urea injector test.
(04143) Research Institute for Agrobiolgy and Soil Fertility (AB).

Agricultural engineering

Kaduna/Katsina agricultural development project (formerly Kaduna State integrated
agricultural development project).
(01014) World Bank: Nigeria.

Public works in Africa to improve food-security.
(04626) Deutsche Gesellschaft fuer technische Zusammenarbeit (GTZ).

U.S./Israel program for cooperative development research.
(01949) U.S. Agency for International Development.

Agricultural machinery and equipment

Development and promotion of appropriate tools and implement for the 'agricultural and
food processing sector' (interim phase) (ILO/89/INT/M03).
(05648) ILO (International Labour Office).

Improvements to rural oilseed processing in Africa.
(04699) Overseas Development Administration (NRRD).

Network on land development for sustainable agriculture in Africa (AFRICALAND - Land
development).
(02109) International Board for Soil Research and Management.

Palm oil processing (Sierra Leone).
(02365) International Development Research Centre.

Agricultural research

Adaptive crop research and extension.
(01334) U.S. Agency for International Development.

African Research Network on Rural Poultry Development.
(02624) United Nations Food and Agriculture Organization.

Agricultural education.
(01918) U.S. Agency for International Development.

Agricultural education II.

Index of projects by discipline

(01920) U.S. Agency for International Development.

Agricultural extension (formerly National agricultural extension project).
(03429) World Bank: Ghana.

Agricultural extension needs assessment survey.
(04461) Food and Agriculture Organization of the United Nations.

Agricultural research and extension II.
(01849) U.S. Agency for International Development.

Agricultural research and extension project.
(01114) African Development Bank.

Agricultural research II.
(01206) World Bank: Cameroon.

Agricultural sector development.
(02030) World Bank: Guinea-Bissau.

Agricultural services (formerly Agriculture and natural resources management).
(05394) World Bank: Sierra Leone.

Agricultural services (formerly Agriculture).
(04417) World Bank: Gabon.

Agricultural services (formerly Second agricultural services project).
(01197) World Bank: Guinea.

Agricultural services rehabilitation.
(01207) World Bank: Togo.

Agricultural services rehabilitation project.
(01105) World Bank: Ghana.

Agricultural services restructuring project.
(01117) World Bank: Benin.

Agriculture services.
(01119) World Bank: Central African Republic.

Applied agricultural research II.
(03669) U.S. Agency for International Development.

Applied research and extension.
(01888) U.S. Agency for International Development.

Applied research programme: Eastern and Central African Agroforestry Network for
Africa (ECA-AFRENA) - The bimodal highlands.
(02615) International Council for Research in Agroforestry.

Index of projects by discipline

Applied research programme: Network for Humid Lowlands of West Africa (HULWA-AFRENA).
(02618) International Council for Research in Agroforestry (ICRAF).

Cassava Network [Réseau Manioc].
(02084) Conférence des Responsables de Recherche Agronomique Africains et Français.

Central Agricultural Research Institute.
(01085) Food and Agriculture Organization of the United Nations (FAO).

Cocoa rehabilitation project.
(01010) World Bank; Ghana.

Collaborative Research Support Program (CRSP): Peanuts.
(01341) U.S. Agency for International Development (USAID)/University of Georgia.

Crop diversification and agricultural services project.
(01193) World Bank; Equatorial Guinea.

Drought Resistance Research Network (R3S) [Réseau de Recherche sur la Résistance à la Sécheresse].
(02610) Conférence des Responsables de Recherche Agronomique Africains et Français.

Epidemiology and control of anthracnose disease of yam in Nigeria.
(05749) Overseas Development Administration (NRRD).

Groundnut Network [Réseau Arachide].
(02087) Conférence des Responsables Agronomiques Africains et Français.

International agricultural research centers: 09 International Livestock Center for Africa (ILCA).
(01967) U.S. Agency for International Development.

Maize Cropping Systems Improvement Network [Réseau de Recherches sur l'Amélioration de la Culture du Maïs].
(02173) Conférence des Responsables de Recherche Agronomique Africains.

Management of vertisols under semi-arid conditions in Africa (MOVUSAC).
(01022) International Board for Soil Research and Management.

National agricultural export promotion project (Export crop, formerly Agricultural export promotion, formerly Export crops).
(01017) World Bank; Guinea.

National agricultural extension and adaptive research project.
(01191) World Bank; Congo.

National agricultural extension and training.
(01180) World Bank; Cameroon.

Index of projects by discipline

- National agricultural research.
(01134) World Bank; Cameroon.
- National agricultural research project.
(01211) World Bank; Zaire.
- National agricultural research project.
(01332) World Bank; Ghana.
- National agricultural research project.
(01673) World Bank; Nigeria.
- National agricultural services.
(02095) World Bank; Cote d'Ivoire.
- National agricultural technology support.
(03420) World Bank; Nigeria.
- National extension project.
(03435) World Bank; Zaire.
- National research and extension project.
(01139) World Bank; Guinea.
- National seed and quarantine project.
(02755) World Bank; Nigeria.
- National seeds project.
(01678) World Bank; Guinea.
- Network for Improvement of Rice Cultivation [Réseau Riz].
(02161) Conférence des Responsables de Recherche Agronomique Africains et Français.
- NIPSSSET: African agriculture - year 2000 program.
(02071) Nigeria Institute of Plant Science and Solar Energy/Technology.
- Nyankpala agricultural experiment station, Tamale.
(01425) Gesellschaft fuer Technische Zusammenarbeit (GTZ).
- Oil palm development project - Phase II.
(03474) World Bank; Ghana.
- Peri-urban vegetable production and consumption in Sub-saharan Africa.
(04905) The Asian Vegetable Research and Development Center (AVRDC).
- Programme on supporting services: documentation, information and training.
(03419) CILSS-Sahel Institute.
- Regional cooperation on cotton research and development.
(01116) World Bank.

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Research programme on phylogenetic resources.
(03408) CILSS-Sahel Institute.

Réseau Coton (COTON).
(02082) France: Conférence des Responsables de Recherches Agronomiques Africains et Français (CORAF).

Seeds project.
(01163) World Bank; Zaire.

Social Science Interface Research Unit (SSIRU)
(02779) The International Centre of Insect Physiology and Ecology.

Start-up grants - [International Fertilizer Development Center-Africa].
(02141) International Fertilizer Development Center, Africa (IFDC-Africa).

Strengthening African agricultural research: 01 CIAT bean research in East Africa (CDA).
(01872) U.S. Agency for International Development.

Strengthening African agricultural research: 13 West Africa Rice Development Association (WARDA) - Mangrove and associated swamp rice research.
(01857) U.S. Agency for International Development.

Strengthening maize and cassava research in eleven countries of West and Central Africa: Plan of action.
(02665) Ministère de la Coopération (France).

Target group oriented management of national agricultural research.
(04608) Zentrum fuer Regionale Entwicklungsforschung der Universitaet Giessen.

Third multi-state agricultural development project.
(02754) World Bank; Nigeria.

Time-budget-utilization of rural households in South-Benin.
(04633) Universitaet Karlsruhe.

Traditional Techniques of Micro Climate Improvement (TTMI), phase II.
(05658) WAU (Wageningen Agricultural University).

Universities and national agricultural research in Sub-Saharan Africa.
(03678) International Service for National Agricultural Research.

University environmental linkage: Range development and Camel studies.
(04648) Justus von Liebig Universitaet Giessen.

West Africa Maize Collaborative Research Network [Réseau Maïs].
(02156) Conférence des Responsables de Recherche Agronomique Africains.

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West African Farming Systems Research Network (WAFSRN/RESPAC).
(02619) International Fund for Agricultural Development (IFAD) Semi-Arid Food Grain
Research and Development (SAFGRAD).

West African Rice Information System (WARIS).
(04246) International Development Research Centre.

Agricultural structures

Investigations of requirements for a new technique of large scale cocoa fermentation
adapted to local conditions in Ghana.
(02884) Commission of the European Communities.

Agriculture - General aspects

Agriculture sector restructuring.
(03660) U.S. Agency for International Development.

Child nutrition and agriculture (Nigeria).
(04232) International Development Research Centre.

Effects of dust deposits and microvariability on edaphical site conditions with regard
to semi-arid and sub-humid locations in West Africa.
(04657) Universitaet Hohenheim.

Liberalization of agricultural marketing (Nigeria).
(04254) International Development Research Centre.

Local pig husbandry (Congo).
(04206) International Development Research Centre.

Public works in Africa to improve food-security.
(04626) Deutsche Gesellschaft fuer technische Zusammenarbeit (GTZ).

Recherche Appliquee en Milieu Reel (RAMR).
(05612) KIT (Royal Tropical Institute).

Rural development and nutrition (Benin) - Phase I.
(04178) International Development Research Centre.

University environmental linkage: Range development and Camel studies.
(04648) Justus von Liebig Universitaet Giessen.

West African Rice Information System (WARIS).
(04246) International Development Research Centre.

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Agro-industry

African Research Network for Agricultural By-Products (ARNAB).
(02170) International Development Research Centre (IDRC); International Livestock Centre for Africa (ILCA).

Fifth oil palm development project.
(01006) World Bank; Cote d'Ivoire.

Methodology for agricultural marketing systems policy and practise, and its application to current reforms.
(01721) Overseas Development Administration (NRFD).

NIPSSSET: African agriculture - year 2000 program.
(02071) Nigeria Institute of Plant Science and Solar Energy/Technology.

Promotion and financing of micro-industries, especially in the informal sector of Nigeria/West Africa.
(04632) Ruhr-Universitaet Bochum.

Research programme on food security, strategies and policies.
(03417) CILSS-Sahel Institute.

West Africa Maize Collaborative Research Network [Réseau Maïs].
(02156) Conférence des Responsables de Recherche Agronomique Africains.

Animal diseases

Characterization of lymphocytes and production of interferon as parameters for distinguishing trypanotolerance in animals and people.
(02847) Commission of the European Communities.

Comparison of the productivity of trypanotolerant ruminants.
(02848) Commission of the European Communities.

Development of equipment and methods for continuous production of bacterial antigens within a closed bioreactor system.
(03938) Institut fuer Pflanzenbau und Tierhygiene in den Tropen und Subtropen, Universitaet Goettingen.

Draught animals for production/feeding and working strategies for draught animals.
(04753) Overseas Development Administration (NRFD).

Identification of Bacteria through analysis of metabolic products and cell components by means of Gas Liquid Chromatography (GLC).
(03786) Institute for Tropical Animal Health, University Goettingen.

Immunity against trypanosomiasis and mechanisms of trypanotolerance in animals.
(03932) Institut fuer Parasitologie und Tropenveterinaermedizin, Freie Universitaet

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Berlin

Improving the Diagnosis and Control of Trypanosomiasis and other Vector-borne Diseases of African Livestock, using Immunoassay Methods.
(02627) Directorate General for International Cooperation (DGIS).

Increase of productivity and control of diseases of small ruminants.
(03410) CILSS-Sahel Institute.

Investigations on the interaction between trypanosomiasis challenge and nutritional status of Djallonke sheep in the subhumid savanna of West Africa.
(04621) Universitaet Hohenheim.

National livestock project.
(01131) World Bank; Central African Republic.

NIPSSSET: African agriculture - year 2000 program.
(02071) Nigeria Institute of Plant Science and Solar Energy/Technology.

Nutritive value and animal health.
(01405) Universitaet Hohenheim.

Pathology of small ruminants: etiology, vaccines and prophylaxis.
(03411) CILSS-Sahel Institute.

Phenolics including tannins in multipurpose trees and browse and their effect on ruminant nutrition and health.
(04620) Universitaet Hohenheim.

Production of bacterial vaccines in a continuous bioreactor with subsequent purification of antigen through ultrafiltration.
(03785) Institute for Tropical Animal Health, University Goettingen.

Reduction of clostridiosis relating to productive livestock through supplementary feeding of forage plants containing tannins.
(04659) Universitaet Hohenheim.

Research, coordination, and training for improved livestock production in Sub-Saharan Africa.
(02732) Commission of the European Communities.

Sero-surveillance of rinderpest and other diseases in Africa, using immunoassay techniques.
(02628) Swedish Agency for Rural Cooperation (SAREC).

Social Science Interface Research Unit (SSIRU).
(02779) The International Centre of Insect Physiology and Ecology.

Socioeconomic and environmental factors related to development and application of vaccines for animal diseases in Africa.

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(01223) Rockefeller Foundation.

The Livestock Trypanotolerant Network.

(02081) Overseas Development Administration.

West African Forages Network (WAFNET).

(02103) Multilateral Cooperation Division, Economic Cooperation Bureau, MOFA, JAPAN.

Animal ecology

Investigations in production and reproduction records and their interrelationship with environmental factors in Diallonke sheep in Ghana.

(01443) Deutsche Forschungsgemeinschaft (DFG).

Investigations on the diversity of rain and cloud forests in Rwanda and Zaire.

(05688) Botanisches Institut der Universität Bonn, Abt. Systematik und Morphologie.

Socioeconomic and environmental factors related to development and application of vaccines for animal diseases in Africa.

(01223) Rockefeller Foundation.

Animal feeding

African Research Network for Agricultural By-Products (ARNAB).

(02170) International Development Research Centre (IDRC); International Livestock Centre for Africa (ILCA).

African Small Ruminant Collaborative Research Network.

(02620) International Fund for Agricultural Development.

Draught animals for production/feeding and working strategies for draught animals.

(04753) Overseas Development Administration (NRRD).

Drought Resistance Research Network (R3S) [Réseau de Recherche sur la Résistance à la Sécheresse].

(02610) Conférence des Responsables de Recherche Agronomique Africains et Français.

Feeding and management strategies for draught animals.

(01820) Overseas Development Administration (NRRD).

Investigation in biological parameters of *Achatina achatina*.

(03806) Universität Göttingen

Livestock (formerly Livestock services).

(03421) World Bank, Ghana.

Livestock III.

(03422) World Bank, Nigeria.

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Management of the West African Dwarf Goat in the humid tropics (Phase II and III).
(03625) Agricultural University Wageningen.

Management of the West African Dwarf Goat in the Humid Tropics (Phases II and III).
(05508) Agricultural University Wageningen. The Netherlands (Dept. Animal Husbandry;
Dept. Agricultural Economics)/Obafemi Awolowo University. (Dept. of Animal Science).
Ile-Ife, Nigeria.

NIPSET: African agriculture - year 2000 program.
(02071) Nigeria Institute of Plant Science and Solar Energy/Technology.

Nutrient requirements of the Grasscutter.
(03790) German Agency for Technical Cooperation (GTZ).

Nutritive value and animal health.
(01405) Universitaet Hohenheim.

Reduction of clostridiosis relating to productive livestock through supplementary
feeding of forage plants containing tannins.
(04659) Universitaet Hohenheim.

Research and study programme on the possibility of intensification of fodder and animal
production in the framework of an association of agriculture and livestock breeding in
Sub-Saharan, Sudanian and Guinean zones.
(03413) CILSS-Sahel Institute.

Research on small ruminants in the humid and sub-humid zones of West Africa.
(02110) International Fund for Agricultural Development.

Research, coordination, and training for improved livestock production in Sub-Saharan
Africa.
(02732) Commission of the European Communities.

The effect of strategic supplementary feeding on growth and reproduction of N'Dama
cattle.
(04646) Justus von Liebig Universitaet Giessen.

The effect of tannins on nutrient digestibility and animal performance in small
ruminants.
(04635) Universitaet Hohenheim.

The utilisation of sweet potato and cassava root meal in poultry diets.
(05757) Overseas Development Administration (NRRD).

West African Forages Network (WAFNET).
(02103) Multilateral Cooperation Division, Economic Cooperation Bureau, MOFA, JAPAN.

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Animal genetics and breeding

Assessment of conditions for replicating production systems in Africa's savanna areas - second stage.

(02098) Centre de Cooperation Internationale en Recherche Agronomique pour le Developpement (CIRAD).

Development of breeding methods for improved utilization of local gene resources in poultry for improving the productivity of livestock and production of animal protein in Cameroon.

(04642) Institute of Animal Research, Cameroon.

Evaluation of productivity of local hair sheep populations and introduction of high yielding genetic material through crossbreeding.

(04641) Institute of Animal Research, Cameroon.

Immunity against trypanosomiasis and mechanisms of trypanotolerance in animals.

(03932) Institut fuer Parasitologie und Tropenveterinaermedizin, Freie Universitaet Berlin.

Investigation in biological parameters of Achatina achatina.

(03806) Universitaet Goettingen.

Investigations on significance of major genes for breeding of layers and broilers in tropical locations (Cameroon).

(04643) Institut of Animal Research, Cameroon.

Investigations on the interaction between trypanosomiasis challenge and nutritional status of Djallonke sheep in the subhumid savanna of West Africa.

(04621) Universitaet Hohenheim.

Livestock (formerly Livestock services).

(03421) World Bank, Ghana.

NIPSSSET: African agriculture - year 2000 program.

(02071) Nigeria Institute of Plant Science and Solar Energy/Technology.

Significance of rotational crossbreeding for improving productive adaptability of pigs at tropical locations (Cameroon).

(04644) Institute of Animal Research, Cameroon.

Small Ruminants and Camel Group.

(02632) Deutsche Gesellschaft fuer Technische Zusammenarbeit (GTZ) Gmb H.

Study on reproduction criteria of the Grasscutter.

(04623) Universitaet Hohenheim.

The Livestock Trypanotolerant Network.

(02081) Overseas Development Administration.

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U.S./Israel program for cooperative development research.
(01949) U.S. Agency for International Development.

Animal husbandry

African Research Network on Rural Poultry Development.
(02624) United Nations Food and Agriculture Organization.

African Small Ruminant Collaborative Research Network.
(02620) International Fund for Agricultural Development.

Agricultural education.
(01918) U.S. Agency for International Development.

Agricultural sector development.
(02030) World Bank; Guinea-Bissau.

Agricultural services (formerly Second agricultural services project).
(01197) World Bank; Guinea.

Agricultural services restructuring project.
(01117) World Bank; Benin.

Animal health.
(04409) World Bank; Zaire.

CAR - rural development.
(01894) U.S. Agency for International Development.

Cattle Research Network (CARNET) (formerly Cattle Milk and Meat Network).
(05358) International Livestock Center for Africa.

Comparison of the productivity of trypanotolerant ruminants.
(02848) Commission of the European Communities.

Development of breeding methods for improved utilization of local gene resources in poultry for improving the productivity of livestock and production of animal protein in Cameroon.
(04642) Institute of Animal Research; Cameroon.

Draught animals for production/feeding and working strategies for draught animals.
(04753) Overseas Development Administration (NRRD).

Evaluation of productivity of local hair sheep populations and introduction of high yielding genetic material through crossbreeding.
(04641) Institute of Animal Research, Cameroon.

Improving the Productivity of Indigenous African Livestock using Radioimmunoassay and related Techniques.

Index of projects by discipline

(02621) Directorate General for International Cooperation (DGIS).

Increase of productivity and control of diseases of small ruminants.
(03410) CILSS-Sahel Institute.

International agricultural research centers: 09 International Livestock Center for Africa (ILCA).
(01967) U.S. Agency for International Development.

Investigation in biological parameters of *Achatina achatina*.
(03805) Universitaet Goettingen.

Investigations in production and reproduction records and their interrelationship with environmental factors in Diallonke sheep in Ghana.
(01443) Deutsche Forschungsgemeinschaft (DFG).

Livestock.
(04420) World Bank: Cote d'Ivoire.

Livestock (formerly Livestock services).
(03421) World Bank: Ghana.

Livestock III.
(03422) World Bank: Nigeria.

Management of the West African Dwarf Goat in the humid tropics (Phase II and III).
(03625) Agricultural University Wageningen.

Management of the West African Dwarf Goat in the Humid Tropics (Phases II and III).
(05508) Agricultural University Wageningen, The Netherlands (Dept. Animal Husbandry; Dept. Agricultural Economics)/Obafemi Awolowo University, (Dept. of Animal Science), Ile-Ife, Nigeria.

National agricultural research.
(01134) World Bank: Cameroon.

National agricultural research project.
(01211) World Bank: Zaire.

National agricultural research project.
(01673) World Bank: Nigeria.

National livestock project.
(01131) World Bank: Central African Republic.

Nutrient requirements of the Grasscutter.
(03790) German Agency for Technical Cooperation (GTZ).

Recherche Appliquee en Milieu Reel (RAMR).
(05612) KIT (Royal Tropical Institute).

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Reduction of clostridiosis relating to productive livestock through supplementary feeding of forage plants containing tannins.
(04659) Universitaet Hohenheim.

Regional Tropical Leafy Trees Improvement Program [Programme Regional d'Amelioration des Feuillus Tropicaux (PRAFT)].
(02169) European Economic Commission (EEC).

Research and study programme on the improved management of extensive national rangelands in the Sahel (PGENES).
(03412) CILSS-Sahel Institute.

Research and study programme on the possibility of intensification of fodder and animal production in the framework of an association of agriculture and livestock breeding in Sub-Saharan, Sudanian and Guinean zones.
(03413) CILSS-Sahel Institute.

Research, coordination, and training for improved livestock production in Sub-Saharan Africa.
(02732) Commission of the European Communities.

Rural land management project (formerly Land tenure).
(04419) World Bank; Cote d'Ivoire.

Sidamo/Gamo Gofa peasant agricultural development project.
(01113) African Development Bank.

Significance of rotational crossbreeding for improving productive adaptability of pigs at tropical locations (Cameroon).
(04644) Institute of Animal Research; Cameroon.

Small holder productivity.
(01896) U.S. Agency for International Development.

Small Ruminant and Camel Group Research Network.
(05381) International Livestock Center for Africa.

Smallholder production.
(01850) U.S. Agency for International Development.

Socioeconomic and environmental factors related to development and application of vaccines for animal diseases in Africa.
(01223) Rockefeller Foundation.

Study on reproduction criteria of the Grasscutter.
(04623) Universitaet Hohenheim.

Support of Zootechnical Research Institute (iRIC).
(01426) Gesellschaft fuer Technische Zusammenarbeit (GTZ).

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The effect of strategic supplementary feeding on growth and reproduction of N'Dama cattle.

(04646) Justus von Liebig Universitaet Giessen.

The Livestock Trypanotolerant Network.

(02081) Overseas Development Administration.

The utilisation of sweet potato and cassava root meal in poultry diets.

(05757) Overseas Development Administration (NRRD).

Veterinary promotion of the "Grasscutter Project".

(03943) Institut fuer Tiermedizin und Tierhygiene, Universitaet Hohenheim.

West African Forages Network (WAFNET).

(02103) Multilateral Cooperation Division, Economic Cooperation Bureau, MOFA, JAPAN.

Zou Province rural development project.

(01001) World Bank; Benin.

Animal physiology - Reproduction

Development of breeding methods for improved utilization of local gene resources in poultry for improving the productivity of livestock and production of animal protein in Cameroon.

(04642) Institute of Animal Research; Cameroon.

Evaluation of productivity of local hair sheep populations and introduction of high yielding genetic material through crossbreeding.

(04641) Institute of Animal Research, Cameroon.

Investigation in biological parameters of *Achatina achatina*.

(03806) Universitaet Goettingen.

Investigations in production and reproduction records and their interrelationship with environmental factors in Diallonke sheep in Ghana.

(01443) Deutsche Forschungsgemeinschaft (DFG).

Investigations on significance of major genes for breeding of layers and broilers in tropical locations (Cameroon).

(04643) Institut of Animal Research; Cameroon.

Investigations on the interaction between trypanosomiasis challenge and nutritional status of Djallonke sheep in the subhumid savanna of West Africa.

(04621) Universitaet Hohenheim.

Livestock (formerly Livestock services).

(03421) World Bank; Ghana.

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Management of the West African Dwarf Goat in the humid tropics (Phase II and III).
(03625) Agricultural University Wageningen.

Management of the West African Dwarf Goat in the Humid Tropics (Phases II and III).
(05508) Agricultural University Wageningen, The Netherlands (Dept. Animal Husbandry;
Dept. Agricultural Economics); Obafemi Awolowo University. (Dept. of Animal Science),
Ile-Ife, Nigeria.

Phenolics including tannins in multipurpose trees and browse and their effect on
ruminant nutrition and health.
(04620) Universitaet Hohenheim.

Productivity of autochthonous cattle breeds in the humid and subhumid zone of West
Africa.
(04628) Gesellschaft fuer technische Zusammenarbeit (GTZ).

Significance of rotational crossbreeding for improving productive adaptability of pigs
at tropical locations (Cameroon).
(04644) Institute of Animal Research; Cameroon.

Study on reproduction criteria of the Grasscutler.
(04623) Universitaet Hohenheim.

The effect of tannins on nutrient digestibility and animal performance in small
ruminants.
(04635) Universitaet Hohenheim.

Animal physiology and biochemistry

Development of breeding methods for improved utilization of local gene resources in
poultry for improving the productivity of livestock and production of animal protein in
Cameroon.
(04642) Institute of Animal Research; Cameroon.

Evaluation of productivity of local hair sheep populations and introduction of high
yielding genetic material through crossbreeding.
(04641) Institute of Animal Research, Cameroon.

Phenolics including tannins in multipurpose trees and browse and their effect on
ruminant nutrition and health.
(04620) Universitaet Hohenheim.

Significance of rotational crossbreeding for improving productive adaptability of pigs
at tropical locations (Cameroon).
(04644) Institute of Animal Research; Cameroon.

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Animal structure

Development of breeding methods for improved utilization of local gene resources in poultry for improving the productivity of livestock and production of animal protein in Cameroon.

(04642) Institute of Animal Research; Cameroon.

Evaluation of productivity of local hair sheep populations and introduction of high yielding genetic material through crossbreeding.

(04641) Institute of Animal Research, Cameroon.

Identification of Bacteria through analysis of metabolic products and cell components by means of Gas Liquid Chromatography (GLC).

(03786) Institute for Tropical Animal Health, University Goettingen.

Investigations on significance of major genes for breeding of layers and broilers in tropical locations (Cameroon).

(04643) Institut of Animal Research; Cameroon.

Significance of rotational crossbreeding for improving productive adaptability of pigs at tropical locations (Cameroon).

(04644) Institute of Animal Research; Cameroon.

Animal taxonomy and geography

Congo wildlands protection and management.

(04482) Global Environmental Facility; Congo.

Ecological protection (formerly Forestry and environment).

(01178) World Bank; Cameroon.

Environmental action program.

(04412) World Bank; Benin.

National resources/management support.

(01185) U.S. Agency for International Development.

Natural resource management project.

(01186) World Bank; Central African Republic.

Aquaculture production and management

Fish culture expansion.

(01887) U.S. Agency for International Development.

Optimal management of aquaculture of pond systems in developing countries.

(01464) Universitaet Kiel.

Pond culture (Ghana).

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(02501) International Development Research Centre.

U.S./Israel program for cooperative development research.

(01949) U.S. Agency for international Development.

Aquatic ecology

Optimal management of aquaculture of pond systems in developing countries.

(01464) Universitaet Kiel.

Consumer economics

Agroeconomic study of cassava in Sub-Saharan Africa.

(01222) Rockefeller Foundation.

NIPSET: African agriculture - year 2000 program.

(02071) Nigeria Institute of Plant Science and Solar Energy/Technology.

Peri-urban vegetable production and consumption in Sub-saharan Africa.

(04905) The Asian Vegetable Research and Development Center (AVRDC).

Pond culture (Ghana).

(02501) International Development Research Centre.

Research programme on food security, strategies and policies.

(03417) CILSS-Sahel Institute.

Cooperatives

Agricultural services rehabilitation.

(01207) World Bank; Togo.

Center West agricultural development project.

(01004) World Bank; Cote d'Ivoire.

National agricultural services.

(02095) World Bank; Cote d'Ivoire.

Palm oil extraction (Cameroon).

(02426) International Development Research Centre.

Rural organizations and participation (Sierra Leone).

(04259) International Development Research Centre.

Second Western Province rural development.

(01135) World Bank; Cameroon.

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Crop husbandry

African Small Ruminant Collaborative Research Network.
(02620) International Fund for Agricultural Development.

Agricultural diversification project.
(02026) World Bank; Ghana.

Agricultural price politics of the Benin and the effect on production, dissemination of income, budget and balance of payments.
(01412) Universitaet Hohenheim.

Agricultural privatization and smallholder development (formerly Agricultural sector development).
(03746) World Bank; Sao Tome & Principe.

Agricultural restructuring and diversification (formerly Export promotion/diversification, formerly Private export crops).
(01104) World Bank; Cameroon.

Agricultural sector development.
(02030) World Bank; Guinea-Bissau.

Agricultural services restructuring project.
(01117) World Bank; Benin.

Agroeconomic study of cassava in Sub-Saharan Africa.
(01222) Rockefeller Foundation.

Agronomic Fertilizer Research Program (AFRP).
(02147) International Fertilizer Development Center, Africa (IFDC-Africa).

Agronomic Network for East and Southern Africa.
(02611) United Nations Development Program (UNDP); World Bank.

Applied research programme: Network for Humid Lowlands of West Africa (HULWA-AFRENA).
(02618) International Council for Research in Agroforestry (ICRAF).

CAR - rural development.
(01894) U.S. Agency for International Development.

Center West agricultural development project.
(01004) World Bank; Cote d'Ivoire.

Central Agricultural Research Institute.
(01085) Food and Agriculture Organization of the United Nations (FAO).

Cocoa rehabilitation project.
(01010) World Bank; Ghana.

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Collaborative Research Support Program (CRSP): Beans and cowpeas.
(01345) U.S. Agency for International Development (USAID)/Michigan State University

Collaborative Research Support Program (CRSP): Peanuts
(01341) U.S. Agency for International Development (USAID)/University of Georgia.

Cotton area rural development project.
(01132) World Bank: Central African Republic.

Crop diversification and agricultural services project.
(01193) World Bank: Equatorial Guinea

Development and promotion of appropriate tools and implement for the 'agricultural and food processing sector' (interim phase) (ILO/89/INT/M03).
(05648) ILO (International Labour Office).

Developpement Bas Fonds de Riz production Bafata.
(05600) SNV (Association Neerlandais d'Assistance au Developpement).

Développement des recherches menées en zone de forêt dense humide dans le domaine de l'agroforesterie / Development of agroforestry research carried out in the tropical rain forest zone.
(04654) Universitaet Bayreuth.

Egusi shellers (Cameroon).
(02429) International Development Research Centre.

Evaluation of tropical lowland forage legumes for sub-humid West Africa at ILCA.
(03779) Universitaet Giessen.

Fifth oil palm development project.
(01006) World Bank: Cote d'Ivoire.

Food security.
(04411) World Bank: Benin.

Food security project.
(04160) World Bank: Cameroon.

Fourth rubber project.
(01003) World Bank: Cote d'Ivoire.

Global 2000 - Sasakawa Africa initiative agriculture project.
(01291) Global 2000 Found.

Gueckedou agricultural development project.
(01136) World Bank: Guinea.

Increase of productivity and control of diseases of small ruminants.
(03410) CILSS-Sahel Institute.

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Industrial crops.

(01208) World Bank: Zaire.

INIBAP/Taxonomic Linguistic Study of Plantain Cultivars in Africa.

(05649) INIBAP.

International Rubber Research and Development Board (IRRDB).

(01212) International Rubber Research and Development Board.

Livestock (formerly Livestock services).

(03421) World Bank: Ghana.

Maize II/Lulua agricultural development project.

(01162) World Bank: Zaire.

Meat/fish processing (Nigeria).

(02428) International Development Research Centre.

National agricultural extension and adaptive research project.

(01191) World Bank: Congo.

National agricultural research.

(01134) World Bank: Cameroon.

National agricultural research project.

(01211) World Bank: Zaire.

National agricultural research project.

(01332) World Bank: Ghana.

National agricultural research project.

(01673) World Bank: Nigeria.

National livestock development II.

(04415) World Bank: Central African Republic.

National livestock project.

(01131) World Bank: Central African Republic.

Nyankpala agricultural experiment station, Tamale.

(01425) Gesellschaft fuer Technische Zusammenarbeit (GTZ).

On-Farm Fertilizer Adoption Program (OFFAP).

(02148) International Fertilizer Development Center, Africa (IFDC-Africa).

Palm oil processing (Sierra Leone).

(02365) International Development Research Centre.

Peri-urban vegetable production and consumption in Sub-saharan Africa.

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(04905) The Asian Vegetable Research and Development Center (AVRDC).

Programme for Improvement of Potatoes in Central Africa [Programme Regional pour l'Amelioration de la Culture de la Pomme de Terre en Afrique Centrale] (PRAPAC).
(02079) U.S. Agency for International Development.

Programme for the strengthening of research on production systems.
(03418) CILSS-Sahel Institute.

Rainfed rice development project.
(04356) African Development Bank.

Recherche Appliquee en Milieu Reel (RAMR).
(05612) KIT (Royal Tropical Institute).

Regional cooperation on cotton research and development.
(01116) World Bank.

Regional programme for the improvement of millet, sorghum, cowpeas, and maize
(transitional phase).
(03407) CILSS-Sahel Institute.

Research and study programme on the improved management of extensive national
rangelands in the Sahel (PGENES).
(03412) CILSS-Sahel Institute.

Research and study programme on the possibility of intensification of fodder and animal
production in the framework of an association of agriculture and livestock breeding in
Sub-Saharan, Sudanian and Guinean zones.
(03413) CILSS-Sahel Institute

Research on small ruminants in the humid and sub-humid zones of West Africa.
(02110) International Fund for Agricultural Development.

Réseau Coton (COTON).
(02082) France: Conférence des Responsables de Recherches Agronomiques Africains et
Français (CORAF).

Rice production II.
(01886) U.S. Agency for International Development.

Root and tuber crops research.
(01878) U.S. Agency for International Development.

Rural land management project (formerly Land tenure).
(04419) World Bank: Cote d'Ivoire.

Second Western Province rural development.
(01135) World Bank: Cameroon.

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Sidamo/Gamo Gofa peasant agricultural development project.
(01113) African Development Bank.

Soil Fertility Restoration Project (SFRP).
(02143) International Fertilizer Development Center, Africa (IFDC-Africa).

Soybean threshers (Nigeria).
(02519) International Development Research Centre.

Strengthening African agricultural research: 01 CIAT bean research in East Africa
(CDA).
(01872) U.S. Agency for International Development.

Strengthening maize and cassava research in eleven countries of West and Central
Africa: Plan of action.
(02665) Ministère de la Coopération (France).

Technology of microcatchment water harvesting for irrigation in semi-arid zones.
(01472) Universitaet Goettingen.

The East and Southern Africa Root Crops Research Network (ESARRN).
(02080) U.S. Agency for International Development (USAID)/International Development
Research Centre (IDRC)/International Institute of Tropical Agriculture (IITA).

The role of organic substance in maintaining soil fertility of different sites in South
Benin.
(04661) Universitaet Hohenheim.

Third coffee and cocoa development project.
(01008) World Bank; Togo.

Third multi-state agricultural development project.
(02754) World Bank; Nigeria.

Tree crops (Oilpalm, Rubber).
(02756) World Bank; Nigeria.

University environmental linkage: Range development and Camel studies.
(04648) Justus von Liebig Universitaet Giessen.

West African Forages Network (WAFNET).
(02103) Multilateral Cooperation Division, Economic Cooperation Bureau, MOFA, JAPAN.

West and Central Africa Sorghum Research Network (WCASRN).
(02075) U.S. Agency for International Development (USAID)/Semi-Arid Food Grain Research
and Development (SAFGRAD).

West Kenya rainfed rice development project.
(01115) African Development Bank.

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Zou Province rural development project.
(01001) World Bank: Benin.

Cropping patterns and systems

A Feasibility study on establishing an African Centre for Fertilizer Development.
(01684) GTZ (Deutsche Gesellschaft fuer Technische Zusammenarbeit).

Adaptive crop research and extension.
(01334) U.S. Agency for International Development.

Adoption of agroforestry systems in developing countries.
(01791) Overseas Development Administration (NRRD).

African Small Ruminant Collaborative Research Network.
(02620) International Fund for Agricultural Development.

Agricultural credit for development in the Upper West Region of Ghana.
(04607) Universitaet Giessen.

Agricultural diversification project.
(02026) World Bank: Ghana.

Agricultural export promotion.
(04418) World Bank: Cote d'Ivoire.

Agricultural extension (formerly National agricultural extension project).
(03429) World Bank: Ghana.

Agricultural restructuring and diversification (formerly Export promotion/diversification, formerly Private export crops).
(01104) World Bank: Cameroon.

Agricultural services (formerly Second agricultural services project).
(01197) World Bank: Guinea.

Agroforestry research for development of the drylands of West Africa.
(02113) International Fund for Agricultural Development.

Agroforestry systems in the Tropics.
(03859) Gesellschaft fuer Technische Zusammenarbeit (GTZ).

Agrosilviculture en zone humide - Congo [Humid zone agrosilvopastoral systems - Congo].
(01289) International Development Research Centre.

Alley Farming Network for Tropical Africa.
(02088) Canadian International Development Agency (CIDA)/International Development Research Centre (IDRC).

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Animal health.

(04409) World Bank; Zaire.

Applied research programme: Eastern and Central African Agroforestry Network for Africa (ECA-AFRENA) - The bimodal highlands.

(02615) International Council for Research in Agroforestry.

Applied research programme: Network for Humid Lowlands of West Africa (HULWA-AFRENA).

(02618) International Council for Research in Agroforestry (ICRAF).

Applying science and technology to development.

(01947) U.S. Agency for International Development.

Aspects of vegetation management in fallow systems in West Africa.

(05714) Institut fuer Pflanzenbau in den Tropen und Subtropen der Universitaet Hohenheim. Fachgebiet Agrarokologie der Tropen und Subtropen.

Assessment of conditions for replicating production systems in Africa's savanna areas - second stage.

(02098) Centre de Cooperation Internationale en Recherche Agronomique pour le Developpement (CIRAD).

Cassava and household food security in rural area of Makeni/Segbwema in Sierra Leone.

(01787) Overseas Development Administration (NRRD).

Cassava Network [Réseau Manioc].

(02084) Conférence des Responsables de Recherche Agronomique Africains et Français.

Cocoa rehabilitation project.

(01010) World Bank; Ghana.

Collaborative Research Support Program (CRSP): Beans and cowpeas.

(01345) U.S. Agency International Development (USAID)/Michigan State University.

Communication, Documentation, and Training Program (CDTP).

(02142) International Fertilizer Development Center, Africa (IFDC-Africa).

Community reforestation (CARE).

(01919) U.S. Agency for International Development.

Conservation of soil fertility by peasant farmers in Atlantic Province, Benin.

(02890) Commission of the European Communities.

Development of adapted farming systems on the basis of draught animal utilization in the North-west Province of Cameroon.

(03885) Universitaet Goettingen.

Développement des recherches menées en zone de forêt dense humide dans le domaine de l'agroforesterie / Development of agroforestry research carried out in the tropical rain forest zone.

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(04654) Universitaet Bayreuth.

Drought Resistance Research Network (R3S) [Réseau de Recherche sur la Résistance à la Sécheresse].

(02610) Conférence des Responsables de Recherche Agronomique Africains et Français.

Dynamics of intensification on traditional farms and efficiency of innovations concerning farming systems at sub-humid sites.

(04604) Universitaet Hohenheim.

Environment project (formerly Pilot forest and environment project).

(02787) World Bank; Zaire.

Fourth rubber project.

(01003) World Bank; Cote d'Ivoire.

Ghana grains development project - Phase III.

(02104) Canadian International Development Agency.

Gueckedou agricultural development project.

(01136) World Bank; Guinea.

Human food value of Australian acacia seeds.

(05389) Australian Centre for International Agricultural Research.

Impact of the most important trees for alley-cropping on soil fertility properties in the Ivory Coast/West Africa.

(04669) Universitaet Bayreuth.

Importance of spontaneous vegetation and biotic limitation factors in traditional cropping systems at a sub-humid site.

(04660) Universitaet Hohenheim.

Industrial crops.

(01208) World Bank; Zaire.

International Rice Testing Program for Africa (IRTP).

(02160) United Nations Development Program (UNDP); European Economic Commission (EEC); Japan.

Investigations and development of site adaptive agroforestry systems.

(04665) Universitaet Bayreuth.

Investigations in different forms of soil erosion under different cropping systems in Nigeria.

(01377) Gesellschaft fuer Technische Zusammenarbeit (GTZ).

Maize Cropping Systems Improvement Network [Réseau de Recherches sur l'Amélioration de la Culture du Maïs].

(02173) Conférence des Responsables de Recherche Agronomique Africains.

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Management of the West African Dwarf Goat in the humid tropics (Phase II and III).
(03625) Agricultural University Wageningen.

Micro-economic potentials and limits to the introduction of Alley cropping systems in traditional farming systems in South Benin.
(04605) Universitaet Hohenheim.

Multi-state agricultural development project.
(01015) World Bank: Nigeria.

National agricultural extension and adaptive research project.
(01191) World Bank: Congo.

National agricultural research project.
(01211) World Bank: Zaire.

National agricultural research project.
(01332) World Bank: Ghana.

National cereals research and extension II.
(01877) U.S. Agency for International Development.

National research and extension project.
(01139) World Bank: Guinea.

Natural resource management project.
(01186) World Bank: Central African Republic.

Natural resources management project.
(04367) World Bank: Congo.

Network on management of acid soils in humid Africa (AFRICALAND - Management of acid soils).
(01021) International Board for Soil Research and Management.

NIPSSSET: African agriculture - year 2000 program.
(02071) Nigeria Institute of Plant Science and Solar Energy/Technology.

Nutrient and water-use efficiency of crops grown on highly weathered soils in the Humid Tropics.
(03890) Landwirtschaftliche Forschungsanstalt Buentehof.

Nutrient budgets in relation to the sustainability of indigenous farming systems in Northern Nigeria.
(05755) Overseas Development Administration (NRRD).

Nyankpala agricultural experiment station, Tamale.
(01425) Gesellschaft fuer Technische Zusammenarbeit (GTZ).

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Oil palm development project - Phase II.
(03474) World Bank; Ghana.

Private rural enterprise and diversification (formerly Export crop development).
(01184) World Bank; Central African Republic.

Programme for Improvement of Potatoes in Central Africa [Programme Regional pour l'Amelioration de la Culture de la Pomme de Terre en Afrique Centrale] (PRAPAC).
(02079) U.S. Agency for International Development.

Programme for the strengthening of research on production systems.
(03418) CILSS-Sahel Institute.

Reconnaissance / preparation study on forestry biotechnology in the drought-prone Sub-Saharan African countries, with special reference to Sahelian and Sudanian zones (SSZ).
(02094) World Bank.

Regional cooperation on cotton research and development.
(01116) World Bank.

Research and study programme on the possibility of intensification of fodder and animal production in the framework of an association of agriculture and livestock breeding in Sub-Saharan, Sudanian and Guinean zones.
(03413) CILSS-Sahel Institute.

Réseau Coton (COTON).
(02082) France; Conference des Responsables de Recherches Agronomique Africains et Français (CORAF).

Root and tuber crops research.
(01878) U.S. Agency for International Development.

Rural financing systems and agricultural price policy in support of innovations. F2.1: The rural households financial requirements and formal and informal financial institutions analysed in the province Oueme in the Peoples Republic of Benin. F2.2: Agricultural price policy and its effects on production, income and employment.
(04658) Universitaet Hohenheim.

Second forestry project.
(04351) World Bank; Nigeria.

Sidamo/Gamo Gofa peasant agricultural development project.
(01113) African Development Bank.

Small holder productivity.
(01896) U.S. Agency for International Development.

Smallholder production.
(01850) U.S. Agency for International Development.

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Strengthening African agricultural research: 01 CIAT bean research in East Africa (CDA).

(01872) U.S. Agency for International Development.

The characterization of rice growing agro-ecosystems in West Africa (initial phase).
(05601) WSC (Winand Staring Centre for Integrated Land, Soil and Water Research).

The East and Southern Africa Root Crops Research Network (ESARRN).
(02080) U.S. Agency for International Development (USAID)/International Development Research Centre (IDRC)/International Institute of Tropical Agriculture (IITA).

The epidemiology and control of the sorghum foliar pathogens in the semi-arid tropics.
(01813) Overseas Development Administration (NRRD).

The role of organic substance in maintaining soil fertility of different sites in South Benin.
(04661) Universitaet Hohenheim.

Third multi-state agricultural development project.
(02754) World Bank; Nigeria.

Time-budget-utilization of rural households in South-Benin.
(04633) Universitaet Karlsruhe.

U.S./Israel program for cooperative development research.
(01949) U.S. Agency for International Development.

West Africa Maize Collaborative Research Network [Réseau Maïs].
(02156) Conférence des Responsables de Recherche Agronomique Africains.

West African Farming Systems Research Network (WAFSRN/RESPAO).
(02619) International Fund for Agricultural Development (IFAD)/Semi-Arid Food Grain Research and Development (SAFGRAD).

West and Central Africa Maize Collaborative Research Network (WECAMAN).
(02157) U.S. Agency for International Development (USAID)/Semi-Arid Food Grain Research and Development (SAFGRAD).

West Kenya rainfed rice development project.
(01115) African Development Bank.

[Soils and ecological studies of the Kazaboua agroforestry system in the Central Region of Togo] Etudes pédologiques et écologiques dans le système agroforestier de Kazaboua. Région Centrale Togo.
(03813) Universitaet Bayreuth.

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Development economics and policies

A Feasibility study on establishing an African Centre for Fertilizer Development.
(01684) GTZ (Deutsche Gesellschaft fuer Technische Zusammenarbeit).

Adaptive crop research and extension.
(01334) U.S. Agency for International Development.

African Center of Meteorological Applications for Development (ACMAD).
(01109) World Meteorological Organization (WMO).

African Research Network for Agricultural By-Products (ARNAB).
(02170) International Development Research Centre (IDRC): International Livestock Centre for Africa (ILCA).

African Research Network on Rural Poultry Development.
(02624) United Nations Food and Agriculture Organization.

African Small Ruminant Collaborative Research Network.
(02620) International Fund for Agricultural Development.

Agricultural education.
(01918) U.S. Agency for International Development.

Agricultural extension (formerly National agricultural extension project).
(03429) World Bank; Ghana.

Agricultural privatization and smallholder development (formerly Agricultural sector development).
(03746) World Bank; Sao Tome & Principe.

Agricultural research and extension II.
(01849) U.S. Agency for International Development.

Agricultural sector development.
(02030) World Bank; Guinea-Bissau.

Agricultural services (formerly Agriculture and natural resources management).
(05334) World Bank; Sierra Leone.

Agricultural services (formerly Second agricultural services project).
(01197) World Bank; Guinea.

Agricultural services restructuring project.
(01117) World Bank; Benin.

Agriculture.
(04413) World Bank; Benin.

Agroforestry research for development of the drylands of West Africa.

Index of projects by discipline

(02113) International Fund for Agricultural Development.

Applied research and extension.

(01888) U.S. Agency for International Development.

Applied research programme: Eastern and Central African Agroforestry Network for Africa (ECA-AFRENA) - The bimodal highlands.

(02615) International Council for Research in Agroforestry.

Applied research programme: Network for Humid Lowlands of West Africa (HULWA-AFRENA).

(02618) International Council for Research in Agroforestry (ICRAF).

Applying science and technology to development.

(01947) U.S. Agency for International Development.

CAR - rural development.

(01894) U.S. Agency for International Development.

Cassava Network [Réseau Manioc].

(02084) Conférence des Responsables de Recherche Agronomique Africains et Français.

Center West agricultural development project.

(01004) World Bank; Cote d'Ivoire.

Central Shaba agricultural development.

(03667) U.S. Agency for International Development.

Communication, Documentation, and Training Program (CDTP).

(02142) International Fertilizer Development Center, Africa (IFDC-Africa).

Conservation of soil fertility by peasant farmers in Atlantic Province, Benin.

(02890) Commission of the European Communities.

Cotton area rural development project.

(01132) World Bank; Central African Republic.

Developing graduate training in agricultural economics.

(02041) Winrock International.

Development and current situation of land tenure in English-speaking West Africa: the case of Sierra Leone.

(01500) Universitaet Bonn.

Drought Resistance Research Network (R3S) [Réseau de Recherche sur la Résistance à la Sécheresse].

(02610) Conférence des Responsables de Recherche Agronomique Africains et Français.

Dynamics of intensification on traditional farms and efficiency of innovations concerning farming systems at sub-humid sites.

(04604) Universitaet Hohenheim.

Index of projects by discipline

First agricultural services project.
(01137) World Bank; Guinea.

Fish culture expansion.
(01887) U.S. Agency for International Development.

Food technology policy (Nigeria).
(02586) International Development Research Centre.

Ghana grains development project - Phase III.
(02104) Canadian International Development Agency.

Global 2000 - Sasakawa Africa initiative agriculture project.
(01291) Global 2000 Found.

Groundnut Network [Réseau Arachide].
(02087) Conférence des Responsables Agronomiques Africains et Français.

Gueckedou agricultural development project.
(01136) World Bank; Guinea.

International agricultural research centers: 09 International Livestock Center for Africa (ILCA).
(01967) U.S. Agency for International Development.

International Benchmark Soils Network for Agro-technology Transfer (IBSNAT).
(02635) U.S. Agency for International Development.

Kaduna/Katsina agricultural development project (formerly Kaduna State integrated agricultural development project).
(01014) World Bank; Nigeria.

Management of vertisols under semi-arid conditions in Africa (MOVUSAC).
(01022) International Board for Soil Research and Management.

Methodology for agricultural marketing systems policy and practise. and its application to current reforms.
(01721) Overseas Development Administration (NRRD).

Multi-state agricultural development project.
(01015) World Bank; Nigeria.

National agricultural extension and adaptive research project.
(01191) World Bank; Congo.

National agricultural research project.
(01211) World Bank; Zaire.

National agricultural services.

Index of projects by discipline

(02095) World Bank; Cote d'Ivoire.

National agricultural technology support.

(03420) World Bank; Nigeria.

National cereals research and extension II.

(01877) U.S. Agency for International Development.

National extension project.

(03435) World Bank; Zaire.

National research and extension project.

(01139) World Bank; Guinea.

Network on land development for sustainable agriculture in Africa (AFRICALAND - Land development).

(02109) International Board for Soil Research and Management.

Network on management of acid soils in humid Africa (AFRICALAND - Management of acid soils).

(01021) International Board for Soil Research and Management.

NIPSSSET: African agriculture - year 2000 program.

(02071) Nigeria Institute of Plant Science and Solar Energy/Technology.

Nyankpala agricultural experiment station, Tamale.

(01425) Gesellschaft fuer Technische Zusammenarbeit (GTZ).

On-Farm Fertilizer Adoption Program (OFFAP).

(02148) International Fertilizer Development Center, Africa (IFDC-Africa).

Optimal management of aquaculture of pond systems in developing countries.

(01464) Universitaet Kiel.

Organization and management of agricultural extension services in integrated rural development projects.

(03870) Institut fuer Agrarsoziologie, Landwirtschaftliche Beratung und Angewandte Psychologie der Universitaet Hohenheim.

Pan-African Networks for Rural Social Science Research.

(02661) Winrock International; Ford Foundation.

Programme of Support to Promote Grassroots Participatory Rural Development in Kadjebi district.

(05661) SNV (Netherlands Development Organization).

Public works in Africa to improve food-security.

(04626) Deutsche Gesellschaft fuer technische Zusammenarbeit (GTZ).

Reconnaissance / preparation study on forestry biotechnology in the drought-prone

Index of projects by discipline

Sub-Saharan African countries, with special reference to Sahelian and Sudanian zones (SSZ).

(02094) World Bank.

Regional cooperation on cotton research and development.

(01116) World Bank.

Réseau Coton (COTON).

(02082) France: Conférence des Responsables de Recherches Agronomiques Africains et Français (CORAF).

Reseau Developpement (R/D) [Development Network].

(02653) GRET.

Root and tuber crops research.

(01878) U.S. Agency for International Development.

Rural financing systems and agricultural price policy in support of innovations. F2.1:

The rural households financial requirements and formal and informal financial

institutions analysed in the province Oueme in the Peoples Republic of Benin. F2.2:

Agricultural price policy and its effects on production, income and employment.

(04658) Universitaet Hohenheim.

Second Western Province rural development.

(01135) World Bank; Cameroon.

Small holder productivity.

(01896) U.S. Agency for International Development.

Smallholder production.

(01850) U.S. Agency for International Development.

Social Science Interface Research Unit (SSIRU).

(02779) The International Centre of Insect Physiology and Ecology.

Strengthening African agricultural research: 01 CIAT bean research in East Africa (CDA).

(01872) U.S. Agency for International Development.

Strengthening maize and cassava research in eleven countries of West and Central Africa: Plan of action.

(02665) Ministère de la Coopération (France).

Technological change and transformation of land tenure systems in Subsaharan Africa.

(01510) Universitaet Goettingen.

Technology of microcatchment water harvesting for irrigation in semi-arid zones.

(01472) Universitaet Goettingen.

The East and Southern Africa Root Crops Research Network (ESARRN).

Index of projects by discipline

(02080) U.S. Agency for International Development (USAID) International Development Research Centre (IDRC) International Institute of Tropical Agriculture (IITA).

Third multi-state agricultural development project.
(02754) World Bank: Nigeria.

Tree crops (Oil palm, Rubber).
(02756) World Bank: Nigeria.

U.S. Israel program for cooperative development research.
(01949) U.S. Agency for International Development.

Universities and national agricultural research in Sub-Saharan Africa.
(03678) International Service for National Agricultural Research.

West African program for agro-mineral research.
(02146) International Fertilizer Development Center, Africa (IFDC-Africa).

Zou Province rural development project.
(01001) World Bank: Benin.

Diet and diet-related diseases

NIPSSSET. African agriculture - year 2000 program.
(02071) Nigeria Institute of Plant Science and Solar Energy Technology.

Documentation and information

Tropenbos' Foundation.
(05507) Tropenbos Foundation.

Adoption of agroforestry systems in developing countries.
(01791) Overseas Development Administration (ODA).

African Center of Meteorological Applications for Development (ACMAD).
(01109) World Meteorological Organization (WMO).

African Research Network for Agricultural By-Products (AFRNB).
(02170) International Development Research Centre (IDRC): International Livestock Centre for Africa (ILCA).

African Research Network on Rural Poultry Development.
(02624) United Nations Food and Agriculture Organization.

African Small Ruminant Collaborative Research Network.
(02620) International Fund for Agricultural Development.

Agricultural education.

Index of projects by discipline

(01918) U.S. Agency for International Development.

Agricultural education II.

(01920) U.S. Agency for International Development.

Agriculture Hydrologie-Meteorologie.

(02634) Centre Regional de Formation et d'Application en Agrometeorologie et Hydrologie (AGRHYMET).

Agronomic Fertilizer Research Program (AFRP).

(02147) International Fertilizer Development Center, Africa (IFDC-Africa).

Agronomic Network for East and Southern Africa.

(02611) United Nations Development Program (UNDP); World Bank.

Alley Farming Network for Tropical Africa.

(02088) Canadian International Development Agency (CIDA)/International Development Research Centre (IDRC).

Applied research programme: Eastern and Central African Agroforestry Network for Africa (ECA-AFRENA) - The bimodal highlands.

(02615) International Council for Research in Agroforestry.

Applied research programme: Network for Humid Lowlands of West Africa (HULWA-AFRENA).

(02618) International Council for Research in Agroforestry (ICRAF).

Association Internationale pour l'Optimisation de la Nutrition des Plantes (ANIOP)

[International Association for the Optimization of Plant Nutrition].

(02641) Centre de Cooperation Internationale en Recherche Agronomique pour le Developpement (CIRAD).

Cassava Network (Réseau Manioc).

(02084) Conférence des Responsables de Recherche Agronomique Africains et Français.

Central and West African Root Crops Collaborative Research Network (CEWARRN).

(02166) International Institute of Tropical Agriculture.

Co-ordinated Research Programme on the Application of Irradiation Technique for Food Processing in Africa.

(02629) United Nations Food and Agriculture Organization.

Communication, Documentation, and Training Program (CDTP).

(02142) International Fertilizer Development Center, Africa (IFDC-Africa).

Cooperative Cereals Research Network (CCRN).

(02171) International Crops Research Institute for the Semi-Arid Tropics.

Cooperative Programme for the Improvement of Genetic Resources of Multipurpose Woody Species.

(02174) Food and Agriculture Organization of the United Nations.

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Crop diversification and agricultural services project.
(01193) World Bank: Equatorial Guinea.

Crop protection programme.
(03409) CILSS-Sahel Institute.

Development and promotion of appropriate tools and implement for the agricultural and food processing sector' (interim phase) (ILO/89/INT/M03).
(05648) ILO (International Labour Office).

Drought Resistance Research Network (R3S) [Réseau de Recherche sur la Résistance à la Sécheresse].
(02610) Conférence des Responsables de Recherche Agronomique Africains et Français

East Africa Regional Cooperative for Research on Bananas (and Ensete) (EARCORBE).
(02168) International Network for the Improvement of Banana and Plantain.

Ecological monitoring of the dynamics of desertification.
(03415) CILSS-Sahel Institute.

Fertilizer Marketing and Trade Information Program (FMTIP).
(02145) Directorate General for International Cooperation (DGIS); U.S. Agency for International Development (USAID).

First agricultural services project.
(01137) World Bank: Guinea.

Food security project.
(04160) World Bank: Cameroon.

Groundnut Network [Réseau Arachide].
(02087) Conférence des Responsables Agronomiques Africains et Français.

Identification of Bacteria through analysis of metabolic products and cell components by means of Gas Liquid Chromatography (GLC).
(03786) Institute for Tropical Animal Health, University Goettingen.

Improving the Diagnosis and Control of Trypanosomiasis and other Vector-borne Diseases of African Livestock, using Immunoassay Methods.
(02627) Directorate General for International Cooperation (DGIS).

Improving the Productivity of Indigenous African Livestock using Radioimmunoassay and related Techniques.
(02621) Directorate General for International Cooperation (DGIS).

Increase of productivity and control of diseases of small ruminants.
(03410) CILSS-Sahel Institute.

International agricultural research centers: 09 International Livestock Center for

Index of projects by discipline

Africa (ILCA).

(01967) U.S. Agency for International Development.

International Benchmark Soils Network for Agro-technology Transfer (IBSNAT).

(02635) U.S. Agency for International Development.

International Rice Testing Program for Africa (IRTP).

(02160) United Nations Development Program (UNDP)/European Economic Commission (EEC)/Japan.

International Rubber Research and Development Board (IRRDB).

(01212) International Rubber Research and Development Board.

Inventory of environmental research and development activities (Nigeria).

(02548) International Development Research Centre.

Maize Cropping Systems Improvement Network [Réseau de Recherches sur l'Amélioration de la Culture du Maïs].

(02173) Conférence des Responsables de Recherche Agronomique Africains.

Management of vertisols under semi-arid conditions in Africa (MOVUSAC).

(01022) International Board for Soil Research and Management.

Meat/fish processing (Nigeria).

(02428) International Development Research Centre.

National agricultural research.

(01134) World Bank; Cameroon.

National agricultural research project.

(01211) World Bank; Zaire.

National agricultural research project.

(01332) World Bank; Ghana.

National agricultural research project.

(01673) World Bank; Nigeria.

National agricultural services.

(02095) World Bank; Cote d'Ivoire.

Network for Improvement of Rice Cultivation [Réseau Riz].

(02161) Conférence des Responsables de Recherche Agronomique Africains et Français.

Network on management of acid soils in humid Africa (AFRICALAND - Management of acid soils).

(01021) International Board for Soil Research and Management.

Nyankpala agricultural experiment station, Tamale.

(01425) Gesellschaft fuer Technische Zusammenarbeit (GTZ).

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Pan-African Networks for Rural Social Science Research.
(02661) Winrock International; Ford Foundation.

Programme for Improvement of Potatoes in Central Africa [Programme Regional pour l'Amelioration de la Culture de la Pomme de Terre en Afrique Centrale] (PRAPAC)
(02079) U.S. Agency for International Development.

Programme on supporting services: documentation, information and training.
(03419) CILSS-Sahel Institute.

Proposal for a research project on the development of new methods in locust control.
(02090) Gesellschaft fuer Technische Zusammenarbeit (GTZ).

Reconnaissance / preparation study on forestry biotechnology in the drought-prone Sub-Saharan African countries, with special reference to Sahelian and Sudanian zones (SSZ).
(02094) World Bank.

Regional programme for the improvement of millet, sorghum, cowpeas, and maize (transitional phase).
(03407) CILSS-Sahel Institute.

Regional Tropical Leafy Trees Improvement Program [Programme Regional d'Amelioration des Feuillus Tropicaux (PRAFT)].
(02169) European Economic Commission (EEC).

Research programme on food security, strategies and policies.
(03417) CILSS-Sahel Institute.

Research, coordination, and training for improved livestock production in Sub-Saharan Africa.
(02732) Commission of the European Communities.

Réseau Coton (COTON).
(02082) France; Conference des Responsables de Recherches Agronomique Africains et Français (CORAF).

Reseau Developpement (R/D) [Development Network].
(02653) GRET.

Reseau Erosion (EROS) [Erosion Network].
(02638) ORSTOM/Institut Francais de Recherche Scientifique pour le Developpement en Cooperation.

Reseau Europeen d'Etude des Laterites (EUROLAT) [European Network on Ferralsols Studies].
(02639) Ministère de la Recherche et de l'Enseignement Supérieur; Université of Strasbourg.

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- Reseau Femmes et Developpement (FEM/DEV) [Women in Development Network].
(02652) ORSTOM/Institut Francais de Recherche Scientifique pour le Developpement en Cooperation.
- Reseau International de Traitement des Donnees Sols (RIDTS) [International Network for Soils Data Processing].
(02640) Agence de Cooperation Culturelle et Technique (ACCT).
- Reseau sur la Conservation Post-Recolte des Denrees Alimentaires (GRENIER) [Network for Post-Harvest Storage of Food Crops].
(02647) Association des Universites Partiellement ou Entierement de Langue Francaise (AUPELF).
- Rural enterprise development.
(03659) U.S. Agency for International Development/Africare.
- Sahelian Information Network (SIN).
(02657) Institute of Sahel (INSAH).
- Sero-surveillance of rinderpest and other diseases in Africa, using immunoassay techniques.
(02628) Swedish Agency for Rural Cooperation (SAREC).
- Small Ruminants and Camel Group.
(02632) Deutsche Gesellschaft fuer Technische Zusammenarbeit (GTZ) Gmb H.
- Socio-economic assessment of biotechnologies for small farmers.
(04707) Overseas Development Administration (NRRO).
- Start-up grants - [International Fertilizer Development Center-Africa].
(02141) International Fertilizer Development Center, Africa (IFDC-Africa).
- Strategies Alimentaires (STRA) [Food Strategies Network].
(02655) ORSTOM/Institut Francais de Recherche Scientifique pour le Developpement en Cooperation.
- Strengthening African agricultural research: 01 CIAT bean research in East Africa (CDA).
(01872) U.S. Agency for International Development.
- Strengthening maize and cassava research in eleven countries of West and Central Africa: Plan of action.
(02665) Ministere de la Cooperation (France).
- Sub-Saharan Africa hydrological assessment.
(01108) World Bank.
- The Development of Practices for Area-wide Tsetse Eradication with emphasis on the Sterile Insect Technique.
(02626) United Nations Food and Agriculture Organization.

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- The East and Southern Africa Root Crops Research Network (ESARRN).
(02080) U.S. Agency for International Development (USAID)/International Development Research Centre (IDRC)/International Institute of Tropical Agriculture (IITA).
- The Geological Network for Agrominerals in East and Southern Africa.
(02613) United Nations Development Program (UNDP); World Bank.
- The Livestock Trypanotolerant Network.
(02081) Overseas Development Administration.
- The West and Central Africa Cowpea Collaborative Research Network (RENACO).
(02078) U.S. Agency for International Development (USAID)/Semi-Arid Food Grain Research and Development (SAFGRAD).
- West Africa Collaborative Groundnut Research Network.
(02162) International Crops Research Institute for the Semi-Arid Tropics (ICRISAT).
- West Africa Maize Collaborative Research Network [Réseau Mais].
(02156) Conférence des Responsables de Recherche Agronomique Africains.
- West Africa Network on Animal Traction (WAATA).
(02622) Deutsche Gesellschaft fuer Technische Zusammenarbeit (GTZ) GmbH.
- West Africa Regional Cooperative for Research on Plantain (WARCORP).
(02167) International Institute of Tropical Agriculture.
- West Africa Regional Pearl Millet Improvement Program.
(02154) International Crops Research Institute for the Semi-Arid Tropics (ICRISAT Sahel Center).
- West African Farming Systems Research Network (WAFSRN/RESPAO).
(02619) International Fund for Agricultural Development (IFAD)/Semi-Arid Food Grain Research and Development (SAFGRAD).
- West African Fertilizer Management and Evaluation Network (WAFMEN).
(02614) International Development Research Centre (IDRC); United Nations Development Program (UNDP).
- West African Irrigation Research Development Network (WAIRD).
(02612) International Irrigation Management Institute (IIMI).
- West African program for agro-mineral research.
(02146) International Fertilizer Development Center, Africa (IFDC-Africa).
- West African Rice Information System (WARIS).
(04246) International Development Research Centre.
- West and Central Africa Maize Collaborative Research Network (WECAMAN).
(02157) U.S. Agency for International Development (USAID)/Semi-Arid Food Grain Research

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and Development (SAFGRAD).

Domestic trade

West Africa : Post harvest losses of rice.
(04675) Overseas Development Administration (NRRD).

Education

A Feasibility study on establishing an African Centre for Fertilizer Development.
(01684) GTZ (Deutsche Gesellschaft fuer Technische Zusammenarbeit).

Adaptive crop research and extension.
(01334) U.S. Agency for International Development.

African Research Network for Agricultural By-Products (ARNAB).
(02170) International Development Research Centre (IDRC); International Livestock
Centre for Africa (ILCA).

Agricultural education.
(01918) U.S. Agency for International Development.

Agricultural education II.
(01920) U.S. Agency for International Development.

Agricultural extension (formerly National agricultural extension project).
(03429) World Bank; Ghana.

Agricultural services (formerly Agriculture and natural resources management).
(05394) World Bank; Sierra Leone.

Agricultural services (formerly Second agricultural services project).
(01197) World Bank; Guinea.

Agricultural services rehabilitation project.
(01105) World Bank; Ghana.

Agricultural services restructuring project.
(01117) World Bank; Benin.

Agriculture services.
(01119) World Bank; Central African Republic.

Agronomic Network for East and Southern Africa.
(02611) United Nations Development Program (UNDP); World Bank.

Alley Farming Network for Tropical Africa.
(02088) Canadian International Development Agency (CIDA)/International Development

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Research Centre (IDRC).

Applied research programme: Eastern and Central African Agroforestry Network for Africa (ECA-AFRENA) - The bimodal highlands.

(02615) International Council for Research in Agroforestry.

Cassava Network [Réseau Manioc].

(02084) Conférence des Responsables de Recherche Agronomique Africains et Français.

Centre d'Etude de l'Environnement et de Développement au Cameroun.

(05654) State University Leiden. Centre for Environmental Science.

Co-ordinated Research Programme on the Application of Irradiation Technique for Food Processing in Africa.

(02629) United Nations Food and Agriculture Organization.

Communication, Documentation, and Training Program (CDTP).

(02142) International Fertilizer Development Center, Africa (IFDC-Africa).

Cooperative Cereals Research Network (CCRN).

(02171) International Crops Research Institute for the Semi-Arid Tropics.

Cooperative Programme for the Improvement of Genetic Resources of Multipurpose Woody Species.

(02174) Food and Agriculture Organization of the United Nations.

Crop diversification and agricultural services project.

(01193) World Bank; Equatorial Guinea.

Crop protection programme.

(03409) CILSS-Sahel Institute.

Developing graduate training in agricultural economics.

(02041) Winrock International.

Developpement Bas Fonds de Riz production Bafata.

(05600) SNV (Association Neerlandais d'Assistance au Developpement).

Ecological monitoring of the dynamics of desertification.

(03415) CILSS-Sahel Institute.

Environment project (formerly Pilot forest and environment project).

(02787) World Bank; Zaire.

Environmental action program.

(04412) World Bank; Benin.

Food security project.

(04160) World Bank; Cameroon.

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Forest ecology and training in Cameroon.

(02840) Commission of the European Communities.

Forest management project.

(04402) World Bank: Zaire.

Forest resource management project.

(01195) World Bank: Ghana.

Forestry/environment.

(04343) World Bank: Gabon.

Global 2000 - Sasakawa Africa initiative agriculture project.

(01291) Global 2000 Found.

Groundnut Network [Réseau Arachide].

(02067) Conférence des Responsables Agronomiques Africains et Français.

Improving the Diagnosis and Control of Trypanosomiasis and other Vector-borne Diseases of African Livestock, using Immunoassay Methods.

(02627) Directorate General for International Cooperation (DGIS).

Improving the Productivity of Indigenous African Livestock using Radioimmunoassay and related Techniques.

(02621) Directorate General for International Cooperation (DGIS).

Maize II/Lulua agricultural development project.

(01162) World Bank: Zaire.

Management of the West African Dwarf Goat in the humid tropics (Phase II and III).

(03625) Agricultural University Wageningen.

National agricultural extension and training.

(01180) World Bank: Cameroon.

National agricultural research project.

(01211) World Bank: Zaire.

National agricultural research project.

(01332) World Bank: Ghana.

National extension project.

(03435) World Bank: Zaire.

National research and extension project.

(01139) World Bank: Guinea.

National resources/management support.

(01185) U.S. Agency for International Development.

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National seeds project.

(01678) World Bank: Guinea.

Natural resources management project.

(04367) World Bank: Congo.

Network for Improvement of Rice Cultivation [Réseau Riz].

(02161) Conférence des Responsables de Recherche Agronomique Africains et Français.

NIPSSSET: African agriculture - year 2000 program.

(02071) Nigeria Institute of Plant Science and Solar Energy/Technology.

Nyankpala agricultural experiment station, Tamale.

(01425) Gesellschaft fuer Technische Zusammenarbeit (GTZ).

Oil palm development project - Phase II.

(03474) World Bank: Ghana.

On-Farm Fertilizer Adoption Program (OFFAP).

(02148) International Fertilizer Development Center, Africa (IFDC-Africa).

Organization and management of agricultural extension services in integrated rural development projects.

(03870) Institut fuer Agrarsoziologie, Landwirtschaftliche Beratung und Angewandte Psychologie der Universitaet Hohenheim.

Pan-African Networks for Rural Social Science Research.

(02661) Winrock International: Ford Foundation.

Pathology of small ruminants: etiology, vaccines and prophylaxis.

(03411) CILSS-Sahel Institute.

Programme for improvement of Potatoes in Central Africa [Programme Regional pour l'Amelioration de la Culture de la Pomme de Terre en Afrique Centrale] (PRAPAC).

(02079) U.S. Agency for International Development.

Programme for the strengthening of research on production systems.

(03418) CILSS-Sahel Institute.

Programme of Support to Promote Grassroots Participatory Rural Development in Kadjebi-district.

(05661) SNV (Netherlands Development Organization).

Programme on supporting services: documentation, information and training.

(03419) CILSS-Sahel Institute.

Rainfed rice development project.

(04356) African Development Bank.

Reconnaissance / preparation study on forestry biotechnology in the drought-prone

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Sub-Saharan African countries, with special reference to Sahelian and Sudanian zones (SSZ).

(02094) World Bank.

Research and study programme on the improved management of extensive national rangelands in the Sahel (PGENES).

(03412) CILSS-Sahel Institute.

Research and study programme on the possibility of intensification of fodder and animal production in the framework of an association of agriculture and livestock breeding in Sub-Sahelian, Sudanian and Guinean zones.

(03413) CILSS-Sahel Institute.

Research programme on food security, strategies and policies.

(03417) CILSS-Sahel Institute.

Research programme on phylogenetic resources.

(03408) CILSS-Sahel Institute.

Research, coordination, and training for improved livestock production in Sub-Saharan Africa.

(02732) Commission of the European Communities.

Réseau Coton (COTON).

(02082) France: Conférence des Responsables de Recherches Agronomique Africains et Français (CORAF).

Rice production II.

(01886) U.S. Agency for International Development.

Root and tuber crops research.

(01878) U.S. Agency for International Development.

Second forestry project.

(04351) World Bank: Nigeria.

Seeds project.

(01163) World Bank: Zaire.

Sero-surveillance of rinderpest and other diseases in Africa, using immunoassay techniques.

(02628) Swedish Agency for Rural Cooperation (SAREC).

Small holder productivity.

(01896) U.S. Agency for International Development.

Smallholder production.

(01850) U.S. Agency for International Development.

Social Science Interface Research Unit (SSIRU).

Index of projects by discipline

(02779) The International Centre of Insect Physiology and Ecology.

Strengthening African agricultural research: 01 CIAT bean research in East Africa (CDA).

(01872) U.S. Agency for International Development.

Strengthening African agricultural research: 13 West Africa Rice Development Association (WARDA) - Mangrove and associated swamp rice research.

(01857) U.S. Agency for International Development.

The East and Southern Africa Root Crops Research Network (ESARRN).

(02080) U.S. Agency for International Development (USAID)/International Development Research Centre (IDRC)/International Institute of Tropical Agriculture (IITA).

The Geological Network for Agrominerals in East and Southern Africa.

(02613) United Nations Development Program (UNDP); World Bank.

Traditional Techniques of Micro Climate Improvement (TTMI), phase II.

(05658) WAU (Wageningen Agricultural University).

Universities and national agricultural research in Sub-Saharan Africa.

(03678) International Service for National Agricultural Research.

University environmental linkage: Range development and Camel studies.

(04648) Justus von Liebig Universitaet Giessen.

West African Farming Systems Research Network (WAFSRN/RESPAO).

(02619) International Fund for Agricultural Development (IFAD)/Semi-Arid Food Grain Research and Development (SAFGRAD).

West African Fertilizer Management and Evaluation Network (WAFMEN).

(02614) International Development Research Centre (IDRC); United Nations Development Program (UNDP).

Energy resources and management

African Center of Meteorological Applications for Development (ACMAD).

(01109) World Meteorological Organization (WMO).

Co-ordinated Research Programme on the Application of Irradiation Technique for Food Processing in Africa.

(02629) United Nations Food and Agriculture Organization.

Cotton area rural development project.

(01132) World Bank; Central African Republic.

Development of adapted farming systems on the basis of draught animal utilization in the North-west Province of Cameroon.

(03825) Universitaet Goettingen.

Index of projects by discipline

- MIPSEET: African agriculture - year 2000 program.
(02071) Nigeria Institute of Plant Science and Solar Energy/Technology.
- Research, coordination, and training for improved livestock production in Sub-Saharan Africa.
(02732) Commission of the European Communities.
- Second rural development project in cotton areas.
(01007) World Bank: Togo.
- West Africa Network on Animal Traction (WAATAI).
(02622) Deutsche Gesellschaft fuer Technische Zusammenarbeit (GTZ) GmbH.

Extension

- A Feasibility study on establishing an African Centre for Fertilizer Development.
(01684) GTZ (Deutsche Gesellschaft fuer Technische Zusammenarbeit).
- Adaptive crop research and extension.
(01334) U.S. Agency for International Development.
- African Research Network on Rural Poultry Development.
(02624) United Nations Food and Agriculture Organization.
- African Small Ruminant Collaborative Research Network.
(02620) International Fund for Agricultural Development.
- Agricultural education.
(01918) U.S. Agency for International Development.
- Agricultural extension (formerly National agricultural extension project).
(03429) World Bank: Ghana.
- Agricultural extension needs assessment survey.
(04461) Food and Agriculture Organization of the United Nations.
- Agricultural research and extension II.
(01849) U.S. Agency for International Development.
- Agricultural research and extension project.
(01114) African Development Bank.
- Agricultural services (formerly Agriculture and natural resources management).
(05394) World Bank: Sierra Leone.
- Agricultural services (formerly Agriculture).
(04417) World Bank: Gabon.

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Agricultural services (formerly Second agricultural services project).
(01197) World Bank: Guinea.

Agricultural services rehabilitation project.
(01105) World Bank: Ghana.

Agricultural services restructuring project.
(01117) World Bank: Benin.

Agriculture services.
(01119) World Bank: Central African Republic.

Applied research and extension.
(01888) U.S. Agency for International Development.

Center West agricultural development project.
(01004) World Bank: Cote d'Ivoire.

Central Shaba agricultural development.
(03667) U.S. Agency for International Development.

Cocoa rehabilitation project.
(01010) World Bank: Ghana.

Communication, Documentation, and Training Program (CDTP).
(02142) International Fertilizer Development Center, Africa (IFDC-Africa).

Conservation of soil fertility by peasant farmers in Atlantic Province, Benin.
(02890) Commission of the European Communities.

Cotton area rural development project.
(01132) World Bank: Central African Republic.

Crop diversification and agricultural services project.
(01193) World Bank: Equatorial Guinea.

Ghana grains development project - Phase III.
(02104) Canadian International Development Agency.

Global 2000 - Sasakawa Africa initiative agriculture project.
(01291) Global 2000 Fund.

Kaduna-Katsina agricultural development project (formerly Kaduna State integrated agricultural development project).
(01014) World Bank: Nigeria.

Livestock III.
(03422) World Bank: Nigeria.

Maize IV/Lulua agricultural development project.

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(01162) World Bank: Zaire.

Meat/fish processing (Nigeria).
(02428) International Development Research Centre.

Methodologies for better technology transfer.
(04783) Overseas Development Administration (NRRD).

National agricultural extension and adaptive research project.
(01191) World Bank: Congo.

National agricultural extension and training.
(01180) World Bank: Cameroon.

National agricultural research.
(01134) World Bank: Cameroon.

National agricultural research project.
(01332) World Bank: Ghana.

National agricultural research project.
(01673) World Bank: Nigeria.

National agricultural services.
(02095) World Bank: Cote d'Ivoire.

National cereals research and extension II.
(01877) U.S. Agency for International Development.

National extension project.
(03435) World Bank: Zaire.

National research and extension project.
(01139) World Bank: Guinea.

Natural resource management project.
(01186) World Bank: Central African Republic.

NIPSSSET: African agriculture - year 2000 program.
(02071) Nigeria Institute of Plant Science and Solar Energy/Technology.

On-Farm Fertilizer Adoption Program (OFFAP).
(02148) International Fertilizer Development Center, Africa (IFDC-Africa).

Organization and management of agricultural extension services in integrated rural development projects.
(03870) Institut fuer Agrarsoziologie, Landwirtschaftliche Beratung und Angewandte Psychologie der Universitaet Hohenheim.

Pilot extension.

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(02761) World Bank: Zaire.

Pond culture (Ghana).

(02501) International Development Research Centre.

Programme on supporting services: documentation, information and training.

(03419) CILSS-Sahel Institute.

Projecto Agro-Silvo-pastoril do Leste Bafata (I + II).

(05631) SNV (Netherlands Development Cooperation).

Rainfed rice development project.

(04356) African Development Bank.

Réseau Coton (COTON).

(02082) France: Conférence des Responsables de Recherches Agronomique Africains et Français (CORAF).

Rice production II.

(01886) U.S. Agency for International Development.

Seeds project.

(01163) World Bank: Zaire.

Sidamo/Gamo Gofa peasant agricultural development project.

(01113) African Development Bank.

Small holder productivity.

(01896) U.S. Agency for International Development.

Target group oriented management of national agricultural research.

(04608) Zentrum fuer Regionale Entwicklungsforschung der Universität Giessen.

Third multi-state agricultural development project.

(02754) World Bank: Nigeria.

West African Farming Systems Research Network (WAFSRN/RESPAO).

(02619) International Fund for Agricultural Development (IFAD)/Semi-Arid Food Grain Research and Development (SAFGRAD).

Feed contamination and toxicology

Improvements to rural oilseed processing in Africa.

(04699) Overseas Development Administration (NRRO).

Fertilizing

A Feasibility study on establishing an African Centre for Fertilizer Development.

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(01684) GTZ (Deutsche Gesellschaft fuer Technische Zusammenarbeit).

African Small Ruminant Collaborative Research Network.

(02620) International Fund for Agricultural Development.

Agronomic Fertilizer Research Program (AFRP).

(02147) International Fertilizer Development Center, Africa (IFDC-Africa).

Agronomic Network for East and Southern Africa.

(02611) United Nations Development Program (UNDP); World Bank.

Collaborative Research Support Program (CRSP): Beans and cowpeas.

(01345) U.S. Agency International Development (USAID); Michigan State University.

Communication, Documentation, and Training Program (CDTP).

(02142) International Fertilizer Development Center, Africa (IFDC-Africa).

Development cooperation Soil and Fertilizer

(05595) IB (Institute for Soil Fertility Research).

Fertilizer Marketing and Trade Information Program (FMTIP).

(02145) Directorate General for International Cooperation (DGIS); U.S. Agency for International Development (USAID).

Fertilizer Policy Research Project (FPRP).

(02144) International Fertilizer Development Center, Africa (IFDC-Africa).

Fertilizer SECAL.

(04441) World Bank; Nigeria.

Groundnut Network (Réseau Arachide).

(02087) Conférence des Responsables Agronomiques Africains et Français.

Maize II/Lulua agricultural development project.

(01162) World Bank; Zaïre.

Network on management of acid soils in humid Africa (AFRICALAND - Management of acid soils).

(01021) International Board for Soil Research and Management.

NIPSET: African agriculture - year 2000 program.

(02071) Nigeria Institute of Plant Science and Solar Energy/Technology.

Nutrient and water-use efficiency of crops grown on highly weathered soils in the Humid Tropics.

(03890) Landwirtschaftliche Forschungsanstalt Buentehof.

On-Farm Fertilizer Adoption Program (OFFAP).

(02148) International Fertilizer Development Center, Africa (IFDC-Africa).

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Soil Fertility Restoration Project (SFRP).

(02143) International Fertilizer Development Center, Africa (IFDC-Africa).

Start-up grants - (International Fertilizer Development Center-Africa).

(02141) International Fertilizer Development Center, Africa (IFDC-Africa).

The Geological Network for Agrominerals in East and Southern Africa.

(02613) United Nations Development Program (UNDP); World Bank.

The role of organic substance in maintaining soil fertility of different sites in South Benin.

(04661) Universität Hohenheim.

The role of plant residues in soil management for food production in the humid tropics.

(05626) AB (Research Institute for Agrobiology and Soil Fertility).

Third multi-state agricultural development project.

(02754) World Bank; Nigeria.

Urea injector test.

(04143) Research Institute for Agrobiology and Soil Fertility (AB).

West African Fertilizer Management and Evaluation Network (WAFMEN).

(02614) International Development Research Centre (IDRC); United Nations Development Program (UNDP).

West African program for agro-mineral research.

(02146) International Fertilizer Development Center, Africa (IFDC-Africa).

Fisheries and aquaculture - General aspects

Small dams (Côte d'Ivoire).

(04176) International Development Research Centre.

Fisheries production

Agricultural sector development.

(02030) World Bank; Guinea-Bissau.

CAR - rural development.

(01894) U.S. Agency for International Development.

Facilities of Nigerian Institute for Oceanography and Marine Research.

(04449) Ministry of Foreign Affairs.

Forestry and fishery management.

(01196) World Bank; Guinea.

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Optimal management of aquaculture of pond systems in developing countries.
(01464) Universitaet Kiei.

Third multi-state agricultural development project.
(02754) World Bank: Nigeria

Food composition

Cassava cyanide: improved techniques for estimation and influence of environment on concentration.
(04904) Australian Centre for International Agricultural Research.

Egusi shellers (Cameroon).
(02429) International Development Research Centre.

Human food value of Australian acacia seeds.
(05389) Australian Centre for International Agricultural Research.

Meat/fish processing (Nigeria).
(02428) International Development Research Centre.

Food contamination and toxicology

Biodeterioration of west African rice.
(04777) Overseas Development Administration (NRRD).

Collaborative Research Support Program (CRSP): Peanuts.
(01341) U.S. Agency for International Development (USAID)/University of Georgia.

Decontamination of mycotoxin-containing foods and feeds with bacteria or with bacterial metabolites.
(05735) Institut fuer Hygiene und Toxikologie der Bundesforschungsanstalt Ernaehrung, Karlsruhe.

Effects of processing on distribution and destruction of mycotoxins.
(04737) Overseas Development Administration (NRRD).

Groundnut Network [Réseau Arachide].
(02087) Conférence des Responsables Agronomiques Africains et Français.

Human food value of Australian acacia seeds.
(05389) Australian Centre for International Agricultural Research.

Improvements to rural oilseed processing in Africa.
(04699) Overseas Development Administration (NRRD).

Meat/fish processing (Nigeria).
(02428) International Development Research Centre.

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Food processing and preservation

Agricultural diversification project.
(02026) World Bank: Ghana.

Cassava Network [Réseau Manioc].
(02084) Conférence des Responsables de Recherche Agronomique Africains et Français

Causes, effects and control of biodeterioration.
(04739) Overseas Development Administration (NRRD).

Co-ordinated Research Programme on the Application of Irradiation Technique for Food Processing in Africa.
(02629) United Nations Food and Agriculture Organization.

Collaborative Research Support Program (CRSP): Beans and cowpeas.
(01345) U.S. Agency International Development (USAID)/Michigan State University.

Effects of processing on distribution and destruction of mycotoxins.
(04737) Overseas Development Administration (NRRD).

Egusi shellers (Cameroon).
(02429) International Development Research Centre.

Food security.
(04411) World Bank: Benin.

Groundnut Network [Réseau Arachide].
(02087) Conférence des Responsables Agronomiques Africains et Français.

Improvements to rural oilseed processing in Africa.
(04699) Overseas Development Administration (NRRD).

Investigations of requirements for a new technique of large scale cocoa fermentation adapted to local conditions in Ghana.
(02884) Commission of the European Communities.

Livestock.
(04420) World Bank: Cote d'Ivoire.

Meat/fish processing (Nigeria).
(02428) International Development Research Centre.

NIPSSSET: African agriculture - year 2000 program.
(02071) Nigeria Institute of Plant Science and Solar Energy/Technology.

Optimisation of natural-circulation solar-energy tropical crop dryers.
(02879) Commission of the European Communities.

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Palm oil extraction (Cameroon).
(02426) International Development Research Centre.

Palm oil processing (Sierra Leone).
(02365) International Development Research Centre.

Plantain conservation (Ivory Coast).
(02520) International Development Research Centre.

Post-harvest assessment of root and tuber crop storage.
(04834) Overseas Development Administration (NRRD).

Second Western Province rural development.
(01135) World Bank: Cameroon.

The East and Southern Africa Root Crops Research Network (ESARRN).
(02080) U.S. Agency for International Development (USAID)/International Development Research Centre (IDRC)/International Institute of Tropical Agriculture (IITA).

Traditional and Industrial fermentation of Maize.
(05671) WAU (Wageningen Agricultural University).

Tree crops (Oilpalm, Rubber).
(02756) World Bank: Nigeria.

U.S./Israel program for cooperative development research.
(01949) U.S. Agency for International Development.

West Kenya rainfed rice development project.
(01115) African Development Bank.

Food science and technology

Agricultural services (formerly Second agricultural services project).
(01197) World Bank: Guinea.

Causes, effects and control of biodeterioration.
(04739) Overseas Development Administration (NRRD).

Co-ordinated Research Programme on the Application of Irradiation Technique for Food Processing in Africa.
(02629) United Nations Food and Agriculture Organization.

Effects of processing on distribution and destruction of mycotoxins.
(04737) Overseas Development Administration (NRRD).

Human food value of Australian acacia seeds.
(05389) Australian Centre for International Agricultural Research.

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National agricultural research project.
(01673) World Bank: Nigeria.

Traditional and Industrial fermentation of Maize.
(05671) WAU (Wageningen Agricultural University).

West Africa : Post harvest losses of rice.
(04675) Overseas Development Administration (NRRD).

Forest injuries and protection

Tropenbos' Foundation.
(05507) Tropenbos Foundation.

Forest resource management project.
(01195) World Bank: Ghana.

Forestry and fishery management.
(01196) World Bank: Guinea.

Local Application of Remote Sensing Techniques (LARST) for forestry management.
(04845) Overseas Development Administration (NRRD).

Natural resource management project.
(01186) World Bank: Central African Republic.

Forestry - General aspects

Africa Regional: A comparative study of the productivity of traditional tree crops and introduced multipurpose trees with special reference to the effects on associated crops - A case study.
(04720) Overseas Development Administration (NRRD).

Agriculture.
(04414) World Bank: Cameroon.

Agroforestry systems in the Tropics.
(03859) Gesellschaft fuer Technische Zusammenarbeit (GTZ).

Applying science and technology to development.
(01947) U.S. Agency for International Development.

Control of soil acidity in agroforestry.
(04743) Overseas Development Administration (NRRD).

Développement des recherches menées en zone de forêt dense humide dans le domaine de l'agroforesterie / Development of agroforestry research carried out in the tropical

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rain forest zone.

(04654) Universitaet Bayreuth.

Dynamics of the economically important Meliaceae after exploitation in the moist forest of the People's Republic of Congo.

(03799) Universitaet Goettingen.

Evaluation of planting spaced trees in cultivated fields on vertisolic soils under low rainfall, with special reference to soil conditions and crop yield.

(04701) Overseas Development Administration (NRRD).

Forestry sector project.

(01192) World Bank: Cote d'Ivoire.

Forestry/environment.

(04343) World Bank: Gabon.

Ghana : Effect of climate and soil on distribution and regeneration of timber trees.

(04727) Overseas Development Administration (NRRD).

Impact of the most important trees for alley-cropping on soil fertility properties in the Ivory Coast/West Africa.

(04669) Universitaet Bayreuth.

Local Application of Remote Sensing Techniques (LARST) for forestry management.

(04845) Overseas Development Administration (NRRD).

National agricultural research project.

(01673) World Bank: Nigeria.

Projecto Agro-Silvo-pastoril do Leste Baía (I + II).

(05631) SNV (Netherlands Development Cooperation).

Relationships between tree growth, tree nutrition and site in *Tectona grandis* plantation in West Africa.

(04653) Universitaet Bayreuth.

Second forestry project.

(04351) World Bank: Nigeria.

Silviculture (Togo).

(04189) International Development Research Centre.

Forestry production

Agriculture.

(04414) World Bank; Cameroon.

Agroforestry research for development of the drylands of West Africa.

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(02113) International Fund for Agricultural Development.

Agrosilviculture en zone humide - Congo [Humid zone agrosilvopastoral systems - Congo].
(01289) International Development Research Centre.

Applied research programme: Network for Humid Lowlands of West Africa (HULWA-AFRENA).
(02618) International Council for Research in Agroforestry (ICRAF).

Applying science and technology to development.
(01947) U.S. Agency for International Development.

Appui en recherches agroforestieres.
(05627) SNV (Association Neerlandaise d'Assistance au Developpement).

Community reforestation (CARE).
(01919) U.S. Agency for International Development.

Cooperative Programme for the Improvement of Genetic Resources of Multipurpose Woody Species.
(02174) Food and Agriculture Organization of the United Nations.

Dynamics of the economically important Meliaceae after exploitation in the moist forest of the People's Republic of Congo.
(03799) Universitaet Goettingen.

Ecological protection (formerly Forestry and environment).
(01178) World Bank; Cameroon.

Ecology/environment programme: reforestation and conservation of the forestry resources.
(03416) CILSS-Sahel institute.

Environment project (formerly Pilot forest and environment project).
(02787) World Bank; Zaire.

Environmental management (formerly Environment, formerly Adjustment Loan - Environment).
(04352) World Bank; Nigeria.

Fifth oil palm development project.
(01006) World Bank; Cote d'Ivoire.

Forest ecology and training in Cameroon.
(02840) Commission of the European Communities.

Forest management project.
(04402) World Bank; Zaire.

Forest resource management project.
(01195) World Bank; Ghana.

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Forestry.

(04364) World Bank: Ghana.

Forestry and fishery management.

(01196) World Bank: Guinea.

Forestry III.

(04301) World Bank: Nigeria.

Forestry sector project.

(01192) World Bank: Cote d'Ivoire.

Forestry/Environment.

(02759) World Bank: Togo.

Human food value of Australian acacia seeds.

(05389) Australian Centre for International Agricultural Research.

Investigations and development of site adaptive agroforestry systems.

(04665) Universitaet Bayreuth.

Investigations on succession and dynamics of regeneration of commercial trees in the lara state forest/Benin in the natural range of raingreen forests.

(05708) Institut fuer Waldbau der Universitaet Goettingen, Abt. II: Waldbau der Tropen und Naturwaldforschung.

Management of natural resources.

(04157) World Bank: Benin.

Natural resource management and conservation (formerly Land resources management and conservation).

(04415) World Bank: Equatorial Guinea.

Natural resource management project.

(01186) World Bank: Central African Republic.

Natural resources management (formerly Agricultural natural resources and forestry).

(04344) World Bank: Guinea-Bissau.

Natural resources management project.

(04367) World Bank: Congo.

Public works in Africa to improve food-security.

(04626) Deutsche Gesellschaft fuer technische Zusammenarbeit (GTZ).

Reconnaissance / preparation study on forestry biotechnology in the drought-prone Sub-Saharan African countries, with special reference to Sahelian and Sudanian zones (SSZ).

(02094) World Bank.

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Regional Tropical Leafy Trees Improvement Program [Programme Regional d'Amelioration des Feuillus Tropicaux (PRAFT)];

(02169) European Economic Commission (EEC).

Relationships between tree growth, tree nutrition and site in *Tectona grandis* plantation in West Africa.

(04653) Universitaet Bayreuth.

Rural environment management (formerly Environmental protection program, formerly Natural resources management).

(02096) World Bank: Guinea.

Rural land management project (formerly Land tenure).

(04419) World Bank: Cote d'Ivoire.

Second forestry project.

(04351) World Bank: Nigeria.

Site evaluation in the rain forest of East Liberia.

(03811) Universitaet Bayreuth.

Smallholder production.

(01850) U.S. Agency for International Development.

Structure, growth response and system dynamics of virgin and selectively logged rainforest to silvicultural treatments: Liberia, the Philippines, Borneo and south China.

(03858) Bundesanstalt fuer Forst-und Holzwirtschaft (BFH).

U.S./Israel program for cooperative development research.

(01949) U.S. Agency for International Development.

Geography

Conditions for developing non-farm productive activities in rural areas of Africa. A comparison of Yatenga/Burkina Faso and Extreme-Nord/Cameroun.

(04639) Universitaet Frankfurt.

The characterization of rice growing agro-ecosystems in West Africa (initial phase).

(05601) WSC (Wand Staring Centre for Integrated Land, Soil and Water Research).

Handling, transport, storage and protection of plant products

Biodeterioration of west African rice.

(04777) Overseas Development Administration (ORFD).

Biological integrated control of the larger grain borer, *Prostephanus truncatus* Horn.

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(03907) Institut fuer Phytopathologie, Arbeitsgruppe Vorrat, Universitaet Kiel.

Cassava and household food security in rural area of Makeni/Segbwema in Sierra Leone.
(01787) Overseas Development Administration (NRRD).

Cassava Network [Réseau Manioc].
(02084) Conférence des Responsables de Recherche Agronomique Africains et Français

Central Agricultural Research Institute.
(01085) Food and Agriculture Organization of the United Nations (FAO).

Co-ordinated Research Programme on the Application of Irradiation Technique for Food Processing in Africa.
(02629) United Nations Food and Agriculture Organization.

Cocoa rehabilitation project.
(01010) World Bank: Ghana.

Collaborative Research Support Program (CRSP): Beans and cowpeas.
(01345) U.S. Agency International Development (USAID)/Michigan State University.

Cooking bananas and plantains.
(04773) Overseas Development Administration (NRRD).

Cotton area rural development project.
(01132) World Bank: Central African Republic.

Economics of post harvest loss reducing measures.
(03772) University of Hohenheim.

Food security project.
(04160) World Bank: Cameroon.

Germplasm conservation and improvement of *Parkia bilobosa* (Jacq) Benth for multipurpose use.
(05665) University of Wales, Bangor; CNSF, Ouagadougou, Burkina Faso; FRIN, Nigeria; SAFS, Nancy, France; WAU, The Netherlands.

Global 2000 - Sasakawa Africa initiative agriculture project.
(01291) Global 2000 Found.

Groundnut Network [Réseau Arachide].
(02087) Conférence des Responsables Agronomiques Africains et Français.

Improvements to rural oilseed processing in Africa.
(04699) Overseas Development Administration (NRRD).

Investigations on stackburn in sub-Saharan Africa.
(04688) Overseas Development Administration (NRRD).

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Low cost cassava root storage technology - adaptive transfer from Latin America and field testing in Sub-Saharan Africa.

(05767) Overseas Development Administration (NRRD).

National agricultural export promotion project (Export crop, formerly Agricultural export promotion, formerly Export crops).

(01017) World Bank; Guinea.

NIPSSSET - African agriculture - year 2000 program.

(02071) Nigeria Institute of Plant Science and Solar Energy Technology.

Post-harvest assessment of root and tuber crop storage

(04834) Overseas Development Administration (NRRD).

Reseau sur la Conservation Post-Recolte des Denrees Alimentaires (GRENIER) (Network for Post-Harvest Storage of Food Crops).

(02647) Association des Universites Partiellement ou Entierement de Langue Francaise (AUPELF).

Root and tuber crops research

(01878) U.S. Agency for International Development.

Socio-economic impacts of cassava postharvest technologies on smallholdings in South East Nigeria

(05725) Institut fuer Agrar- und Sozialökonomie in den Tropen und Subtropen der Universität Hohenheim. Fachgebiet Landwirtschaftliche Betriebslehre in den Tropen und Subtropen.

Storage of cereals by pastoralists

(04761) Overseas Development Administration (NRRD).

West Africa - Post harvest losses of rice

(04675) Overseas Development Administration (NRRD).

Home economics, industries and crafts

Meat fish processing (Nigeria)

(02428) International Development Research Centre

Public works in Africa to improve food-security

(04626) Deutsche Gesellschaft fuer technische Zusammenarbeit (GTZ).

Reseau Coton (COTON)

(02062) France: Conference des Responsables de Recherches Agronomiques Africains et Francais (CORAF).

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Human nutrition - General aspects

Cassava and household food security in rural area of Makeni/Segbwema in Sierra Leone.
(01787) Overseas Development Administration (NRRD).

Cassava Network (Réseau Manioc).
(02084) Conférence des Responsables de Recherche Agronomique Africains et Français.

Human food value of Australian acacia seeds
(05389) Australian Centre for International Agricultural Research.

NIPSET: African agriculture - year 2000 program.
(02071) Nigeria Institute of Plant Science and Solar Energy Technology.

Réseau Coton (COTON).
(02082) France: Conférence des Responsables de Recherches Agronomique Africains et Français (CORAF).

International trade

Agricultural diversification project.
(02026) World Bank: Ghana.

Agricultural export promotion.
(04418) World Bank: Cote d'Ivoire.

Agricultural restructuring and diversification (formerly Export promotion/diversification, formerly Private export crops).
(01104) World Bank: Cameroon.

Agricultural sector development.
(02030) World Bank: Guinea-Bissau.

Assessment of conditions for replicating production systems in Africa's savanna areas - second stage.
(02098) Centre de Cooperation Internationale en Recherche Agronomique pour le Developpement (CIRAD).

Crop diversification and agricultural services project.
(01193) World Bank: Equatorial Guinea.

Fertilizer Marketing and Trade Information Program (FMTIP).
(02145) Directorate General for International Cooperation (DGIS); U.S. Agency for International Development (USAID).

National agricultural export promotion project (Export crop, formerly Agricultural export promotion, formerly Export crops).
(01077) World Bank: Guinea.

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National livestock project.

(01131) World Bank; Central African Republic.

Private rural enterprise and diversification (formerly Export crop development).

(01184) World Bank; Central African Republic.

SADAOC (Securite Alimentaire durable en Afrique de l'Ouest Centrale).

(05662) ECDPM (European Centre for Development Policy Management).

Investment, finance and credit

Agricultural credit for development in the Upper West Region of Ghana.

(04607) Universitaet Giessen.

Agricultural price politics of the Benin and the effect on production, dissemination of income, budget and balance of payments.

(01412) Universitaet Hohenheim.

Agricultural restructuring and diversification (formerly Export promotion/diversification, formerly Private export crops).

(01104) World Bank; Cameroon.

Agricultural sector development.

(02030) World Bank; Guinea-Bissau.

Crop diversification and agricultural services project.

(01193) World Bank; Equatorial Guinea.

Ecological protection (formerly Forestry and environment).

(01176) World Bank; Cameroon.

Financing needs of farm/households and formal and informal rural financial markets: a case study of Benin.

(03866) Universitaet Hohenheim.

Industrial crops.

(01208) World Bank; Zaire.

Investment and survival strategies of women.

(04831) Overseas Development Administration (NRRD).

Labour investment in perennial crop production.

(04830) Overseas Development Administration (NRRD).

National agricultural export promotion project (Export crop, formerly Agricultural export promotion, formerly Export crops).

(01017) World Bank; Guinea.

Rural financing systems and agricultural price policy in support of innovations. F2.1:

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The rural households financial requirements and formal and informal financial institutions analysed in the province Oueme in the Peoples Republic of Benin. F2.2: Agricultural price policy and its effects on production, income and employment. (04658) Universitaet Hohenheim.

Soil Fertility Restoration Project (SFRP).
(02143) International Fertilizer Development Center, Africa (IFDC-Africa).

Start-up grants - [International Fertilizer Development Center-Africa].
(02141) International Fertilizer Development Center, Africa (IFDC-Africa).

Irrigation

Agricultural services rehabilitation project.
(01105) World Bank; Ghana.

Fadama development (formerly National Fadama development).
(04346) World Bank; Nigeria.

Groundnut Network [Réseau Arachide].
(02087) Conférence des Responsables Agronomiques Africains et Français.

Gueckedou agricultural development project.
(01136) World Bank; Guinea.

International Network on Soil Fertility and Sustainable Rice Farming (INSURF).
(05370) International Rice Research Institute.

International Rice Testing Program for Africa (IRTP).
(02160) United Nations Development Program (UNDP)/European Economic Commission (EEC)/Japan.

Irrigation development.
(04302) World Bank; Nigeria.

NIPSET: African agriculture - year 2000 program.
(02071) Nigeria Institute of Plant Science and Solar Energy Technology.

Rice production II.
(01886) U.S. Agency for International Development.

Small scale irrigation.
(04363) World Bank; Ghana.

Supplemental irrigation in the humid tropics.
(03651) Administration Générale de la Coopération au Développement.

Technology of microcatchment water harvesting for irrigation in semi-arid zones.
(01472) Universitaet Goettingen.

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Third multi-state agricultural development project.
(02754) World Bank: Nigeria.

West Africa Maize Collaborative Research Network (Réseau Mais).
(02156) Conférence des Responsables de Recherche Agronomique Africains.

West African Irrigation Research Development Network (WAIRD).
(02612) International Irrigation Management Institute (IIMI).

Labour and employment

Changes in labour allocation of farm households in West Africa.
(05726) Institut fuer Agrar- und Sozialökonomie in den Tropen und Subtropen der
Universität Hohenheim. Fachgebiet Landwirtschaftliche Betriebslehre in den Tropen und
Subtropen.

Food security project.
(04160) World Bank: Cameroon.

Labour investment in perennial crop production.
(04830) Overseas Development Administration (NRRD).

Public works in Africa to improve food-security.
(04626) Deutsche Gesellschaft fuer technische Zusammenarbeit (GTZ).

Time-budget-utilization of rural households in South-Benin.
(04633) Universität Karlsruhe.

Land economics and policies

Agricultural privatization and smallholder development (formerly Agricultural sector
development).
(03746) World Bank: Sao Tome & Principe.

Agricultural services (formerly Second agricultural services project).
(01197) World Bank: Guinea.

Agroforestry systems in the Tropics.
(03859) Gesellschaft fuer Technische Zusammenarbeit (GTZ).

Applied research programme: Eastern and Central African Agroforestry Network for
Africa (ECA-AFRENA) - The bimodal highlands.
(02615) International Council for Research in Agroforestry.

Applied research programme: Network for Humid Lowlands of West Africa (HULWA-AFRENA).
(02618) International Council for Research in Agroforestry (ICRAF).

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Assessment of conditions for replicating production systems in Africa's savanna areas - second stage.

(02098) Centre de Cooperation Internationale en Recherche Agronomique pour le Developpement (CIRAD).

Crop diversification and agricultural services project.

(01193) World Bank: Equatorial Guinea.

Development and current situation of land tenure in English-speaking West Africa: the case of Sierra Leone.

(01500) Universitaet Bonn.

Ecological projection (formerly Forestry and environment).

(01178) World Bank: Cameroon.

Ecological side-effects of tsetse control in central and northern Ivory Coast.

(04637) Universitaet des Saarlandes.

Environmental management (formerly Environment, formerly Adjustment Loan - Environment).

(04352) World Bank: Nigeria.

Environmental resource management (formerly Environment).

(04362) World Bank: Ghana.

Gueckedou agricultural development project.

(01136) World Bank: Guinea.

Management of natural resources.

(04157) World Bank: Benin.

Natural resource management project.

(01186) World Bank: Central African Republic.

Natural resources management (formerly Agricultural natural resources and forestry).

(04344) World Bank: Guinea-Bissau.

Network on land development for sustainable agriculture in Africa (AFRICALAND - Land development).

(02109) International Board for Soil Research and Management.

Public works in Africa to improve food-security.

(04626) Deutsche Gesellschaft fuer technische Zusammenarbeit (GTZ).

Rural land management project (formerly Land tenure).

(04419) World Bank: Cote d'Ivoire.

Second Western Province rural development.

(01135) World Bank: Cameroon.

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Socio-economic impacts of cassava postharvest technologies on smallholdings in South East Nigeria.

(05725) Institut fuer Agrar- und Sozialoekonomie in den Tropen und Subtropen der Universitaet Hohenheim, Fachgebiet Landwirtschaftliche Betriebslehre in den Tropen und Subtropen.

Technological change and transformation of land tenure systems in Subsaharan Africa.
(01510) Universitaet Goettingen.

Legislation

Assessment of conditions for replicating production systems in Africa's savanna areas - second stage.

(02098) Centre de Cooperation Internationale en Recherche Agronomique pour le Developpement (CIRAD).

Management of natural resources.

(04157) World Bank: Benin.

Research and study programme on the improved management of extensive national rangelands in the Sahel (PGENES).

(03412) CILSS-Sahel Institute.

Mathematical and statistical methods

Association Internationale pour l'Optimisation de la Nutrition des Plantes (ANIOP) [International Association for the Optimization of Plant Nutrition].

(02641) Centre de Cooperation Internationale en Recherche Agronomique pour le Developpement (CIRAD).

Drought Resistance Research Network (R3S) [Réseau de Recherche sur la Résistance à la Sécheresse].

(02610) Conférence des Responsables de Recherche Agronomique Africains et Français.

First agricultural services project.

(01137) World Bank: Guinea.

Optimisation of natural-circulation solar-energy tropical crop dryers.

(02879) Commission of the European Communities.

The Livestock Trypanotolerant Network.

(02081) Overseas Development Administration.

Meteorology and climatology

African Center of Meteorological Applications for Development (ACMAD).

(01109) World Meteorological Organization (WMO).

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Agriculture Hydrologie-Meteorologie.

(02634) Centre Regional de Formation et d'Application en Agrometeorologie et Hydrologie (AGRHYMET).

Assessment of conditions for replicating production systems in Africa's savanna areas - second stage.

(02098) Centre de Cooperation Internationale en Recherche Agronomique pour le Developpement (CIFAD).

Drought Resistance Research Network (R3S) [Réseau de Recherche sur la Résistance à la Sécheresse].

(02610) Conférence des Responsables de Recherche Agronomique Africains et Français.

Estimation of monthly runoff data on the basis of multispectral satellite imagery.

(03795) Universität Bochum.

Identification and monitoring of African weather regimes - Phase I West Africa.

(04726) Overseas Development Administration (NRRD).

Investigations in production and reproduction records and their interrelationship with environmental factors in Diallonke sheep in Ghana.

(01443) Deutsche Forschungsgemeinschaft (DFG).

Sahelian Information Network (SIN).

(02657) Institute of Sahel (INSAH).

Sub-Saharan Africa hydrological assessment.

(01108) World Bank.

Traditional Techniques of Micro Climate Improvement (TTMI), phase II.

(05658) WAU (Wageningen Agricultural University).

Miscellaneous plant disorders

An examination of *Dioscorea* spp (yam) for nematode resistance.

(04782) Overseas Development Administration (NRRD).

Cocoa rehabilitation project.

(01010) World Bank; Ghana.

Collaborative Research Support Program (CRSP): Beans and cowpeas.

(01345) U.S. Agency International Development (USAID)/Michigan State University.

Collaborative Research Support Program (CRSP): Peanuts.

(01341) U.S. Agency for International Development (USAID)/University of Georgia.

Drought Resistance Research Network (R3S) [Réseau de Recherche sur la Résistance à la Sécheresse].

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(02610) Conférence des Responsables de Recherche Agronomique Africains et Français.

Groundnut Network [Réseau Arachide].

(02037) Conférence des Responsables Agronomiques Africains et Français.

International Rice Testing Program for Africa (IRTP).

(02160) United Nations Development Program (UNDP)/European Economic Commission (EEC)/Japan.

The West and Central Africa Cowpea Collaborative Research Network (RENACO).

(02078) U.S. Agency for International Development (USAID)/Semi-Arid Food Grain Research and Development (SAFGRAD).

West and Central Africa Maize Collaborative Research Network (WECAMAN).

(02157) U.S. Agency for International Development (USAID)/Semi-Arid Food Grain Research and Development (SAFGRAD).

Nature conservation and land resources

'Tropenbos' Foundation.

(05507) Tropenbos Foundation.

Acquisition and distribution of comprehensive Landsat TM satellite imagery.

(04483) Global Environment Facility; Central African Republic.

Adoption of agroforestry systems in developing countries.

(01791) Overseas Development Administration (NRRD).

African Center of Meteorological Applications for Development (ACMAD).

(01109) World Meteorological Organization (WMO).

Agriculture.

(04414) World Bank; Cameroon.

Afey Farming Network for Tropical Africa.

(02088) Canadian International Development Agency (CIDA)/International Development Research Centre (IDRC).

Centre d'Etude de l'Environnement et de Développement au Cameroun.

(05654) State University Leiden. Centre for Environmental Science.

Common Property Resource Network.

(05360) University of Minnesota at Minneapolis St. Paul.

Community reforestation (CARE).

(01919) U.S. Agency for International Development.

Congo wetlands protection and management.

(04482) Global Environmental Facility; Congo.

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Drought Resistance Research Network (R3S) [Réseau de Recherche sur la Résistance à la Sécheresse].

(02610) Conférence des Responsables de Recherche Agronomique Africains et Français

Ecological monitoring of the dynamics of desertification.

(03415) CILSS-Sahel Institute.

Ecological protection (formerly Forestry and environment).

(01178) World Bank: Cameroon.

Ecological side-effects of tsetse control in central and northern Ivory Coast.

(04637) Universitaet des Saarlandes.

Ecology/environment programme: reforestation and conservation of the forestry resources.

(03416) CILSS-Sahel Institute.

Environment project (formerly Pilot forest and environment project).

(02787) World Bank: Zaïre.

Environmental action program.

(04412) World Bank: Benin.

Environmental action program.

(04423) World Bank: Togo.

Environmental management (formerly Environment, formerly Adjustment Loan - Environment).

(04352) World Bank: Nigeria.

Environmental resource management (formerly Environment).

(04362) World Bank: Ghana.

Estimation of monthly runoff data on the basis of multispectral satellite imagery.

(03795) Universitaet Bochum.

Forestry/Environment.

(02759) World Bank: Togo.

Forestry/environment.

(04343) World Bank: Gabon.

Inventory of environmental research and development activities (Nigeria).

(02548) International Development Research Centre.

Investigations on the diversity of rain and cloud forests in Rwanda and Zaïre.

(05688) Botanisches Institut der Universitaet Bonn, Abt. Systematik und Morphologie.

Monitoring of renewable natural resources in the Sahel.

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(02739) Commission of the European Communities.

National agricultural research project.

(01211) World Bank; Zaire.

National agricultural research project.

(01673) World Bank; Nigeria.

National environment program.

(01002) World Bank; Cote d'Ivoire.

National environment program (formerly Agriculture).

(04421) World Bank; Cote d'Ivoire.

National resources/management support.

(01185) U.S. Agency for International Development.

Natural resource management and conservation (formerly Land resources management and conservation).

(04416) World Bank; Equatorial Guinea.

Natural resource management project.

(01186) World Bank; Central African Republic.

Natural resources management.

(03661) U.S. Agency for International Development.

Natural resources management (formerly Agricultural natural resources and forestry).

(04344) World Bank; Guinea-Bissau.

Natural resources management project.

(04367) World Bank; Congo.

NIPSET: African agriculture - year 2000 program.

(02071) Nigeria Institute of Plant Science and Solar Energy/Technology.

Projecto Agro-Silvo-pastoril do Leste Bafata (I + II).

(05631) SNV (Netherlands Development Cooperation).

Projet poursuite des etudes en milieu reel (PEMR).

(05666) SNV (Association Neerlandaise d'Assistance au Developpement).

Research and study programme on the improved management of extensive national rangelands in the Sahel (PGENES).

(03412) CILSS-Sahel Institute.

Research and study programme on the possibility of intensification of fodder and animal production in the framework of an association of agriculture and livestock breeding in Sub-Saharan, Sudanian and Guinean zones.

(03413) CILSS-Sahel Institute.

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Rural environment management (formerly Environmental protection program, formerly Natural resources management).

(02096) World Bank: Guinea.

The Geological Network for Agrominerals in East and Southern Africa.

(02613) United Nations Development Program (UNDP); World Bank.

University environmental linkage: Range development and Camel studies.

(04648) Justus von Liebig Universitaet Giessen.

West African Forages Network (WAFNET).

(02103) Multilateral Cooperation Division, Economic Cooperation Bureau, MOFA, JAPAN.

West African program for agro-mineral research.

(02146) International Fertilizer Development Center, Africa (IFDC-Africa).

Nutrition programmes

Food security project.

(04160) World Bank: Cameroon.

Occupational diseases and hazards

Assessing operator exposure.

(04881) Overseas Development Administration.

Organization, administration and management of agricultural enterprises or farms

Assessment of conditions for replicating production systems in Africa's savanna areas - second stage.

(02098) Centre de Cooperation Internationale en Recherche Agronomique pour le Developpement (CIRAD).

Cotton area rural development project.

(01132) World Bank: Central African Republic.

Global 2000 - Sasakawa Africa initiative agriculture project.

(01291) Global 2000 Found.

Kaduna/Katsina agricultural development project (formerly Kaduna State integrated agricultural development project).

(01014) World Bank: Nigeria.

Maize II/Lulua agricultural development project.

(01162) World Bank: Zaire.

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Methodology for agricultural marketing systems policy and practise, and its application to current reforms.

(01721) Overseas Development Administration (NRRD).

Micro-economic potentials and limits to the introduction of Alley cropping systems in traditional farming systems in South Benin.

(04605) Universitaet Hohenheim.

National livestock project.

(01131) World Bank; Central African Republic.

Pan-African Networks for Rural Social Science Research.

(02661) Winrock International; Ford Foundation.

Private rural enterprise and diversification (formerly Export crop development).

(01184) World Bank; Central African Republic.

Private voluntary and nongovernmental organization support (PVO/NGO).

(03662) U.S. Agency for International Development.

Rural enterprise development.

(03659) U.S. Agency for International Development/Africare.

Rural financing systems and agricultural price policy in support of innovations. F2.1:

The rural households financial requirements and formal and informal financial

institutions analysed in the province Oueme in the Peoples Republic of Benin. F2.2:

Agricultural price policy and its effects on production, income and employment.

(04658) Universitaet Hohenheim.

Second rural development project in cotton areas.

(01007) World Bank; Togo.

Strengthening maize and cassava research in eleven countries of West and Central Africa: Plan of action.

(02665) Ministere de la Cooperation (France).

Sustainable use of natural resources? Case study on the dynamics of land use in Northern Ghana.

(05705) Institut fuer Agrarökonomie der Universitaet Goettingen.

Packaging

NIPSSSET: African agriculture - year 2000 program.

(02071) Nigeria Institute of Plant Science and Solar Energy/Technology.

Pests of animals

Improving the Diagnosis and Control of Trypanosomiasis and other Vector-borne Diseases

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of African Livestock, using immunoassay Methods.

(02627) Directorate General for International Cooperation (DGIS).

NIPSET: African agriculture - year 2000 program.

(02071) Nigeria Institute of Plant Science and Solar Energy/Technology.

Research, coordination, and training for improved livestock production in Sub-Saharan Africa.

(02732) Commission of the European Communities.

Social Science Interface Research Unit (SSIRU).

(02779) The International Centre of Insect Physiology and Ecology.

The Development of Practices for Area-wide Tsetse Eradication with emphasis on the Sterile Insect Technique.

(02626) United Nations Food and Agriculture Organization.

The Livestock Trypanotolerant Network.

(02081) Overseas Development Administration.

West African Forages Network (WAFNET).

(02103) Multilateral Cooperation Division, Economic Cooperation Bureau, MOFA, JAPAN.

Pests of plants

Africa-wide biological control programme for cassava pests.

(01828) International Fund for Agricultural Development.

An integrated research programme on the development of biological pesticides for locust and grasshopper control.

(01546) U.S. Agency for International Development.

Biological integrated control of the larger grain borer, *Prostephanus truncatus* Horn.

(03907) Institut fuer Phytopathologie, Arbeitsgruppe Vorrat, Universitaet Kiel.

Cassava Network [Réseau Manioc].

(02084) Conférence des Responsables de Recherche Agronomique Africains et Français.

Collaborative Research Support Program (CRSP): Beans and cowpeas.

(01345) U.S. Agency International Development (USAID)/Michigan State University.

Collaborative Research Support Program (CRSP): Peanuts.

(01341) U.S. Agency for International Development (USAID)/University of Georgia.

Control of *Zonocerus variegatus*.

(03825) Universitaet Freiburg.

Coordination of locust and grasshopper control.

(01527) Food and Agriculture Organization of the United Nations.

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Crop protection programme.
(03409) CILSS-Sahel Institute.

Ecological side-effects of insect control in central and northern Ivory Coast.
(04637) Universitaet des Saarlandes.

Ecology/environment programme: reforestation and conservation of the forestry resources.
(03416) CILSS-Sahel Institute.

Food security project.
(04160) World Bank, Cameroon.

Influence of neem (*Azadirachta indica*) products on locusts and grasshoppers.
(03847) Justus-Liebig Universitaet Giessen.

International Rice Testing Program for Africa (IRTP).
(02160) United Nations Development Program (UNDP)/European Economic Commission (EEC)/Japan.

Locust and grasshopper control by application of neem products.
(03848) Justus-Liebig Universitaet Giessen.

Maize (Lulua) agricultural development project.
(01162) World Bank, Zaire.

National agricultural research project.
(01211) World Bank, Zaire.

National agricultural research project.
(01332) World Bank, Ghana.

Oil palm development project - Phase II.
(03474) World Bank, Ghana.

Phase I: Resistance of cowpea to *Stinga gesnerioides* and *Alectra vogelii* Phase II:
Resistance of legumes and cereals to *Stinga* species.
(01767) Overseas Development Administration (NRFD).

Proposal for a research project on the development of new methods in locust control.
(02090) Gesellschaft fuer Technische Zusammenarbeit (GTZ).

Recherche Appliquee en Milieu Reel (RAMR).
(05612) KIT (Royal Tropical Institute).

Reseau Coton (COTON).
(02082) France: Conference des Responsables de Recherches Agronomique Africains et Francais (CORAF).

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Second rural development project in cotton areas.
(01007) World Bank; Togo.

Social Science Interface Research Unit (SSIRU).
(02779) The international Centre of Insect Physiology and Ecology.

Survey, biology and control of grasshoppers.
(01526) Institute for Agricultural Research.

The East and Southern Africa Root Crops Research Network (ESARRN).
(02080) U.S. Agency for International Development (USAID)/International Development Research Centre (IDRC)/International Institute of Tropical Agriculture (IITA).

The West and Central Africa Cowpea Collaborative Research Network (RENACO).
(02078) U.S. Agency for International Development (USAID)/Semi-Arid Food Grain Research and Development (SAFGRAD).

Third coffee and cocoa development project.
(01008) World Bank; Togo.

U.S./Israel program for cooperative development research.
(01949) U.S. Agency for International Development.

West and Central Africa Maize Collaborative Research Network (WECAMAN).
(02157) U.S. Agency for International Development (USAID)/Semi-Arid Food Grain Research and Development (SAFGRAD).

West and Central Africa Sorghum Research Network (WCASRN).
(02075) U.S. Agency for International Development (USAID)/Semi-Arid Food Grain Research and Development (SAFGRAD).

Ph: biology of human nutrition

Collaborative Research Support Program (CRSP): Beans and cowpeas.
(01345) U.S. Agency International Development (USAID)/Michigan State University.

Plant diseases

(a) Molecular biology of the interaction(s) between yam (*Dioscorea spec.*) and the fungus *Colletotrichum gloeosporioides*; (b) Isolation of fungal defence genes from yams; (c) DNA fingerprinting of the yam genome.
(02066) Institut fuer Pflanzliche Molekularbiologie, Fachbereich: Biologie der Universitaet Frankfurt.

Cassava Network [Réseau Manioc].
(02064) Conférence des Responsables de Recherche Agronomique Africains et Français.

Characterisation of diversity for disease resistance of Phaseolus bean mixture in East

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Africa.

(01821) Overseas Development Administration (NRRD).

Cocoa rehabilitation project.

(01010) World Bank; Ghana.

Collaborative Research Support Program (CRSP): Beans and cowpeas.

(01345) U.S. Agency International Development (USAID)/Michigan State University.

Development of rapid tests for identification and differentiation of yam viruses.

(04900) Overseas Development Administration (NRRD).

Development of simple methods and techniques for the detection, quantification and identification of pectolytic *Erwinia* species on or in (latent infection) potato tubers.

(05703) Institut fuer Pflanzenpathologie und Pflanzenschutz der Universitaet Goettingen.

Epidemiology and control of anthracnose disease of yam in Nigeria.

(05749) Overseas Development Administration (NRRD).

Genome analysis of banana and plantain (*Musa* spp.) and the black Sigatoka fungus *Mycosphaerella fijiensis*.

(05691) Institut fuer Pflanzliche Molekularbiologie, Fachbereich Biologie der Universitaet Frankfurt.

Groundnut Network [Réseau Arachide].

(02087) Conférence des Responsables Agronomiques Africains et Français.

International Pearl Millet Disease Resistance Testing Program (IPMDRTP).

(05376) International Crops Research Institute for the Semi-Arid Tropics.

International Rice Testing Program for Africa (IRTP).

(02160) United Nations Development Program (UNDP)/European Economic Commission (EEC)/Japan.

Investigation of the causative agents of groundnut rosette disease in Africa.

(02821) Commission of the European Communities.

Network for Improvement of Rice Cultivation [Réseau Riz].

(02161) Conférence des Responsables de Recherche Agronomique Africains et Français.

Oil palm development project - Phase II.

(03474) World Bank; Ghana.

Okra Mosaik virus.

(03642) Administration Générale de la Coopération au Développement.

Phytosanitary controls for African Cassava Mosaic Virus (ACMV).

(05778) Overseas Development Administration (NRRD).

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Resistance mechanisms to Anthracnose in yams.
(04804) Overseas Development Administration (NRRD).

Striga resistance in rice.
(04805) Overseas Development Administration (NRRD).

The East and Southern Africa Root Crops Research Network (ESARRN).
(02080) U.S. Agency for International Development (USAID)/International Development Research Centre (IDRC)/International Institute of Tropical Agriculture (IITA).

The epidemiology and control of the sorghum foliar pathogens in the semi-arid tropics.
(01813) Overseas Development Administration (NRRD).

The West and Central Africa Cowpea Collaborative Research Network (RENACO).
(02078) U.S. Agency for International Development (USAID)/Semi-Arid Food Grain Research and Development (SAFGRAD).

U.S./Israel program for cooperative development research.
(01949) U.S. Agency for International Development.

West Africa Maize Collaborative Research Network (Réseau Mais).
(02156) Conférence des Responsables de Recherche Agronomique Africains.

West and Central Africa Maize Collaborative Research Network (WECAMAN).
(02157) U.S. Agency for International Development (USAID)/Semi-Arid Food Grain Research and Development (SAFGRAD).

West and Central Africa Sorghum Research Network (WCASRN).
(02075) U.S. Agency for International Development (USAID)/Semi-Arid Food Grain Research and Development (SAFGRAD).

Plant ecology

Développement des recherches menées en zone de forêt dense humide dans le domaine de l'agroforesterie / Development of agroforestry research carried out in the tropical rain forest zone.
(04654) Universitaet Bayreuth.

Dynamics of the economically important Meliaceae after exploitation in the moist forest of the People's Republic of Congo.
(03799) Universitaet Goettingen.

Impact of the most important trees for alley-cropping on soil fertility properties in the Ivory Coast/West Africa.
(04669) Universitaet Bayreuth.

Investigations and development of site adaptive agroforestry systems.
(04665) Universitaet Bayreuth.

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Investigations on succession and dynamics of regeneration of commercial trees in the lama state forest/Benin in the natural range of raingreen forests.
(05708) Institut fuer Waldbau der Universitaet Goettingen, Abt. II: Waldbau der Tropen und Naturwaldforschung.

Investigations on the diversity of rain and cloud forests in Rwanda and Zaire.
(05688) Botanisches Institut der Universitaet Bonn, Abt. Systematik und Morphologie.

Site evaluation in: the rain forest of East Liberia.
(03811) Universitaet Bayreuth.

Structure, growth response and system dynamics of virgin and selectively logged rainforest to silvicultural treatments: Liberia, the Philippines, Borneo and south China.
(03858) Bundesanstalt fuer Forst-und Holzwirtschaft (BFH).

[Soils and ecological studies of the Kazaboua agroforestry system in the Central Region of Togo] Etudes pédologiques et écologiques dans le système agroforestier de Kazaboua, Région Centrale Togo.
(03813) Univeritaet Bayreuth.

Plant genetics and breeding

Agricultural diversification project.
(02026) World Bank; Ghana.

Assessment of conditions for replicating production systems in Africa's savanna areas - second stage.
(02098) Centre de Cooperation Internationale en Recherche Agronomique pour le Developpement (CIRAD).

Cassava cyanide: improved techniques for estimation and influence of environment on concentration.
(04904) Australian Centre for International Agricultural Research.

Cassava Network [Réseau Manioc].
(02084) Conférence des Responsables de Recherche Agronomique Africains et Français.

Central and West African Root Crops Collaborative Research Network (CEWARRN).
(02166) International Institute of Tropical Agriculture.

Cocoa rehabilitation project.
(01010) World Bank; Ghana.

Collaborative Research Support Program (CRSP): Beans and cowpeas.
(01345) U.S. Agency International Development (USAID)/Michigan State University.

Collaborative Research Support Program (CRSP): Peanuts.
(01341) U.S. Agency for International Development (USAID)/University of Georgia.

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Cooperative Cereals Research Network (CCRN).

(02171) International Crops Research Institute for the Semi-Arid Tropics.

Cooperative Programme for the Improvement of Genetic Resources of Multipurpose Woody Species.

(02174) Food and Agriculture Organization of the United Nations.

Drought Resistance Research Network (R3S) [Réseau de Recherche sur la Résistance à la Sécheresse].

(02610) Conférence des Responsables de Recherche Agronomique Africains et Français.

East Africa Regional Cooperative for Research on Bananas (and Ensete) (EARCORBE).

(02168) International Network for the Improvement of Banana and Plantain.

Evaluation of tropical lowland forage legumes for sub-humid West Africa at ILCA.

(03779) Universitaet Giessen.

Forest ecology and training in Cameroon.

(02840) Commission of the European Communities.

Fourth rubber project.

(01003) World Bank; Cote d'Ivoire.

Genome analysis of banana and plantain (*Musa* spp.) and the black Sigatoka fungus *Mycosphaerella fijiensis*.

(05691) Institut fuer Pflanzliche Molekularbiologie, Fachbereich Biologie der Universitaet Frankfurt.

Genotypic differences in manganese tolerance of cowpea (*Vigna unguiculata*).

(04625) Universitaet Hannover.

Germplasm conservation and improvement of *Parkia bilobosa* (Jacq) Benth for multipurpose use.

(05665) University of Wales, Bangor; CNSF, Ouagadougou, Burkina Faso; FRIN, Nigeria; SAFS, Nancy, France; WAU; The Netherlands.

Groundnut Network [Réseau Arachide].

(02087) Conférence des Responsables Agronomiques Africains et Français.

Improvements to millet, sorghum, cowpea, and maize crops in the Sahel.

(02738) Commission of the European Communities.

International Network for the Improvement of Bananas and Plantains (INIBAP).

(05369) International Network for the Improvement of Bananas and Plantains.

International Network on the Genetic Enhancement of Rice (INGER).

(05368) International Rice Research Institute.

International Pearl Millet Adaptation Trial (IPMAT).

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(05375) International Crops Research Institute for the Semi-Arid Tropics.

International Rice Testing Program for Africa (IRTP).

(02160) United Nations Development Program (UNDP)/European Economic Commission (EEC)/Japan.

International Soybean Program (INTSOY).

(05373) University of Illinois at Urbana-Champaign.

Investigation of the causative agents of groundnut rosette disease in Africa.

(02821) Commission of the European Communities.

Multi-state agricultural development project.

(01015) World Bank; Nigeria.

National agricultural research project.

(01211) World Bank; Zaire.

National agricultural research project.

(01332) World Bank; Ghana.

National agricultural services.

(02095) World Bank; Cote d'Ivoire.

National cereals research and extension II.

(01877) U.S. Agency for International Development.

National research and extension project.

(01139) World Bank; Guinea.

National seeds project.

(01078) World Bank; Guinea.

Network for Improvement of Rice Cultivation [Réseau Riz].

(02161) Conférence des Responsables de Recherche Agronomique Africains et Français.

Phase I: Resistance of cowpea to *Striga gesnerioides* and *Alectra vogelii* Phase II:

Resistance of legumes and cereals to *Striga* species.

(01767) Overseas Development Administration (NRRD).

Programme for Improvement of Potatoes in Central Africa [Programme Regional pour

l'Amélioration de la Culture de la Pomme de Terre en Afrique Centrale] (PRAPAC).

(02079) U.S. Agency for International Development.

Reconnaissance / preparation study on forestry biotechnology in the drought-prone Sub-Saharan African countries, with special reference to Sahelian and Sudanian zones (SSZ).

(02094) World Bank.

Regional programme for the improvement of millet, sorghum, cowpeas, and maize

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(transitional phase).

(03407) CILSS-Sahel Institute.

Regional Tropical Leafy Trees Improvement Program [Programme Regional d'Amelioration des Feuillus Tropicaux (PRAFT)]

(02169) European Economic Commission (EEC).

Research programme on phylogenetic resources.

(03408) CILSS-Sahel Institute.

Réseau Coton (COTON).

(02082) France: Conference des Responsables de Recherches Agronomique Africains et Francais (CORAF).

Root and tuber crops research.

(01878) U.S. Agency for International Development.

Second rural development project in cotton areas.

(01007) World Bank: Togo.

Socio-economic assessment of biotechnologies for small farmers.

(04707) Overseas Development Administration (NRRD).

Strengthening African agricultural research: 13 West Africa Rice Development Association (WARDA) - Mangrove and associated swamp rice research.

(01857) U.S. Agency for International Development.

The East and Southern Africa Root Crops Research Network (ESARRN).

(02080) U.S. Agency for International Development (USAID)/International Development Research Centre (IDRC)/International Institute of Tropical Agriculture (IITA).

The West and Central Africa Cowpea Collaborative Research Network (RENACO).

(02078) U.S. Agency for International Development (USAID)/Semi-Arid Food Grain Research and Development (SAFGRAD).

U.S./Israel program for cooperative development research.

(01949) U.S. Agency for international Development.

West Africa Collaborative Groundnut Research Network.

(02162) International Crops Research Institute for the Semi-Arid Tropics (ICRISAT).

West Africa Maize Collaborative Research Network [Réseau Maïs].

(02156) Conference des Responsables de Recherche Agronomique Africains.

West Africa Regional Cooperative for Research on Plantain (WARCORP).

(02167) International Institute of Tropical Agriculture.

West Africa Regional Pearl Millet Improvement Program.

(02154) International Crops Research Institute for the Semi-Arid Tropics (ICRISAT Sahel Center).

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West African Forages Network (WAFNET).

(02103) Multilateral Cooperation Division, Economic Cooperation Bureau, MOFA, JAPAN.

West and Central Africa Maize Collaborative Research Network (WECAN).

(02157) U.S. Agency for International Development (USAID)/Semi-Arid Food Grain Research and Development (SAFGRAD).

West and Central Africa Sorghum Research Network (WCASRN).

(02075) U.S. Agency for International Development (USAID)/Semi-Arid Food Grain Research and Development (SAFGRAD).

Women's knowledge, management and control of seed genetic resources.

(04261) International Development Research Centre.

Plant physiology - Growth and development

Drought Resistance Research Network (R3S) [Réseau de Recherche sur la Résistance à la Sécheresse].

(02610) Conférence des Responsables de Recherche Agronomique Africains et Français.

Effects of dust deposits and microvariability on edaphical site conditions with regard to semi-arid and sub-humid locations in West Africa.

(04657) Universitaet Hohenheim.

Human food value of Australian acacia seeds.

(05389) Australian Centre for International Agricultural Research.

Impact of the most important trees for alley-cropping on soil fertility properties in the Ivory Coast/West Africa.

(04669) Universitaet Bayreuth.

Importance of spontaneous vegetation and biotic limitation factors in traditional cropping systems at a sub-humid site.

(04660) Universitaet Hohenheim.

Investigations and development of site adaptive agroforestry systems.

(04665) Universitaet Bayreuth.

Site evaluation in the rain forest of East Liberia.

(03811) Universitaet Bayreuth.

Structure, growth response and system dynamics of virgin and selectively logged rainforest to silvicultural treatments: Liberia, the Philippines, Borneo and south China.

(03858) Bundesanstalt fuer Forst-und Holzwirtschaft (BFH).

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Plant physiology - Nutrition

Association Internationale pour l'Optimisation de la Nutrition des Plantes (ANIOP)
[International Association for the Optimization of Plant Nutrition].
(02641) Centre de Cooperation Internationale en Recherche Agronomique pour le
Developpement (CIRAD).

Collaborative Research Support Program (CRSP): Soils management (TROPISOILS).
(01346) U.S. Agency for international Development (USAID)/North Carolina State
University.

Développement des recherches menées en zone de forêt dense humide dans le domaine de
l'agroforesterie / Development of agroforestry research carried out in the tropical
rain forest zone.
(04654) Universitaet Bayreuth.

Genotypic differences in manganese tolerance of cowpea (*Vigna unguiculata*).
(04625) Universitaet Hannover.

Groundnut Network [Réseau Arachide].
(02087) Conférence des Responsables Agronomiques Africains et Français.

Investigations and development of site adaptive agroforestry systems.
(04665) Universitaet Bayreuth.

Nutrient and water-use efficiency of crops grown on highly weathered soils in the Humid
Tropics.
(03890) Landwirtschaftliche Forschungsanstalt Buentehof.

Nutrient budgets in relation to the sustainability of indigenous farming systems in
Northern Nigeria.
(05755) Overseas Development Administration (NRRD).

Reconnaissance / preparation study on forestry biotechnology in the drought-prone
Sub-Saharan African countries, with special reference to Sahelian and Sudanian zones
(SSZ).
(02094) World Bank.

Relationships between tree growth, tree nutrition and site in *Tectona grandis*
plantation in West Africa.
(04653) Universitaet Bayreuth.

Plant physiology - Reproduction

Investigations on succession and dynamics of regeneration of commercial trees in the
Iama state forest/Benin in the natural range of raingreen forests.
(05708) Institut fuer Waldbau der Universitaet Goettingen. Abt. II: Waldbau der Tropen
und Naturwaldforschung.

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Oil palm development project - Phase II.
(03474) World Bank; Ghana.

Plant physiology and biochemistry

Genotypic differences in manganese tolerance of cowpea (*Vigna unguiculata*).
(04625) Universitaet Hannover.

Nutrient budgets in relation to the sustainability of indigenous farming systems in Northern Nigeria.
(05755) Overseas Development Administration (NRRD).

Réseau Coton (COTON).
(02082) France; Conference des Responsables de Recherches Agronomique Africains et Français (CORAF).

Plant propagation

Agricultural diversification project.
(02026) World Bank; Ghana.

Agricultural services (formerly Second agricultural services project).
(01197) World Bank; Guinea.

Assessment of conditions for replicating production systems in Africa's savanna areas - second stage.
(02098) Centre de Cooperation Internationale en Recherche Agronomique pour le Developpement (CIRAD).

Cassava Network [Réseau Manioc].
(02084) Conférence des Responsables de Recherche Agronomique Africains et Français.

Cotton area rural development project.
(01132) World Bank; Central African Republic.

East Africa Regional Cooperative for Research on Bananas (and Ensete) (EARCORBE).
(02168) International Network for the Improvement of Banana and Plantain.

Germplasm conservation and improvement of *Parkia bilobosa* (Jacq) Benth for multipurpose use.
(05665) University of Wales, Bangor; CNSF, Ouagadougou, Burkina Faso; FRIN, Nigeria; SAFS, Nancy, France; WAU; The Netherlands.

Multi-state agricultural development project.
(01015) World Bank; Nigeria.

National agricultural research project.
(01332) World Bank; Ghana.

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National research and extension project.
(01139) World Bank; Guinea.

National seeds project.
(01678) World Bank; Guinea.

NIPSET: African agriculture - year 2000 program.
(02071) Nigeria Institute of Plant Science and Solar Energy/Technology.

Rainfed rice development project.
(04356) African Development Bank.

Regional programme for the improvement of millet, sorghum, cowpeas, and maize
(transitional phase).
(03407) CILSS-Sahel Institute.

Réseau Coton (COTON).
(02082) France; Conference des Responsables de Recherches Agronomique Africains et
Français (CORAF).

Second rural development project in cotton areas.
(01007) World Bank; Togo.

Third multi-state agricultural development project.
(02754) World Bank; Nigeria.

West African Forages Network (WAFNET).
(02103) Multilateral Cooperation Division, Economic Cooperation Bureau, MOFA, JAPAN.

Plant taxonomy and geography

Congo wildlands protection and management.
(04482) Global Environmental Facility; Congo.

Ecological protection (formerly Forestry and environment).
(01178) World Bank; Cameroon.

Environmental action program.
(04412) World Bank; Benin.

National resources/management support.
(01185) U.S. Agency for International Development.

Natural resource management project.
(01186) World Bank; Central African Republic.

Natural resources management project.
(04367) World Bank; Congo.

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Pollution

Agronomic Fertilizer Research Program (AFRP).
(02147) International Fertilizer Development Center, Africa (IFDC-Africa).

An integrated research programme on the development of biological pesticides for locust and grasshopper control.
(01546) U.S. Agency for International Development.

Ecological side-effects of tsetse control in central and northern Ivory Coast.
(04637) Universitaet des Saarlandes.

Forestry and fishery management.
(01196) World Bank; Guinea.

NIPSSSET: African agriculture - year 2000 program.
(02071) Nigeria Institute of Plant Science and Solar Energy/Technology.

Proposal for a research project on the development of new methods in locust control.
(02090) Gesellschaft fuer Technische Zusammenarbeit (GTZ).

Processing of agricultural wastes

African Research Network for Agricultural By-Products (ARNAB).
(02170) International Development Research Centre (IDRC); International Livestock Centre for Africa (ILCA).

Processing of forest products

Agrosilviculture en zone humide - Congo [Humid zone agrosilvopastoral systems - Congo].
(01289) International Development Research Centre.

Ecology/environment programme: reforestation and conservation of the forestry resources.
(03416) CiLSS-Sahel Institute.

Forest management project.
(04402) World Bank; Zaire.

Forest resource management project.
(01195) World Bank; Ghana.

Natural resource management project.
(01186) World Bank; Central African Republic.

Nutritive value and animal health.

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(01405) Universitaet Hohenheim.

Second forestry project.
(04351) World Bank: Nigeria.

Processing of non-food or non-feed agricultural products

Agricultural diversification project.
(02026) World Bank: Ghana.

Fourth rubber project.
(01003) World Bank: Cote d'Ivoire.

International Rubber Research and Development Board (IRRDB).
(01212) International Rubber Research and Development Board.

Réseau Coton (COTON).
(02082) France: Conférence des Responsables de Recherches Agronomique Africains et Français (CORAF).

Tree crops (Oilpalm, Rubber).
(02756) World Bank: Nigeria.

Production economics

Adoption of agroforestry systems in developing countries.
(01791) Overseas Development Administration (NRRD).

African Center of Meteorological Applications for Development (ACMAD).
(01109) World Meteorological Organization (WMO).

Agricultural research and extension II.
(01849) U.S. Agency for International Development.

Agricultural research and extension project.
(01114) African Development Bank.

Agroeconomic study of cassava in Sub-Saharan Africa.
(01222) Rockefeller Foundation.

Applied research and extension.
(01888) U.S. Agency for International Development.

Assessment of conditions for replicating production systems in Africa's savanna areas - second stage.
(02098) Centre de Cooperation Internationale en Recherche Agronomique pour le Developpement (CIRAD).

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Case studies on raising agricultural productivity of women in Africa for increased food production.
(02151) World Bank.

Conditions for developing non-farm productive activities in rural areas of Africa. A comparison of Yatenga/Burkina Faso and Extreme-Nord/Cameroun.
(04639) Universität Frankfurt.

Crop diversification and agricultural services project.
(01193) World Bank; Equatorial Guinea.

Improving the Productivity of Indigenous African Livestock using Radioimmunoassay and related Techniques.
(02621) Directorate General for International Cooperation (DGIS).

Increase of productivity and control of diseases of small ruminants.
(03410) CILSS-Sahel Institute.

Management of the West African Dwarf Goat in the Humid Tropics (Phases II and III).
(05508) Agricultural University Wageningen, The Netherlands (Dept. Animal Husbandry; Dept. Agricultural Economics)/Obafemi Awolowo University, (Dept. of Animal Science), Ile-Ife, Nigeria.

Meat/fish processing (Nigeria).
(02428) International Development Research Centre.

National agricultural services.
(02095) World Bank; Cote d'Ivoire.

Network on land development for sustainable agriculture in Africa (AFRICALAND - Land development).
(02109) International Board for Soil Research and Management.

Small holder productivity.
(01896) U.S. Agency for International Development.

Socioeconomic and environmental factors related to development and application of vaccines for animal diseases in Africa.
(01223) Rockefeller Foundation.

Technological change and transformation of land tenure systems in Sub-Saharan Africa.
(01510) Universität Göttingen.

The economic impact of biological control in smallholder grain storage: example from Togo.
(05723) Institut fuer Agrar- und Sozialökonomie in den Tropen und Subtropen der Universität Hohenheim, Fachgebiet Landwirtschaftliche Betriebslehre in den Tropen und Subtropen.

West Africa Maize Collaborative Research Network [Réseau Maïs].

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(02156) Conference des Responsables de Recherche Agronomique Africains.

Protection of plants - General aspects

'Tropenbos' Foundation.

(05507) Tropenbos Foundation.

An examination of *Dioscorea* spp (yam) for nematode resistance.

(04782) Overseas Development Administration (NRRD).

Central Agricultural Research Institute.

(01085) Food and Agriculture Organization of the United Nations (FAO).

Control of yam anthracnose and other yam pests.

(05782) Overseas Development Administration (NRRD).

Epidemiology and control of anthracnose disease of yam in Nigeria.

(05749) Overseas Development Administration (NRRD).

Importance of spontaneous vegetation and biotic limitation factors in traditional cropping systems at a sub-humid site.

(04660) Universitaet Hohenheim.

INIBAP/Taxonomic Linguistic Study of Plantain Cultivars in Africa.

(05649) INIBAP.

Kaduna/Katsina agricultural development project (formerly Kaduna State integrated agricultural development project).

(01014) World Bank: Nigeria.

Microbial control of root-knot nematodes.

(01814) Overseas Development Administration (NRRD).

Phase I: Resistance of cowpea to *Striga gesnerioides* and *Alectra vogelii* Phase II:

Resistance of legumes and cereals to *Striga* species.

(01767) Overseas Development Administration (NRRD).

Réseau Coton (COTON).

(02082) France: Conference des Responsables de Recherches Agronomique Africains et Français (CORAF).

Resistance mechanisms to Anthracnose in yams.

(04804) Overseas Development Administration (NRRD).

Striga resistance in rice.

(04805) Overseas Development Administration (NRRD).

The economic impact of biological control in smallholder grain storage: example from Togo.

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(05723) Institut fuer Agrar- und Sozialoekonomie in den Tropen und Subtropen der Universitaet Hohenheim, Fachgebiet Landwirtschaftliche Betriebslehre in den Tropen und Subtropen.

Public administration

Programme of Support to Promote Grassroots Participatory Rural Development in Kadjebi-district.
(05661) SNV (Netherlands Development Organization).

Renewable energy resources

African Center of Meteorological Applications for Development (ACMAD).
(01109) World Meteorological Organization (WMO).

Ecology/environment programme: reforestation and conservation of the forestry resources.
(03416) CILSS-Sahel Institute.

Effects of solar radiation on cyanobacteria: Effects of increased UV-B solar radiation (ozone destruction) on cyanobacteria which are important for nitrogen fixation for higher plants.
(03958) Universitaet Erlangen.

Monitoring of renewable natural resources in the Sahel.
(02739) Commission of the European Communities.

NIPSET: African agriculture - year 2000 program.
(02071) Nigeria Institute of Plant Science and Solar Energy/Technology.

Optimisation of natural-circulation solar-energy tropical crop dryers.
(02679) Commission of the European Communities.

Research methods

Acquisition and distribution of comprehensive Landsat TM satellite imagery.
(04483) Global Environment Facility: Central African Republic.

An integrated research programme on the development of biological pesticides for locust and grasshopper control.
(01546) U.S. Agency for International Development.

Applied research programme: Eastern and Central African Agroforestry Network for Africa (ECA-AFRENA) - The bimodal highlands.
(02615) International Council for Research in Agroforestry.

Causes, effects and control of biodeterioration.

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(04739) Overseas Development Administration (NRRD).

Development of simple methods and techniques for the detection, quantification and identification of pectolytic *Erwinia* species on or in (latent infection) potato tubers.

(05703) Institut fuer Pflanzenpathologie und Pflanzenschutz der Universitaet Goettingen.

Draught animals for production/feeding and working strategies for draught animals.

(04753) Overseas Development Administration (NRRD).

Egusi shellers (Cameroon).

(02429) International Development Research Centre.

Feeding and management strategies for draught animals.

(01820) Overseas Development Administration (NRRD).

Improving the Diagnosis and Control of Trypanosomiasis and other Vector-borne Diseases of African Livestock, using Immunoassay Methods.

(02627) Directorate General for International Cooperation (DGIS).

Improving the Productivity of Indigenous African Livestock using Radioimmunoassay and related Techniques.

(02621) Directorate General for International Cooperation (DGIS).

Microbial control of root-knot nematodes.

(01814) Overseas Development Administration (NRRD).

Network on management of acid soils in humid Africa (AFRICALLAND - Management of acid soils).

(01021) International Board for Soil Research and Management.

Optimal management of aquaculture of pond systems in developing countries.

(01464) Universitaet Kiel.

Proposal for a research project on the development of new methods in locust control.

(02090) Gesellschaft fuer Technische Zusammenarbeit (GTZ).

Reconnaissance / preparation study on forestry biotechnology in the drought-prone Sub-Saharan African countries, with special reference to Sahelian and Sudanian zones (SSZ).

(02094) World Bank.

Réseau Coton (COTON).

(02082) France: Conférence des Responsables de Recherches Agronomiques Africains et Français (CORAF).

SADAOC (Sécurité Alimentaire durable en Afrique de l'Ouest Centrale).

(05662) ECDPM (European Centre for Development Policy Management).

Sero-surveillance of rinderpest and other diseases in Africa, using immunoassay

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techniques.

(02628) Swedish Agency for Rural Cooperation (SAREC).

Start-up grants - [International Fertilizer Development Center-Africa].

(02141) International Fertilizer Development Center, Africa (IFDC-Africa).

Striga resistance in rice.

(05748) Overseas Development Administration (NRRD).

Sub-Saharan Africa hydrological assessment.

(01108) World Bank.

West African Farming Systems Research Network (WAFSRN/RESPAO).

(02619) International Fund for Agricultural Development (IFAD)/Semi-Arid Food Grain Research and Development (SAFGRAD).

Rural population

Adoption of agroforestry systems in developing countries.

(01791) Overseas Development Administration (NRRD).

Developpement Bas Fonds de Riz production Bafata.

(05600) SNV (Association Neerlandais d'Assistance au Developpement).

Projet poursuite d'etudes en milieu reel (PEMR).

(05666) SNV (Association Neerlandaise d'Assistance au Developpement).

Storage of cereals by pastoralists.

(04761) Overseas Development Administration (NRRD).

The characterization of rice growing agro-ecosystems in West Africa (initial phase).

(05601) WSC (Winand Staring Centre for Integrated Land, Soil and Water Research).

Rural sociology

African Research Network for Agricultural By-Products (ARNAB).

(02179) International Development Research Centre (IDRC); International Livestock Centre for Africa (ILCA).

African Research Network on Rural Poultry Development.

(02624) United Nations Food and Agriculture Organization.

Agricultural services rehabilitation.

(01138) World Bank; Sierra Leone.

Assessment of conditions for replicating production systems in Africa's savanna areas - second stage.

(02098) Centre de Cooperation Internationale en Recherche Agronomique pour le

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Developpement (CIRAD).

Changes in labour allocation of farm households in West Africa.

(05726) Institut fuer Agrar- und Sozialoekonomie in den Tropen und Subtropen der Universitaet Hohenheim, Fachgebiet Landwirtschaftliche Betriebslehre in den Tropen und Subtropen.

Conditions for developing non-farm productive activities in rural areas of Africa. A comparison of Yatenga/Burkina Faso and Extreme-Nord/Cameroun.
(04639) Universitaet Frankfurt.

Developing graduate training in agricultural economics.
(02041) Winrock International.

Dynamics of intensification on traditional farms and efficiency of innovations concerning farming systems at sub-humid sites.
(04604) Universitaet Hohenheim.

Economic role of women in the cocoa industry (Nigeria).
(04262) International Development Research Centre.

Egusi shellers (Cameroon).
(02429) International Development Research Centre.

Improvements to millet, sorghum, cowpea, and maize crops in the Sahel.
(02738) Commission of the European Communities.

Liberalization of agricultural marketing (Nigeria).
(04254) International Development Research Centre.

NIPSSSET: African agriculture - year 2000 program.
(02071) Nigeria Institute of Plant Science and Solar Energy/Technology.

On-Farm Fertilizer Adoption Program (OFFAP).
(02148) International Fertilizer Development Center, Africa (IFDC-Africa).

Palm oil extraction (Cameroon).
(02426) International Development Research Centre.

Palm oil processing (Sierra Leone).
(02365) International Development Research Centre.

Pan-African Networks for Rural Social Science Research.
(02661) Winrock International; Ford Foundation.

Problem-oriented analysis of socio-cultural factors: analysis of farmers' situation in two villages in South Benin.
(05729) Institut fuer Agrarsoziologie, Landwirtschaftliche Beratung und Angewandte Psychologie der Universitaet Hohenheim.

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Programme for the strengthening of research on production systems.
(03418) CILSS-Sahel Institute.

Programme of Support to Promote Grassroots Participatory Rural Development in
Kadjebi-district.
(05661) SNV (Netherlands Development Organization).

Projet poursuite des etudes en milieu reel (PEMR).
(05666) SNV (Association Neerlandaise d'Assistance au Developpement).

Recherche Appliquee en Milieu Reel (RAMR).
(05612) KIT (Royal Tropical Institute).

Reconnaissance / preparation study on forestry biotechnology in the drought-prone
Sub-Saharan African countries, with special reference to Sahelian and Sudanian zones
(SSZ).
(02094) World Bank.

Réseau Coton (COTON).
(02082) France; Conference des Responsables de Recherches Agronomique Africains et
Français (CORAF).

Reseau Femmes et Developpement (FEM/DEV) [Women in Development Network].
(02652) ORSTOM/Institut Francais de Recherche Scientifique pour le Developpement en
Cooperation.

Rural financing systems and agricultural price policy in support of innovations. F2.1:
The rural households financial requirements and formal and informal financial
institutions analysed in the province Oueme in the Peoples Republic of Benin. F2.2:
Agricultural price policy and its effects on production, income and employment.
(04658) Universitaet Hohenheim.

Sidamo/Gamo Gofa peasant agricultural development project.
(01113) African Development Bank.

Social Science Interface Research Unit (SSIRU).
(02779) The International Centre of Insect Physiology and Ecology.

Socio-economic assessment of biotechnologies for small farmers.
(04707) Overseas Development Administration (NRRD).

Socio-economic impacts of cassava postharvest technologies on smallholdings in South
East Nigeria.
(05725) Institut fuer Agrar- und Sozialoekonomie in den Tropen und Subtropen der
Universitaet Hohenheim, Fachgebiet Landwirtschaftliche Betriebslehre in den Tropen und
Subtropen.

Socioeconomic and environmental factors related to development and application of
vaccines for animal diseases in Africa.
(01223) Rockefeller Foundation.

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Soil Fertility Restoration Project (SFRP).
(02143) International Fertilizer Development Center, Africa (IFDC-Africa).

Urban agriculture in Africa.
(05684) Institut fuer Sozialoekonomie der Agrarentwicklung der Technischen Universitaet Berlin.

West African Farming Systems Research Network (WAFSRN/RESPAO).
(02619) International Fund for Agricultural Development (IFAD)/Semi-Arid Food Grain Research and Development (SAFGRAD).

Seed production

Agricultural services rehabilitation.
(01138) World Bank: Sierra Leone.

Agricultural services rehabilitation.
(01207) World Bank: Togo.

Agricultural services restructuring project.
(01117) World Bank: Benin.

Cocoa rehabilitation project.
(01010) World Bank: Ghana.

Collaborative Research Support Program (CRSP): Beans and cowpeas.
(01345) U.S. Agency International Development (USAID)/Michigan State University.

Cotton area rural development project.
(01132) World Bank: Central African Republic.

Germplasm conservation and improvement of *Parkia bilobosa* (Jacq) Benth for multipurpose use.
(05665) University of Waies, Bangor; CNSF, Ouagadougou, Burkina Faso; FRIN, Nigeria; SAFS, Nancy, France; WAU; The Netherlands.

Global 2000 - Sasakawa Africa initiative agriculture project.
(01291) Global 2000 Found.

Groundnut Network [Réseau Arachide].
(02087) Conférence des Responsables Agronomiques Africains et Français.

Gueckedou agricultural development project.
(01136) World Bank: Guinea.

Improvements to millet, sorghum, cowpea, and maize crops in the Sahel.
(02738) Commission of the European Communities.

Index of projects by discipline

Kaduna/Katsina agricultural development project (formerly Kaduna State integrated agricultural development project).

(01014) World Bank; Nigeria.

National agricultural extension and training.

(01180) World Bank; Cameroon.

National seed and quarantine project.

(02755) World Bank; Nigeria.

National seeds project.

(01678) World Bank; Guinea.

Nyankpala agricultural experiment station, Tamale.

(01425) Gesellschaft fuer Technische Zusammenarbeit (GTZ).

Oil palm development project - Phase II.

(03474) World Bank; Ghana.

Phase I: Resistance of cowpea to *Striga gesnerioides* and *Alectra vogelii*; Phase II:

Resistance of legumes and cereals to *Striga* species.

(01767) Overseas Development Administration (NRRD).

Rainfed rice development project.

(04356) African Development Bank.

Regional programme for the improvement of millet, sorghum, cowpeas, and maize (transitional phase).

(03407) CILSS-Sahel Institute.

Second rural development project in cotton areas.

(01007) World Bank; Togo.

Seeds II.

(03434) World Bank; Zaire.

Seeds project.

(01163) World Bank; Zaire.

Socio-economic assessment of biotechnologies for small farmers.

(04707) Overseas Development Administration (NRRD).

The East and Southern Africa Root Crops Research Network (ESARRN).

(02080) U.S. Agency for International Development (USAID)/International Development Research Centre (IDRC)/International Institute of Tropical Agriculture (IITA).

Third multi-state agricultural development project.

(02754) World Bank; Nigeria.

West and Central Africa Sorghum Research Network (WCASRN).

Index of projects by discipline

(02075) U.S. Agency for International Development (USAID)/Semi-Arid Food Grain Research and Development (SAFGRAD).

West Kenya rainfed rice development project.
(01115) African Development Bank.

Women's knowledge, management and control of seed genetic resources.
(04261) International Development Research Centre.

Zou Province rural development project.
(01001) World Bank; Benin.

Soil biology

Agrosilviculture en zone humide - Congo [Humid zone agrosilvopastoral systems - Congo].
(01289) International Development Research Centre.

Applying science and technology to development.
(01947) U.S. Agency for International Development.

Collaborative Research Support Program (CRSP): Beans and cowpeas.
(01345) U.S. Agency International Development (USAID)/Michigan State University.

Effects of solar radiation on cyanobacteria: Effects of increased UV-B solar radiation (ozone destruction) on cyanobacteria which are important for nitrogen fixation for higher plants.
(03958) Universitaet Erlangen.

Forest ecology and training in Cameroon.
(02840) Commission of the European Communities.

Impact of the most important trees for alley-cropping on soil fertility properties in the Ivory Coast/West Africa.
(04669) Universitaet Bayreuth.

NIPSSSET: African agriculture - year 2000 program.
(02071) Nigeria Institute of Plant Science and Solar Energy/Technology.

[Soils and ecological studies of the Kazaboua agroforestry system in the Central Region of Togo] Etudes pédologiques et écologiques dans le système agroforestier de Kazaboua. Région Centrale Togo.
(03813) Univeritaet Bayreuth.

Soil chemistry and physics

Collaborative Research Support Program (CRSP): Soils management (TROPISOILS).
(01346) U.S. Agency for International Development (USAID)/North Carolina State University.

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Control of soil acidity in agroforestry.

(04743) Overseas Development Administration (NRRD).

National Soil Reference Collections (NASREC II).

(05624) ISRIC (International Soil Reference and Information Centre).

Network on management of acid soils in humid Africa (AFRICALAND - Management of acid soils).

(01021) International Board for Soil Research and Management.

Oil palm development project - Phase II.

(03474) World Bank; Ghana.

The characterization of rice growing agro-ecosystems in West Africa (initial phase).

(05601) WSC (Winand Staring Centre for Integrated Land, Soil and Water Research).

Soil classification and genesis

Analysis of soil forming processes under humid tropical conditions.

(04655) Universitaet Kiel.

Control of soil acidity in agroforestry.

(04743) Overseas Development Administration (NRRD).

International Benchmark Soils Network for Agro-technology Transfer (IBSNAT).

(02635) U.S. Agency for International Development.

International Rice Testing Program for Africa (IRTP).

(02160) United Nations Development Program (UNDP)/European Economic Commission (EEC)/Japan.

Litho and pedogenesis of soil catenas in the humid tropics.

(04656) Universitaet Kiel.

National Soil Reference Collections (NASREC II).

(05624) ISRIC (International Soil Reference and Information Centre).

Reseau Europeen d'Etude des Laterites (EUROLAT) [European Network on Ferral soils Studies].

(02639) Ministere de la Recherche et de l'Enseignement Superieur, Universite of Strasbourg.

Soil genesis in the humid tropical lowlands.

(04606) Universitaet Kiel.

The characterization of rice growing agro-ecosystems in West Africa (initial phase).

(05601) WSC (Winand Staring Centre for Integrated Land, Soil and Water Research).

Index of projects by discipline

Soil cultivation

Agricultural diversification project.
(02026) World Bank; Ghana.

Agricultural research and extension II.
(01849) U.S. Agency for International Development.

Agricultural services rehabilitation project.
(01105) World Bank; Ghana.

Agroforestry systems (Cameroon) - Phase I.
(04172) International Development Research Centre.

Applied research and extension.
(01888) U.S. Agency for International Development.

CAR - rural development.
(01894) U.S. Agency for International Development.

Conservation of soil fertility by peasant farmers in Atlantic Province. Benin.
(02890) Commission of the European Communities.

Drought Resistance Research Network (R3S) [Réseau de Recherche sur la Résistance à la Sécheresse].
(02610) Conférence des Responsables de Recherche Agronomique Africains et Français.

East Africa Regional Cooperative for Research on Bananas (and Ensete) (EARCORBE).
(02168) International Network for the Improvement of Banana and Plantain.

Groundnut Network [Réseau Arachide].
(02087) Conférence des Responsables Agronomiques Africains et Français.

Investigations and development of site adaptive agroforestry systems.
(04665) Universität Bayreuth.

National agricultural export promotion project (Export crop, formerly Agricultural export promotion, formerly Export crops).
(01017) World Bank; Guinea.

National agricultural research project.
(01332) World Bank; Ghana.

Natural resource management project.
(01186) World Bank; Central African Republic.

Network for Improvement of Rice Cultivation [Réseau Riz].
(02161) Conférence des Responsables de Recherche Agronomique Africains et Français.

Network on land development for sustainable agriculture in Africa (AFRICALLAND - Land

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development).

(02109) International Board for Soil Research and Management.

NIPSSSET: African agriculture - year 2000 program.

(02071) Nigeria Institute of Plant Science and Solar Energy/Technology.

Oil palm development project - Phase II.

(03474) World Bank; Ghana.

Rainfed rice development project.

(04356) African Development Bank.

Strengthening African agricultural research: 13 West Africa Rice Development Association (WARDA) - Mangrove and associated swamp rice research.

(01857) U.S. Agency for International Development.

The East and Southern Africa Root Crops Research Network (ESARRN).

(02080) U.S. Agency for International Development (USAID)/International Development Research Centre (IDRC)/International Institute of Tropical Agriculture (IITA).

The role of plant residues in soil management for food production in the humid tropics.

(05626) AB (Research Institute for Agrobiolgy and Soil Fertility).

Tree crops (Oilpalm, Rubber).

(02756) World Bank; Nigeria.

Urea injector test.

(04143) Research Institute for Agrobiolgy and Soil Fertility (AB).

West Africa Regional Cooperative for Research on Plantain: (WARCORP).

(02167) International Institute of Tropical Agriculture.

West and Central Africa Sorghum Research Network (WCASRN).

(02075) U.S. Agency for International Development (USAID)/Semi-Arid Food Grain Research and Development (SAFGRAD).

Soil erosion, conservation and reclamation

Central Shaba agricultural development.

(03667) U.S. Agency for International Development.

Collaborative Research Support Program (CRSP): Soils management (TROPISOILS).

(01346) U.S. Agency for International Development (USAID)/North Carolina State University.

Crop diversification and agricultural services project.

(01193) World Bank; Equatorial Guinea.

Ecological monitoring of the dynamics of desertification.

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(03415) CILSS-Sahel Institute.

Ecology/environment programme: reforestation and conservation of the forestry resources.

(03416) CILSS-Sahel Institute.

Environment project (formerly Pilot forest and environment project).

(02787) World Bank; Zaire.

Improving water management in the semi-arid region of Cameroon.

(03802) Bundesministerium fuer Wirtschaftliche Zusammenarbeit/Federal Ministry for Economic Cooperation (BMZ).

Improving water management in the semiarid region of Cameroon.

(03928) Institut fuer Pflanzenbau und Tierhygiene in den Tropen und Subtropen. Universitaet Goettingen.

Investigations in different forms of soil erosion under different cropping systems in Nigeria.

(01377) Gesellschaft fuer Technische Zusammenarbeit (GTZ).

National agricultural research project.

(01211) World Bank; Zaire.

National Soil Reference Collections (NASREC II).

(05624) ISRIC (International Soil Reference and Information Centre).

Research and study programme on the possibility of intensification of fodder and animal production in the framework of an association of agriculture and livestock breeding in Sub-Saharan, Sudanian and Guinean zones.

(03413) CILSS-Sahel Institute.

Reseau Erosion (EROS) [Erosion Network].

(02638) ORSTOM/Institut Francais de Recherche Scientifique pour le Developpement en Cooperation.

Rural environment management (formerly Environmental protection program, formerly Natural resources management).

(02096) World Bank; Guinea.

The role of plant residues in soil management for food production in the humid tropics.

(05626) AB (Research Institute for Agrobiolgy and Soil Fertility).

Soil fertility

A Feasibility study on establishing an African Centre for Fertilizer Development.

(01684) GTZ (Deutsche Gesellschaft fuer Technische Zusammenarbeit).

African Small Ruminant Collaborative Research Network.

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(02620) International Fund for Agricultural Development.

Agronomic Fertilizer Research Program (AFRP).

(02147) International Fertilizer Development Center, Africa (IFDC-Africa).

Agrosilviculture en zone humide - Congo [Humid zone agrosilvopastoral systems - Congo].

(01289) International Development Research Centre.

Applied research programme: Eastern and Central African Agroforestry Network for Africa (ECA-AFRENA) - The bimodal highlands.

(02615) International Council for Research in Agroforestry.

Applied research programme: Network for Humid Lowlands of West Africa (HULWA-AFRENA).

(02618) International Council for Research in Agroforestry (ICRAF).

Assessment of conditions for replicating production systems in Africa's savanna areas - second stage.

(02098) Centre de Cooperation Internationale en Recherche Agronomique pour le Developpement (CIRAD).

Central Shaba agricultural development.

(03667) U.S. Agency for International Development.

Communication, Documentation, and Training Program (CDTP).

(02142) International Fertilizer Development Center, Africa (IFDC-Africa).

Conservation of soil fertility by peasant farmers in Atlantic Province, Benin.

(02890) Commission of the European Communities.

Effects of dust deposits and microvariability on edaphical site conditions with regard to semi-arid and sub-humid locations in West Africa.

(04657) Universitaet Hohenheim.

Impact of the most important trees for alley-cropping on soil fertility properties in the Ivory Coast/West Africa.

(04669) Universitaet Bayreuth.

International Network on Soil Fertility and Sustainable Rice Farming (INSURF).

(05370) International Rice Research Institute.

Management of vertisols under semi-arid conditions in Africa (MOVUSAC).

(01022) International Board for Soil Research and Management.

National agricultural extension and adaptive research project.

(01191) World Bank, Congo.

Network on management of acid soils in humid Africa (AFRICALLAND - Management of acid soils).

(01021) International Board for Soil Research and Management.

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NIPSET: African agriculture - year 2000 program.
(02071) Nigeria Institute of Plant Science and Solar Energy/Technology.

Recherche Appliquee en Milieu Reel (RAMR).
(05612) KIT (Royal Tropical Institute).

Soil Fertility Restoration Project (SFRP).
(02143) International Fertilizer Development Center, Africa (IFDC-Africa)

The role of organic substance in maintaining soil fertility of different sites in South
Benin.
(0466) Universitaet Hohenheim.

The role of plant residues in soil management for food production in the humid tropics.
(05626) AB (Research Institute for Agrobiolgy and Soil Fertility).

West African Forages Network (WAFNET).
(02103) Multilateral Cooperation Division, Economic Cooperation Bureau, MOFA, JAPAN.

Soil science and management

Agronomic Fertilizer Research Program (AFRP).
(02147) International Fertilizer Development Center, Africa (IFDC-Africa).

Agronomic Network for East and Southern Africa.
(02611) United Nations Development Program (UNDP); World Bank.

Collaborative Research Support Program (CRSP): Soils management (TROPISOILS).
(01346) U.S. Agency for International Development (USAID)/North Carolina State
University.

Control of soil acidity in agroforestry.
(04743) Overseas Development Administration (NRRD).

Développement des recherches menées en zone de forêt dense humide dans le domaine de
l'agroforesterie / Development of agroforestry research carried out in the tropical
rain forest zone.
(04654) Universitaet Bayreuth.

Effects of dust deposits and microvariability on edaphical site conditions with regard
to semi-arid and sub-humid locations in West Africa.
(04657) Universitaet Hohenheim.

Impact of the most important trees for alley-cropping on soil fertility properties in
the Ivory Coast/West Africa.
(04669) Universitaet Bayreuth.

Improving water management in the semi-arid region of Cameroon.
(03802) Bundesministerium fuer Wirtschaftliche Zusammenarbeit/Federal Ministry for

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Economic Cooperation (BMZ).

Investigations and development of site adaptive agroforestry systems.
(04665) Universitaet Bayreuth.

Management of vertisols under semi-arid conditions in Africa (MOVUSAC).
(01022) International Board for Soil Research and Management.

National agricultural research project.
(01211) World Bank; Zaire.

National agricultural research project.
(01332) World Bank; Ghana.

National Soil Reference Collections (NASREC II).
(05624) ISRIC (International Soil Reference and Information Centre).

Network on land development for sustainable agriculture in Africa (AFRICALAND - Land development).
(02109) International Board for Soil Research and Management.

Network on management of acid soils in humid Africa (AFRICALAND - Management of acid soils).
(01021) International Board for Soil Research and Management.

Nigeria: Access to urban waste markets by near-urban farmers.
(04896) Overseas Development Administration (NRRD).

On-Farm Fertilizer Adoption Program (OFFAP).
(02148) International Fertilizer Development Center, Africa (IFDC-Africa).

Public works in Africa to improve food-security.
(04626) Deutsche Gesellschaft fuer technische Zusammenarbeit (GTZ).

Recherche Appliquee en Milieu Rural (RAMR).
(05612) KIT (Royal Tropical Institute).

Relationships between tree growth, tree nutrition and site in *Tectona grandis* plantation in West Africa.
(04653) Universitaet Bayreuth.

Reseau International de Traitement des Donnees Sols (RiDTS) [International Network for Soils Data Processing].
(02640) Agence de Cooperation Culturelle et Technique (ACCT).

Soil Fertility Restoration Project (SFRP).
(02143) International Fertilizer Development Center, Africa (IFDC-Africa).

The role of organic substance in maintaining soil fertility of different sites in South Benin.

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(04661) Universitaet Hohenheim.

[Soils and ecological studies of the Kazaboua agroforestry system in the Central Region of Togo] Etudes pédologiques et écologiques dans le système agroforestier de Kazaboua. Région Centrale Togo.

(03813) Univeritaet Bayreuth.

Soil surveys and mapping

National Soil Reference Collections (NASREC II).

(05624) ISRIC (International Soil Reference and Information Centre).

Surveying methods

Estimation of monthly runoff data on the basis of multispectral satellite imagery.

(03795) Universitaet Bochum.

Local Application of Remote Sensing Techniques (LARST) for forestry management.

(04845) Overseas Development Administration (NRRD).

Monitoring of renewable natural resources in the Sahel.

(02739) Commission of the European Communities.

National resources/management support.

(01185) U.S. Agency for International Development.

Natural resource management project.

(01186) World Bank; Central African Republic.

Natural resources management project.

(04367) World Bank; Congo.

Proposal for a research project on the development of new methods in locust control.

(02090) Gesellschaft fuer Technische Zusammenarbeit (GTZ).

Réseau Coton (COTON).

(02082) France: Conférence des Responsables de Recherches Agronomique Africains et Français (CORAF).

Rural land management project (formerly Land tenure).

(04419) World Bank; Cote d'Ivoire.

Trade, marketing and distribution:

A Feasibility study on establishing an African Centre for Fertilizer Development.

(01684) GTZ (Deutsche Gesellschaft fuer Technische Zusammenarbeit).

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Agricultural diversification project.
(02026) World Bank; Ghana.

Agricultural marketing.
(04426) World Bank; Ghana.

Agricultural price politics of the Benin and the effect on production, dissemination of income, budget and balance of payments.
(01412) Universitaet Hohenheim.

Agricultural sector adjustment (formerly Agricultural SECAL).
(04424) World Bank; Ghana.

Agriculture sector restructuring.
(03660) U.S. Agency for International Development.

Agroeconomic study of cassava in Sub-Saharan Africa.
(01222) Rockefeller Foundation.

Assessment of conditions for replicating production systems in Africa's savanna areas - second stage.
(02098) Centre de Cooperation Internationale en Recherche Agronomique pour le Developpement (CIRAD).

Cocoa rehabilitation project.
(01010) World Bank; Ghana.

Collaborative Research Support Program (CRSP): Beans and cowpeas.
(01345) U.S. Agency International Development (USAID)/Michigan State University.

Crop diversification and agricultural services project.
(01193) World Bank; Equatorial Guinea.

Development and promotion of appropriate tools and implement for the 'agricultural and food processing sector' (interim phase) (ILO/89/INT/M03).
(05648) ILO (International Labour Office).

Egusi shellers (Cameroon).
(02429) International Development Research Centre.

Fertilizer Marketing and Trade Information Program (FMTIP).
(02145) Directorate General for International Cooperation (DGIS); U.S. Agency for International Development (USAID).

Fertilizer Policy Research Project (FPRP).
(02144) International Fertilizer Development Center, Africa (IFDC-Africa).

Fertilizer SECAL.
(04441) World Bank; Nigeria.

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Food security.

(04411) World Bank: Benin.

Food security project.

(04160) World Bank: Cameroon.

Improvements to millet, sorghum, cowpea, and maize crops in the Sahel.

(02738) Commission of the European Communities.

International agricultural research centers: 09 international Livestock Center for Africa (ILCA).

(01967) U.S. Agency for International Development.

Livestock.

(04420) World Bank: Cote d'Ivoire.

Maize II/Lulua agricultural development project.

(01162) World Bank: Zaire.

Meat/fish processing (Nigeria).

(02428) International Development Research Centre.

Methodology for agricultural marketing systems policy and practise, and its application to current reforms.

(01721) Overseas Development Administration (NRRD).

Multi-state agricultural development project.

(01015) World Bank: Nigeria.

National agricultural services.

(02095) World Bank: Cote d'Ivoire.

NIPSSSET: African agriculture - year 2000 program.

(02071) Nigeria Institute of Plant Science and Solar Energy/Technology.

Peri-urban vegetable production and consumption in Sub-saharan Africa.

(04905) The Asian Vegetable Research and Development Center (AVRDC).

Research programme on food security, strategies and policies.

(03417) CILSS-Sahel Institute.

Rural enterprise development.

(03659) U.S. Agency for International Development/Africare.

SADAOC (Securite Alimentaire durable en Afrique de l'Ouest Centrale).

(05662) ECDPM (European Centre for Development Policy Management).

Second Western Province rural development.

(01135) World Bank: Cameroon.

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Seeds project.

(01163) World Bank: Zaire.

Third coffee and cocoa development project.

(01008) World Bank: Togo.

Veterinary science and hygiene

Agricultural services rehabilitation project.

(01105) World Bank: Ghana.

Animal health.

(04409) World Bank: Zaire.

Development of equipment and methods for continuous production of bacterial antigens within a closed bioreactor system.

(03938) Institut fuer Pflanzenbau und Tierhygiene in den Tropen und Subtropen.
Universitaet Goettingen.

Improving the Productivity of Indigenous African Livestock using Radiomunoassay and related Techniques.

(02621) Directorate General for International Cooperation (DGIS).

Increase of productivity and control of diseases of small ruminants.

(03410) CILSS-Sahel Institute.

Livestock (formerly Livestock services).

(03421) World Bank: Ghana.

Livestock III.

(03422) World Bank: Nigeria.

Management of the West African Dwarf Goat in the humid tropics (Phase II and III).

(03625) Agricultural University Wageningen.

National extension project.

(03435) World Bank: Zaire.

National livestock development II.

(04415) World Bank: Central African Republic.

NIPSET: African agriculture - year 2000 program.

(02071) Nigeria Institute of Plant Science and Solar Energy/Technology.

Pathology of small ruminants: etiology, vaccines and prophylaxis.

(03411) CILSS-Sahel Institute.

Reduction of clostridiosis relating to productive livestock through supplementary feeding of forage plants containing tannins.

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(04659) Universitaet Hohenheim.

Sero-surveillance of rinderpest and other diseases in Africa, using immunoassay techniques.

(02628) Swedish Agency for Rural Cooperation (SAREC).

U.S./Israel program for cooperative development research.

(01949) U.S. Agency for International Development.

Veterinary promotion of the "Grasscutter Project".

(03943) Institut fuer Tiermedizin und Tierhygiene, Universitaet Hohenheim.

Water resources and management

African Center of Meteorological Applications for Development (ACMAD).

(01109) World Meteorological Organization (WMO).

Agriculture Hydrologie-Meteorologie.

(02634) Centre Regional de Formation et d'Application en Agrometeorologie et Hydrologie (AGRHYMET).

Drought Resistance Research Network (R3S) [Réseau de Recherche sur la Résistance à la Sécheresse].

(02610) Conférence des Responsables de Recherche Agronomique Africains et Français.

Ecology/environment programme: reforestation and conservation of the forestry resources.

(03416) CILSS-Sahel Institute.

Environmental management (formerly Environment, formerly Adjustment Loan - Environment).

(04352) World Bank: Nigeria.

Improving water management in the semi-arid region of Cameroon.

(03802) Bundesministerium fuer Wirtschaftliche Zusammenarbeit/Federal Ministry for Economic Cooperation (BMZ).

Improving water management in the semiarid region of Cameroon.

(03928) Institut fuer Pflanzenbau und Tierhygiene in den Tropen und Subtropen, Universitaet Goettingen.

International Benchmark Soils Network for Agro-technology Transfer (IBSNAT).

(02635) U.S. Agency for International Development.

Management of natural resource

(04157) World Bank: Benin.

Multi-state agricultural development project.

(01015) World Bank: Nigeria.

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NIPSET: African agriculture - year 2000 program.
(02071) Nigeria Institute of Plant Science and Solar Energy/Technology.

Projet Puits Artisanaux.
(05672) SNV (Association Neerlandaise d'Assistance au Developpement).

Public works in Africa to improve food-security.
(04626) Deutsche Gesellschaft fuer technische Zusammenarbeit (GTZ).

Research and study programme on the improved management of extensive national
rangelands in the Sahel (PGENES).
(03412) CILSS-Sahel Institute.

Sub-Saharan Africa hydrological assessment.
(01108) World Bank.

Technology of microcatchment water harvesting for irrigation in semi-arid zones.
(01472) Universitaet Goettingen.

U.S./Israel program for cooperative development research.
(01949) U.S. Agency for International Development.

West African Irrigation Research Development Network (WAIRD).
(02612) International Irrigation Management Institute (IIMI).

Weeds and weed control

Importance of spontaneous vegetation and biotic limitation factors in traditional
cropping systems at a sub-humid site.
(04660) Universitaet Hohenheim.

Network for Improvement of Rice Cultivation [Réseau Riz].
(02161) Conférence des Responsables de Recherche Agronomique Africains et Français.

Nitrogen and the control of Striga.
(05804) Overseas Development Administration (NRRD).

Phase I: Resistance of cowpea to Striga gesnerioides and Alectra yoyelii Phase II:
Resistance of legumes and cereals to Striga species.
(01767) Overseas Development Administration (NRRD).

Réseau Coton (COTON).
(02082) France: Conférence des Responsables de Recherches Agronomique Africains et
Français (CORAF).

The West and Central Africa Cowpea Collaborative Research Network (RENACO).
(02078) U.S. Agency for International Development (USAID)/Semi-Arid Food Grain Research
and Development (SAFGRAD).

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Weed problems and weed management in cropping systems.
(03897) Universitaet Hohenheim.

West and Central Africa Maize Collaborative Research Network (WECAMAN).
(02157) U.S. Agency for International Development (USAID); Semi-Arid Food Grain Research
and Development (SAFGRAD).

West and Central Africa Sorghum Research Network (WCASRN).
(02075) U.S. Agency for International Development (USAID); Semi-Arid Food Grain Research
and Development (SAFGRAD).

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Africa

(05849) West Africa Rice Development Association (WARDA).

(05850) West Africa Rice Development Association (WARDA).

(05851) West Africa Rice Development Association (WARDA).

(05852) West Africa Rice Development Association (WARDA).

A Feasibility study on establishing an African Centre for Fertilizer Development.
(01684) GTZ (Deutsche Gesellschaft fuer Technische Zusammenarbeit).

Adoption of agroforestry systems in developing countries.
(01791) Overseas Development Administration (NRRD).

African Center of Meteorological Applications for Development (ACMAD).
(01109) World Meteorological Organization (WMO).

African Research Network for Agricultural By-Products (ARNAB).
(02170) International Development Research Centre (IDRC); International Livestock
Centre for Africa (ILCA).

African Research Network on Rural Poultry Development.
(02624) United Nations Food and Agriculture Organization.

African Small Ruminant Collaborative Research Network.
(02620) International Fund for Agricultural Development.

African Small Ruminant Collaborative Research Network (SRNET).
(05812) International Livestock Centre for Africa (ILCA).

Agriculture Hydrologie-Meteorologie.
(02634) Centre Regional de Formation et d'Application en Agrometeorologie et Hydrologie
(AGRHYMET).

Agroeconomic study of cassava in Sub-Saharan Africa.
(01222) Rockefeller Foundation.

Agroforestry research for development of the drylands of West Africa.
(02113) International Fund for Agricultural Development.

Agroforestry systems in the Tropics.
(03859) Gesellschaft fuer Technische Zusammenarbeit (GTZ).

Agronomic Fertilizer Research Program (AFRP).
(02147) International Fertilizer Development Center, Africa (IFDC-Africa).

Agronomic Network for East and Southern Africa.
(02611) United Nations Development Program (UNDP); World Bank.

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Alley Farming Network for Tropical Africa.

(02088) Canadian International Development Agency (CIDA)/International Development Research Centre (IDRC).

An examination of *Dioscorea* spp (yam) for nematode resistance.

(04782) Overseas Development Administration (NRRD).

Animal Traction Research Network.

(05813) International Livestock Centre for Africa (ILCA).

Applied research programme: Eastern and Central African Agroforestry Network for Africa (ECA-AFRENA) - The bimodal highlands.

(02615) International Council for Research in Agroforestry.

Applied research programme: Network for Humid Lowlands of West Africa (HULWA-AFRENA).

(02618) International Council for Research in Agroforestry (ICRAF).

Aromatic extracts (Guinea).

(04953) International Development Research Centre.

Assessment of conditions for replicating production systems in Africa's savanna areas - second stage.

(02098) Centre de Cooperation Internationale en Recherche Agronomique pour le Developpement (CIRAD).

Case studies on raising agricultural productivity of women in Africa for increased food production.

(02151) World Bank.

Cassava and household food security in rural area of Makeni/Segbwema in Sierra Leone.

(01787) Overseas Development Administration (NRRD).

Cattle Research Network (CARNET) (formerly Cattle Milk and Meat Network).

(05358) International Livestock Center for Africa.

Central and West African Root Crops Collaborative Research Network (CEWARRN).

(02166) International Institute of Tropical Agriculture.

Characterisation of diversity for disease resistance of *Phaseolus* bean mixture in East Africa.

(01821) Overseas Development Administration (NRRD).

Characterization of lymphocytes and production of interferon as parameters for distinguishing trypanotolerance in animals and people.

(02847) Commission of the European Communities.

Characterization, evaluation and estimation of the damages due to nematodes, phytoparasites of bananas.

(03736) International Network for the Improvement of Banana and Plantain.

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Co-ordinated Research Programme on the Application of Irradiation Technique for Food Processing in Africa.

(02629) United Nations Food and Agriculture Organization.

Communication, Documentation, and Training Program (CDTP).

(02142) International Fertilizer Development Center, Africa (IFDC-Africa).

Conditions for developing non-farm productive activities in rural areas of Africa. A comparison of Yatenga/Burkina Faso and Extreme-Nord/Cameroun.

(04639) Universitaet Frankfurt.

Control of soil acidity in agroforestry.

(04743) Overseas Development Administration (NRRD).

Cooperative Cereals Research Network (CCRN).

(02171) International Crops Research Institute for the Semi-Arid Tropics.

Cooperative Programme for the Improvement of Genetic Resources of Multipurpose Woody Species.

(02174) Food and Agriculture Organization of the United Nations.

Crop protection programme.

(03409) CILSS-Sahel Institute.

Development and promotion of appropriate tools and implement for the 'agricultural and food processing sector' (interim phase) (ILO/89/INT/M03).

(05648) ILO (International Labour Office).

Development cooperation Soil and Fertilizer.

(05595) IB (Institute for Soil Fertility Research).

Development of rapid tests for identification and differentiation of yam viruses.

(04900) Overseas Development Administration (NRRD).

East Africa Regional Cooperative for Research on Bananas (and Ensete) (EARCORBE).

(02168) International Network for the Improvement of Banana and Plantain.

Ecological monitoring of the dynamics of desertification.

(03415) CILSS-Sahel Institute.

Ecology/environment programme: reforestation and conservation of the forestry resources.

(03416) CILSS-Sahel Institute.

Effects of dust deposits and microvariability on edaphical site conditions with regard to semi-arid and sub-humid locations in West Africa.

(04657) Universitaet Hohenheim.

Effects of processing on distribution and destruction of mycotoxins.

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(34737) Overseas Development Administration (NRRD).

Estimation of monthly runoff data on the basis of multispectral satellite imagery.
(03795) Universitaet Bochum.

Evaluation of tropical lowland forage legumes for sub-humid West Africa at ILCA.
(03779) Universitaet Giessen.

Feeding and management strategies for draught animals.
(01820) Overseas Development Administration (NRRD).

Fertilizer Marketing and Trade Information Program (FMTIP).
(02145) Directorate General for International Cooperation (DGIS); U.S. Agency for International Development (USAID).

Fertilizer Policy Research Project (FPRP).
(02144) International Fertilizer Development Center, Africa (IFDC-Africa).

Germplasm conservation and improvement of *Parkia bilobosa* (Jacq) Benth for multipurpose use.
(05665) University of Wales, Bangor; CNSF, Ouagadougou, Burkina Faso; FRIN, Nigeria; SAFS, Nancy, France; WAU; The Netherlands.

Global 2000 - Sasakawa Africa initiative agriculture project.
(01291) Global 2000 Found.

Identification and monitoring of African weather regimes - Phase I West Africa.
(04726) Overseas Development Administration (NRRD).

Identification of Bacteria through analysis of metabolic products and cell components by means of Gas Liquid Chromatography (GLC).
(03786) Institute for Tropical Animal Health, University Goettingen.

Identifying the constraints on livestock productivity and land use in Africa brought about by livestock including the tsetse transmitted Trypanosomiasis.
(05798) Overseas Development Administration (NRRD).

Immunity against trypanosomiasis and mechanisms of trypanotolerance in animals.
(03932) Institut fuer Parasitologie und Tropenveterinaermedizin, Freie Universitaet Berlin.

Improvements to millet, sorghum, cowpea, and maize crops in the Sahel.
(02738) Commission of the European Communities.

Improvements to rural oilseed processing in Africa.
(04699) Overseas Development Administration (NRRD).

Improving the Diagnosis and Control of Trypanosomiasis and other Vector-borne Diseases of African Livestock, using Immunoassay Methods.
(02627) Directorate General for International Cooperation (DGIS).

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Improving the Productivity of Indigenous African Livestock using Radioimmunoassay and related Techniques.

(02621) Directorate General for International Cooperation (DGIS).

Increase of productivity and control of diseases of small ruminants.

(03410) CILSS-Sahel Institute.

Influence of neem (*Azadirachta indica*) products on locusts and grasshoppers.

(03847) Justus-Liebig Universitaet Giessen.

INIBAP/Taxonomic Linguistic Study of Plantain Cultivars in Africa.

(05649) INIBAP.

Institutionalizing the indigenous capacity in West Africa.

(05336) International Development Research Centre.

International agricultural research centers: 09 International Livestock Center for Africa (ILCA).

(01967) U.S. Agency for International Development.

International Rice Testing Program for Africa (IRTP).

(02160) United Nations Development Program (UNDP)/European Economic Commission (EEC)/Japan.

Investigation in biological parameters of *Achatina achatina*.

(03806) Universitaet Goettingen.

Investigation of the causative agents of groundnut rosette disease in Africa.

(02821) Commission of the European Communities.

Investigations in different forms of soil erosion under different cropping systems in Nigeria.

(01377) Gesellschaft fuer Technische Zusammenarbeit (GTZ).

Investigations on the diversity of rain and cloud forests in Rwanda and Zaire.

(05688) Botanisches Institut der Universitaet Bonn, Abt. Systematik und Morphologie.

Investment and survival strategies of women.

(09331) Overseas Development Administration (NFRD).

Low-cost fruit and vegetable drying for small-scale rural enterprise development.

(05745) Overseas Development Administration (NFRD).

Maize Cropping Systems Improvement Network: [Réseau de Recherches sur l'Amélioration de la Culture du Maïs].

(02173) Conférence des Responsables de Recherche Agronomique Africains.

Management of vertisols under semi-arid conditions in Africa (MOVUSAC).

(01022) International Board for Soil Research and Management.

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Mangrove Swamp Rice Network (MSRN).
(05848) West Africa Rice Development Association (WARDA).

Methodologies for better technology transfer.
(04783) Overseas Development Administration (NRRD).

Methodology for agricultural marketing systems policy and practise, and its application to current reforms.
(01721) Overseas Development Administration (NRRD).

Microbial control of root knot nematodes.
(04864) Overseas Development Administration (NRRD).

Microbial control of root-knot nematodes.
(01814) Overseas Development Administration (NRRD).

Monitoring of renewable natural resources in the Sahel.
(02739) Commission of the European Communities.

National resources/management support.
(01185) U.S. Agency for International Development.

National Soil Reference Collections (NASREC II).
(05624) ISRIC (International Soil Reference and Information Centre).

Network on land development for sustainable agriculture in Africa (AFRICALAND - Land development).
(02109) International Board for Soil Research and Management.

Network on management of acid soils in humid Africa (AFRICALAND - Management of acid soils).
(01021) International Board for Soil Research and Management.

Nitrogen and the control of Striga.
(05804) Overseas Development Administration (NRRD).

On-Farm Fertilizer Adoption Program (OFFAP).
(02148) International Fertilizer Development Center, Africa (IFDC-Africa).

Pan-African Networks for Rural Social Science Research.
(02661) Winrock International; Ford Foundation.

Pathology of small ruminants: etiology, vaccines and prophylaxis.
(03411) CILSS-Sahel Institute.

Peri-urban vegetable production and consumption in Sub-saharan Africa.
(04905) The Asian Vegetable Research and Development Center (AVRDC).

Phase I: Resistance of cowpea to *Striga gesnerioides* and *Alectra vogelii* Phase II:

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Resistance of legumes and cereals to Striga species.
(01767) Overseas Development Administration (NRRD).

Phenolics including tannins in multipurpose trees and browse and their effect on ruminant nutrition and health.
(04620) Universitaet Hohenheim.

Phytosanitary controls for African Cassava Mosaic Virus (ACMV).
(05778) Overseas Development Administration (NRRD).

Production of bacterial vaccines in a continuous bioreactor with subsequent purification of antigen through ultrafiltration.
(03785) Institute for Tropical Animal Health, University Goettingen.

Productivity of autochtones cattle breeds in the humid and subhumid zone of West Africa.
(04628) Gesellschaft fuer technische Zusammenarbeit (GTZ).

Programme 2B: On-farm research - Analysis of interactions and impact of agroforestry practices.
(03700) International Council for Research in Agroforestry.

Programme 5: Training - Training for researchers and development planners.
(03710) International Council for Research in Agroforestry.

Programme for Improvement of Potatoes in Central Africa [Programme Regional pour l'Amelioration de la Culture de la Pomme de Terre en Afrique Centrale] (PRAPAC).
(02079) U.S. Agency for International Development.

Programme for the strengthening of research on production systems.
(03418) CILSS-Sahel Institute.

Programme on supporting services: documentation, information and training.
(03419) CILSS-Sahel Institute.

Proposal for a research project on the development of new methods in locust control.
(02090) Gesellschaft fuer Technische Zusammenarbeit (GTZ).

Public works in Africa to improve food-security.
(04626) Deutsche Gesellschaft fuer technische Zusammenarbeit (GTZ).

Reconnaissance / preparation study on forestry biotechnology in the drought-prone Sub-Saharan African countries, with special reference to Sahelian and Sudanian zones (SSZ).
(02094) World Bank.

Regional cooperation on cotton research and development.
(01116) World Bank.

Regional programme for the improvement of millet, sorghum, cowpeas, and maize

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(transitional phase).

(03407) CILSS-Sahel Institute.

Relationships between tree growth, tree nutrition and site in *Tectona grandis* plantation in West Africa.

(04653) Universitaet Bayreuth.

Research and study programme on the improved management of extensive national rangelands in the Sahel (PGENES).

(03412) CILSS-Sahel Institute.

Research and study programme on the possibility of intensification of fodder and animal production in the framework of an association of agriculture and livestock breeding in Sub-Saharan, Sudanian and Guinean zones.

(03413) CILSS-Sahel Institute.

Research on small ruminants in the humid and sub-humid zones of West Africa.

(02110) International Fund for Agricultural Development.

Research programme on food security, strategies and policies.

(03417) CILSS-Sahel Institute.

Research programme on phylogenetic resources.

(03408) CILSS-Sahel Institute.

Research, coordination, and training for improved livestock production in Sub-Saharan Africa.

(02732) Commission of the European Communities.

Reseau Developpement (R/D) [Development Network].

(02653) GRET.

Reseau Erosion (EROS) [Erosion Network].

(02638) ORSTOM/Institut Francais de Recherche Scientifique pour le Developpement en Cooperation.

Reseau Europeen d'Etude des Laterites (EUROLAT) [European Network on Ferral soils Studies].

(02639) Ministere de la Recherche et de l'Enseignement Superieur, Universite of Strasbourg.

Reseau Femmes et Developpement (FEM/DEV) [Women in Development Network].

(02652) ORSTOM/Institut Francais de Recherche Scientifique pour le Developpement en Cooperation.

Reseau International de Traitement des Donnees Sols (RIDTS) [International Network for Soils Data Processing].

(02640) Agence de Cooperation Culturelle et Technique (ACCT).

Reseau sur la Conservation Post-Recolte des Denrees Alimentaires (GRENIER) [Network for

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Post-Harvest Storage of Food Crops].
(02647) Association des Universites Partiellement ou Entierement de Langue Francaise
(AUPELF).

SADAOC (Securite Alimentaire durable en Afrique de l'Ouest Centrale).
(05662) ECDPM (European Centre for Development Policy Management).

Sahelian Information Network (SIN).
(02657) Institute of Sahel (INSAH).

Sero-surveillance of rinderpest and other diseases in Africa, using immunoassay
techniques.
(02628) Swedish Agency for Rural Cooperation (SAREC).

Small grants (WARDA).
(05339) International Development Research Centre.

Small Ruminant and Camel Group Research Network.
(05381) International Livestock Center for Africa.

Small Ruminants and Camel Group.
(02632) Deutsche Gesellschaft fuer Technische Zusammenarbeit (GTZ) Gmb H.

Social Science Interface Research Unit (SSIRU).
(02779) The International Centre of Insect Physiology and Ecology.

Soil Fertility Restoration Project (SFRP).
(02143) International Fertilizer Development Center, Africa (IFDC-Africa).

Soybean utilization (IITA) - Phase II.
(04182) International Development Research Centre.

Start-up grants - [International Fertilizer Development Center-Africa].
(02141) International Fertilizer Development Center, Africa (IFDC-Africa).

Storage of cereals by pastoralists.
(04761) Overseas Development Administration (NRFD).

Strategies Alimentaires (STRA) [Food Strategies Network].
(02655) ORSTOM/Institut Francais de Recherche Scientifique pour le Developpement en
Cooperation.

Strengthening African agricultural research: 01 CIAT bean research in East Africa
(CDA).
(01872) U.S. Agency for International Development.

Strengthening African agricultural research: 13 West Africa Rice Development
Association (WARDA) - Mangrove and associated swamp rice research.
(01857) U.S. Agency for International Development.

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Strengthening maize and cassava research in eleven countries of West and Central Africa: Plan of action.

(02665) Ministere de la Cooperation (France).

Sub-Saharan Africa hydrological assessment.

(01108) World Bank.

Technological change and transformation of land tenure systems in Subsaharan Africa.

(01510) Universitaet Goettingen.

The characterization of rice growing agro-ecosystems in West Africa (initial phase).

(05601) WSC (Winand Staring Centre for Integrated Land, Soil and Water Research).

The Development of Practices for Area-wide Tsetse Eradication with emphasis on the Sterile Insect Technique.

(02626) United Nations Food and Agriculture Organization.

The East and Southern Africa Root Crops Research Network (ESARRN).

(02080) U.S. Agency for International Development (USAID)/International Development Research Centre (IDRC)/International Institute of Tropical Agriculture (IITA).

The effect of tannins on nutrient digestibility and animal performance in small ruminants.

(04635) Universitaet Hohenheim.

The epidemiology and control of the sorghum foliar pathogens in the semi-arid tropics.

(01813) Overseas Development Administration (NRRD).

The feeding behaviour of Cicadulina, vector of maize streak virus disease on resistant and susceptible maize genotypes.

(04858) Overseas Development Administration (NRED).

The Geological Network for Agrominerals in East and Southern Africa.

(02613) United Nations Development Program (UNDP); World Bank.

The Livestock Trypanotolerant Network.

(02081) Overseas Development Administration.

The role of the renewable natural resources sector in the generation of sustainable livelihoods in developing countries.

(05792) Overseas Development Administration (NRPAD).

The West and Central Africa Cowpea Collaborative Research Network (RENACO).

(02078) U.S. Agency for International Development (USAID)/Semi-Arid Food Grain Research and Development (SAFGRAD).

Traditional Techniques of Micro Climate Improvement (TTMI), phase II.

(05658) WAU (Wageningen Agricultural University).

U.S./Israel program for cooperative development research.

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(01949) U.S. Agency for International Development

Universities and national agricultural research in Sub-Saharan Africa
(03678) International Service for National Agricultural Research.

Urban agriculture in Africa

(05684) Institut fuer Sozialökonomie der Agrarentwicklung der Technischen Universität
Berlin.

Weed management in upland rice in West Africa.

(04866) Overseas Development Administration (NRRD).

West Africa : Post harvest losses of rice.

(04675) Overseas Development Administration (NRRD).

West Africa Collaborative Groundnut Research Network

(02162) International Crops Research Institute for the Semi-Arid Tropics (ICRISAT).

West Africa Maize Collaborative Research Network (Réseau Maïs).

(02156) Conférence des Responsables de Recherche Agronomique Africains.

West Africa Network on Animal Traction (WAATA).

(02622) Deutsche Gesellschaft fuer Technische Zusammenarbeit (GTZ) GmbH.

West Africa Regional Cooperative for Research on Plantain (WARCORP).

(02167) International Institute of Tropical Agriculture.

West Africa Regional Pearl Millet Improvement Program.

(02154) International Crops Research Institute for the Semi-Arid Tropics (ICRISAT Sahel
Center).

West African Farming Systems Research Network (WAFSR/RESPAO).

(02619) International Fund for Agricultural Development (IFAD)/Semi-Arid Food Grain
Research and Development (SAFGRAD).

West African Fertilizer Management and Evaluation Network (WAFMEN).

(02614) International Development Research Centre (IDRC); United Nations Development
Program (UNDP).

West African Forages Network (WAFNET).

(02103) Multilateral Cooperation Division, Economic Cooperation Bureau, MOFA, JAPAN.

West African Irrigation Research Development Network (WAIIRD).

(02612) International Irrigation Management Institute (IIAM).

West African program for agro-mineral research.

(02146) International Fertilizer Development Center, Africa (IFDC-Africa).

West African Rice Information System (WARIS).

(04246) International Development Research Centre.

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West and Central Africa Maize Collaborative Research Network (WECAMAN).
(02157) U.S. Agency for International Development (USAID)/Semi-Arid Food Grain Research and Development (SAFGRAD).

West and Central Africa Sorghum Research Network (WCASRN).
(02075) U.S. Agency for International Development (USAID)/Semi-Arid Food Grain Research and Development (SAFGRAD).

Algeria

African Center of Meteorological Applications for Development (ACMAD).
(01109) World Meteorological Organization (WMO).

An integrated research programme on the development of biological pesticides for locust and grasshopper control.
(01546) U.S. Agency for International Development.

Co-ordinated Research Programme on the Application of Irradiation Technique for Food Processing in Africa.
(02629) United Nations Food and Agriculture Organization.

Reseau Erosion (EROS) [Erosion Network].
(02638) ORSTOM/Institut Francais de Recherche Scientifique pour le Developpement en Cooperation.

Reseau Europeen d'Etude des Laterites (EUROLAT) [European Network on Ferralsols Studies].
(02639) Ministere de la Recherche et de l'Enseignement Superieur, Universite of Strasbourg.

Angola

African Center of Meteorological Applications for Development (ACMAD).
(01109) World Meteorological Organization (WMO).

Central and West African Root Crops Collaborative Research Network (CEWARRN).
(02166) International Institute of Tropical Agriculture.

Reseau Europeen d'Etude des Laterites (EUROLAT) [European Network on Ferralsols Studies].
(02639) Ministere de la Recherche et de l'Enseignement Superieur, Universite of Strasbourg.

Sub-Saharan Africa hydrological assessment.
(01108) World Bank.

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Argentina

International Soybean Program (INTSOY).
(05373) University of Illinois at Urbana-Champaign.

Australia

Genome analysis of banana and plantain (*Musa* spp.) and the black Sigatoka fungus *Mycosphaerella fijiensis*.
(05691) Institut fuer Pflanzliche Molekularbiologie, Fachbereich Biologie der Universitaet Frankfurt.

International Network for the Improvement of Bananas and Plantains (INIBAP).
(05369) International Network for the Improvement of Bananas and Plantains.

International Soybean Program (INTSOY).
(05373) University of Illinois at Urbana-Champaign.

Bangladesh

International Network on Soil Fertility and Sustainable Rice Farming (INSURF).
(05370) International Rice Research Institute.

International Soybean Program (INTSOY).
(05373) University of Illinois at Urbana-Champaign.

No dumping here: Control of pesticides in developing countries.
(05422) International Development Research Centre.

Post-harvest assessment of root and tuber crop storage.
(04834) Overseas Development Administration (NRRD).

Urea injector test.
(04143) Research Institute for Agrobiolgy and Soil Fertility (AB).

Benin

A study of melliferous plants in the Atacora district.
(05470) International Foundation for Science.

Adoption of agroforestry systems in developing countries.
(01791) Overseas Development Administration (NRRD).

African Center of Meteorological Applications for Development (ACMAD).
(01109) World Meteorological Organization (WMO).

African Research Network on Rural Poultry Development.

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(02624) United Nations Food and Agriculture Organization.

Agricultural price politics of the Benin and the effect on production, dissemination of income, budget and balance of payments.

(01412) Universitaet Hohenheim.

Agricultural services restructuring project.

(01117) World Bank; Benin.

Agriculture.

(04413) World Bank; Benin.

Agroforestry research for development of the drylands of West Africa.

(02113) International Fund for Agricultural Development.

Alley Farming Network for Tropical Africa.

(02088) Canadian International Development Agency (CIDA)/International Development Research Centre (IDRC).

An integrated research programme on the development of biological pesticides for locust and grasshopper control.

(01546) U.S. Agency for International Development.

Artificial spawning of prawns (*Penaeus duorarum*) and production of post-larvae.

(03220) IFS.

Aspects of vegetation management in fallow systems in West Africa.

(05714) Institut fuer Pflanzenbau in den Tropen und Subtropen der Universitaet Hohenheim, Fachgebiet Agrarökologie der Tropen und Subtropen.

Biochemistry and technology of the preparation of a fermented paste from maize in Benin.

(03338) IFS.

Borgou rural development II.

(03439) World Bank; Benin.

Cassava Network [Réseau Manioc].

(02084) Conférence des Responsables de Recherche Agronomique Africains et Français.

Central and West African Root Crops Collaborative Research Network (CEWARRN).

(02166) International Institute of Tropical Agriculture.

Changes in labour allocation of farm households in West Africa.

(05726) Institut fuer Agrar- und Sozialökonomie in den Tropen und Subtropen der Universitaet Hohenheim, Fachgebiet Landwirtschaftliche Betriebslehre in den Tropen und Subtropen.

Circulation of scientific information.

(04933) International Development Research Centre.

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Conservation of soil fertility by peasant farmers in Atlantic Province, Benin.
(02890) Commission of the European Communities.

Control of *Zonocerus variegatus*.
(03825) Universitaet Freiburg.

Development and promotion of appropriate tools and implement for the 'agricultural and food processing sector' (interim phase) (ILO/89/INT/M03).
(05648) ILO (International Labour Office).

Drought Resistance Research Network (R3S) [Réseau de Recherche sur la Résistance à la Sécheresse].
(02610) Conférence des Responsables de Recherche Agronomique Africains et Français.

Dynamics of intensification on traditional farms and efficiency of innovations concerning farming systems at sub-humid sites.
(04604) Universitaet Hohenheim.

Ecology of the maize stem borers in Benin.
(03292) IFS.

Effects of dust deposits and microvariability on edaphical site conditions with regard to semi-arid and sub-humid locations in West Africa.
(04657) Universitaet Hohenheim.

Environmental action program.
(04412) World Bank, Benin.

Evaluation of the carrying capacity of natural grazing lands in the Kalale-Nikki-Sebana region, Northeast Benin.
(03291) IFS.

Fertilizer Marketing and Trade Information Program (FMTIP).
(02145) Directorate General for International Cooperation (DGIS); U.S. Agency for International Development (USAID).

Financing needs of farm/households and formal and informal rural financial markets: a case study of Benin.
(03866) Universitaet Hohenheim.

Food security.
(04411) World Bank, Benin.

Forestry.
(03438) World Bank, Benin.

Genetic improvement of *Triplochiton scleroxylon* (Sterculiaceae) in Benin.
(03248) IFS.

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Importance of spontaneous vegetation and biotic limitation factors in traditional cropping systems at a sub-humid site.
(04660) Universitaet Hohenheim.

Indigenous pig production (Benin).
(05353) International Development Research Centre.

Influence of neem (*Azadirachta indica*) products on locusts and grasshoppers.
(03847) Justus-Liebig Universitaet Giessen.

International Rice Testing Program for Africa (IRTP).
(02160) United Nations Development Program (UNDP)/European Economic Commission (EEC)/Japan.

Investigation in biological parameters of *Achatina achatina*.
(03806) Universitaet Goettingen.

Investigations on succession and dynamics of regeneration of commercial trees in the lama state forest/Benin in the natural range of raingreen forests.
(05708) Institut fuer Waldbau der Universitaet Goettingen, Abt. II: Waldbau der Tropen und Naturwaldforschung.

Locust and grasshopper control by application of neem products.
(03848) Justus-Liebig Universitaet Giessen.

Management of natural resources.
(04157) World Bank; Benin.

Management of vertisols under semi-arid conditions in Africa (MOVUSAC).
(01022) International Board for Soil Research and Management.

Micro-economic potentials and limits to the introduction of Alley cropping systems in traditional farming systems in South Benin.
(04605) Universitaet Hohenheim.

Network for Improvement of Rice Cultivation [Réseau Riz].
(02161) Conférence des Responsables de Recherche Agronomique Africains et Français.

Nutrient requirements of the Grasscutter.
(03790) German Agency for Technical Cooperation (GTZ).

Nutritive value and animal health.
(01405) Universitaet Hohenheim.

Organization and management of agricultural extension services in integrated rural development projects.
(03870) Institut fuer Agrarsoziologie, Landwirtschaftliche Beratung und Angewandte Psychologie der Universitaet Hohenheim.

Pan-African Networks for Rural Social Science Research.

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(02661) Winrock International; Ford Foundation.

Phenolics including tannins in multipurpose trees and browse and their effect on ruminant nutrition and health.

(04620) Universitaet Hohenheim.

Problem-oriented analysis of socio-cultural factors: analysis of farmers' situation in two villages in South Benin.

(05729) Institut fuer Agrarsoziologie, Landwirtschaftliche Beratung und Angewandte Psychologie der Universitaet Hohenheim.

Productivity of autochtones cattle breeds in the humid and subhumid zone of West Africa.

(04628) Gesellschaft fuer technische Zusammenarbeit (GTZ).

Projet poursuite des etudes en milieu reel (PEMR).

(05666) SNV (Association Neerlandaise d'Assistance au Developpement).

Projet Puits Artisanaux.

(05672) SNV (Association Neerlandaise d'Assistance au Developpement).

Proposal for a research project on the development of new methods in locust control.

(02090) Gesellschaft fuer Technische Zusammenarbeit (GTZ).

Recherche Appliquee en Milieu Reel (RAMR).

(05612) KIT (Royal Tropical Institute).

Reconnaissance / preparation study on forestry biotechnology in the drought-prone Sub-Saharan African countries, with special reference to Sahelian and Sudanian zones (SSZ).

(02094) World Bank.

Reduction of cistridiosis relating to productive livestock through supplementary feeding of forage plants containing tannins.

(04659) Universitaet Hohenheim.

Relationships between tree growth, tree nutrition and site in *Tectona grandis* plantation in West Africa.

(04653) Universitaet Bayreuth.

Research on small ruminants in the humid and sub-humid zones of West Africa.

(02110) International Fund for Agricultural Development.

Reseau Coton (COTON).

(02082) France; Conference des Responsables de Recherches Agronomique Africains et Francais (CORAF).

Reseau Europeen d'Etude des Laterites (EUROLAT) [European Network on Ferralsols Studies].

(02639) Ministere de la Recherche et de l'Enseignement Superieur; Universite of

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Strasbourg.

Reseau International de Traitement des Donnees Sols (RIDTS) [International Network for Soils Data Processing].

(02640) Agence de Cooperation Culturelle et Technique (ACCT).

Reseau sur la Conservation Post-Recolte des Denrees Alimentaires (GRENIER) [Network for Post-Harvest Storage of Food Crops].

(02647) Association des Universites Partiellement ou Entierement de Langue Francaise (AUPELF).

Rural development and nutrition (Benin) - Phase I.

(04178) International Development Research Centre.

Rural financing systems and agricultural price policy in support of innovations. F2.1:

The rural households financial requirements and formal and informal financial

institutions analysed in the province Oueme in the Peoples Republic of Benin. F2.2:

Agricultural price policy and its effects on production, income and employment.

(04658) Universitaet Hohenheim.

Selection of a rice variety resistant to *Pyricularia oryzae* in Benin.

(03330) IFS.

Strategies Alimentaires (STRA) [Food Strategies Network].

(02655) ORSTOM/Institut Francais de Recherche Scientifique pour le Developpement en Cooperation.

Strengthening maize and cassava research in eleven countries of West and Central

Africa: Plan of action.

(02665) Ministera de la Cooperation (France).

Study on reproduction criteria of the Grasscutter.

(04623) Universitaet Hohenheim.

Study on the regeneration of efficient woody species of the natural semi-deciduous forest of Pobe.

(03377) IFS.

Sub-Saharan Africa hydrological assessment.

(01108) World Bank.

Target group oriented management of national agricultural research.

(04608) Zentrum fuer Regionale Entwicklungsforschung der Universitaet Giessen.

The characterization of rice growing agro-ecosystems in West Africa (initial phase).

(05601) WSC (Winand Staring Centre for Integrated Land, Soil and Water Research).

The effect of tannins on nutrient digestibility and animal performance in small ruminants.

(04635) Universitaet Hohenheim.

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The Livestock Trypanotolerant Network.
(02081) Overseas Development Administration.

The role of organic substance in maintaining soil fertility of different sites in South Benin.
(04661) Universitaet Hohenheim.

The West and Central Africa Cowpea Collaborative Research Network (RENACO).
(02078) U.S. Agency for International Development (USAID)/Semi-Arid Food Grain Research and Development (SAFGRAD).

Time-budget-utilization of rural households in South-Benin.
(04633) Universitaet Karlsruhe.

Tolerance of tilapia in the bays of Benin to varying degrees of salinity.
(03315) IFS.

Traditional and Industrial fermentation of Maize.
(05671) WAU (Wageningen Agricultural University).

Veterinary promotion of the "Grasscutter Project".
(03943) Institut fuer Tiermedizin und Tierhygiene, Universitaet Hohenheim.

Weed problems and weed management in cropping systems.
(03897) Universitaet Hohenheim.

West Africa Collaborative Groundnut Research Network.
(02162) International Crops Research Institute for the Semi-Arid Tropics (ICRISAT).

West Africa Maize Collaborative Research Network [Réseau Maïs].
(02156) Conférence des Responsables de Recherche Agronomique Africains.

West Africa Regional Cooperative for Research on Plantain (WARCORP).
(02167) International Institute of Tropical Agriculture.

West Africa Regional Pearl Millet Improvement Program.
(02154) International Crops Research Institute for the Semi-Arid Tropics (ICRISAT Sahel Center).

West African Farming Systems Research Network (WAFSRN/RESPAO).
(02619) International Fund for Agricultural Development (IFAD)/Semi-Arid Food Grain Research and Development (SAFGRAD).

West African Fertilizer Management and Evaluation Network (WAFMEN).
(02614) International Development Research Centre (IDRC); United Nations Development Program (UNDP).

West African Forages Network (WAFNET).
(02103) Multilateral Cooperation Division, Economic Cooperation Bureau, MOFA, JAPAN.

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West and Central Africa Maize Collaborative Research Network (WECAMAN).
(02157) U.S. Agency for International Development (USAID)/Semi-Arid Food Grain Research and Development (SAFGRAD).

West and Central Africa Sorghum Research Network (WCASRN).
(02075) U.S. Agency for International Development (USAID)/Semi-Arid Food Grain Research and Development (SAFGRAD).

Zou Province rural development project.
(01001) World Bank; Benin.

Botswana

African Center of Meteorological Applications for Development (ACMAD).
(01109) World Meteorological Organization (WMO).

African Research Network for Agricultural By-Products (ARNAB).
(02170) International Development Research Centre (IDRC); International Livestock Centre for Africa (ILCA).

African Small Ruminant Collaborative Research Network.
(02620) International Fund for Agricultural Development.

Cooperative Cereals Research Network (CCRN).
(02171) International Crops Research Institute for the Semi-Arid Tropics.

Management of vertisols under semi-arid conditions in Africa (MOVUSAC).
(01022) International Board for Soil Research and Management.

Public works in Africa to improve food-security.
(04626) Deutsche Gesellschaft fuer technische Zusammenarbeit (GTZ).

Regional cooperation on cotton research and development.
(01116) World Bank.

Research, coordination, and training for improved livestock production in Sub-Saharan Africa.
(02732) Commission of the European Communities.

Sub-Saharan Africa hydrological assessment.
(01108) World Bank.

U.S./Israel program for cooperative development research.
(01949) U.S. Agency for International Development.

Universities and national agricultural research in Sub-Saharan Africa.
(03678) International Service for National Agricultural Research.

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Brazil

International Network for the Improvement of Bananas and Plantains (INIBAP).
(05369) International Network for the Improvement of Bananas and Plantains.

International Rubber Research and Development Board (IRRDB).
(01212) International Rubber Research and Development Board.

International Soybean Program (INTSOY).
(05373) University of Illinois at Urbana-Champaign.

Phosphorus availability (SIP/Ghana/Brazil) - Phase II.
(04209) International Development Research Centre.

Burkina Faso

African Center of Meteorological Applications for Development (ACMAD).
(01109) World Meteorological Organization (WMO).

African Small Ruminant Collaborative Research Network (SRNET).
(05812) International Livestock Centre for Africa (ILCA).

Agriculture Hydrologie-Meteorologie.
(02634) Centre Regional de Formation et d'Application en Agrometeorologie et Hydrologie (AGRHYMET).

Agroforestry research for development of the drylands of West Africa.
(02113) International Fund for Agricultural Development.

Alley Farming Network for Tropical Africa.
(02088) Canadian International Development Agency (CIDA)/International Development Research Centre (IDRC).

Assessment of conditions for replicating production systems in Africa's savanna areas - second stage.
(02098) Centre de Cooperation Internationale en Recherche Agronomique pour le Developpement (CIRAD).

Case studies on raising agricultural productivity of women in Africa for increased food production.
(02151) World Bank.

Cassava Network [Réseau Manioc].
(02084) Conférence des Responsables de Recherche Agronomique Africains et Français.

Central and West African Root Crops Collaborative Research Network (CEWARFN).
(02166) International Institute of Tropical Agriculture.

Characterization of lymphocytes and production of interferon as parameters for

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distinguishing trypanotolerance in animals and people.
(02847) Commission of the European Communities.

Collaborative Research Support Program (CRSP): Peanuts.
(01341) U.S. Agency for International Development (USAID)/University of Georgia.

Conditions for developing non-farm productive activities in rural areas of Africa. A comparison of Yatenga/Burkina Faso and Extreme-Nord/Cameroun.
(04639) Universitaet Frankfurt.

Cooperative Cereals Research Network (CCRN).
(02171) International Crops Research Institute for the Semi-Arid Tropics.

Cooperative Programme for the Improvement of Genetic Resources of Multipurpose Woody Species.
(02174) Food and Agriculture Organization of the United Nations.

Crop protection programme.
(03409) CILSS-Sahel Institute.

Development and promotion of appropriate tools and implement for the 'agricultural and food processing sector' (interim phase) (ILO/89/INT/M03).
(05648) ILO (International Labour Office).

Development cooperation Soil and Fertilizer.
(05595) IB (Institute for Soil Fertility Research).

Drought Resistance Research Network (R3S) [Réseau de Recherche sur la Résistance à la Sécheresse].
(02610) Conférence des Responsables de Recherche Agronomique Africains et Français.

Ecological monitoring of the dynamics of desertification.
(03415) CILSS-Sahel Institute.

Ecology/environment programme: reforestation and conservation of the forestry resources.
(03416) CILSS-Sahel Institute.

Fertilizer Marketing and Trade Information Program (FMTIP).
(02145) Directorate General for International Cooperation (DGIS); U.S. Agency for International Development (USAID).

Germplasm conservation and improvement of *Parkia bitobosa* (Jacq) Benth for multipurpose use.
(05665) University of Wales, Bangor; CNSF, Ouagadougou, Burkina Faso; FRIN, Nigeria; SAFS, Nancy, France; WAU; The Netherlands.

Groundnut Network [Réseau Arachide].
(02087) Conférence des Responsables Agronomiques Africains et Français.

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Immunity against trypanosomiasis and mechanisms of trypanotolerance in animals.
(03932) Institut fuer Parasitologie und Tropenveterinaermedizin, Freie Universitaet Berlin.

Improvements to millet, sorghum, cowpea, and maize crops in the Sahel.
(02738) Commission of the European Communities.

Improving the Productivity of Indigenous African Livestock using Radioimmunoassay and related Techniques.
(02621) Directorate General for International Cooperation (DGIS).

Increase of productivity and control of diseases of small ruminants.
(03410) CILSS-Sahel Institute.

International Rice Testing Program for Africa (IRTP).
(02160) United Nations Development Program (UNDP)/European Economic Commission (EEC)/Japan.

Management of vertisols under semi-arid conditions in Africa (MOVUSAC).
(01022) International Board for Soil Research and Management.

Monitoring of renewable natural resources in the Sahel.
(02739) Commission of the European Communities.

Network for Improvement of Rice Cultivation [Réseau Riz].
(02161) Conférence des Responsables de Recherche Agronomique Africains et Français.

Pathology of small ruminants: etiology, vaccines and prophylaxis.
(03411) CILSS-Sahel Institute.

Phase I: Resistance of cowpea to *Striga gesnerioides* and *Alectra vogelii* Phase II: Resistance of legumes and cereals to *Striga* species.
(01767) Overseas Development Administration (NRD).

Programme for the strengthening of research on production systems.
(03418) CILSS-Sahel Institute.

Programme on supporting services: documentation, information and training.
(03419) CILSS-Sahel Institute.

Public works in Africa to improve food-security.
(04626) Deutsche Gesellschaft fuer technische Zusammenarbeit (GTZ).

Reconnaissance / preparation study on forestry biotechnology in the drought-prone Sub-Saharan African countries, with special reference to Sahelian and Sudanian zones (SSZ).
(02094) World Bank.

Regional programme for the improvement of millet, sorghum, cowpeas, and maize (transitional phase).

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(03407) CILSS-Sahel Institute.

Research and study programme on the improved management of extensive national rangelands in the Sahel (PGENES).

(03412) CILSS-Sahel Institute.

Research and study programme on the possibility of intensification of fodder and animal production in the framework of an association of agriculture and livestock breeding in Sub-Saharan, Sudanian and Guinean zones.

(03413) CILSS-Sahel Institute.

Research programme on food security, strategies and policies.

(03417) CILSS-Sahel Institute.

Research programme on phylogenetic resources.

(03408) CILSS-Sahel Institute.

Réseau Coton (COTON).

(02082) France; Conference des Responsables de Recherches Agronomique Africains et Français (CORAF).

Reseau Developpement (R/D) [Development Network].

(02653) GRET.

Reseau Erosion (EROS) [Erosion Network].

(02638) ORSTOM/Institut Français de Recherche Scientifique pour le Developpement en Cooperation.

Reseau Europeen d'Etude des Laterites (EUROLAT) [European Network on Ferral soils Studies].

(02639) Ministère de la Recherche et de l'Enseignement Supérieur; Université of Strasbourg.

Reseau sur la Conservation Post-Recolte des Denrees Alimentaires (GRENIER) [Network for Post-Harvest Storage of Food Crops].

(02647) Association des Universités Partiellement ou Entierement de Langue Française (AUPELF).

SADAOC (Sécurité Alimentaire durable en Afrique de l'Ouest Centrale).

(05662) ECDPM (European Centre for Development Policy Management).

Sahelian Information Network (SIN).

(02657) Institute of Sahel (INSAH).

Sero-surveillance of rinderpest and other diseases in Africa, using immunoassay techniques.

(02628) Swedish Agency for Rural Cooperation (SAREC).

Small Ruminant and Camel Group Research Network.

(05381) International Livestock Center for Africa.

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Small Ruminants and Camel Group.

(02632) Deutsche Gesellschaft fuer Technische Zusammenarbeit (GTZ) Gmb H.

Strategies Alimentaires (STRA) [Food Strategies Network].

(02655) ORSTOM/Institut Francais de Recherche Scientifique pour le Developpement en Cooperation.

Sub-Saharan Africa hydrological assessment.

(01108) World Bank.

The West and Central Africa Cowpea Collaborative Research Network (RENACO).

(02078) U.S. Agency for International Development (USAID)/Semi-Arid Food Grain Research and Development (SAFGRAD).

West Africa Collaborative Groundnut Research Network.

(02162) International Crops Research Institute for the Semi-Arid Tropics (ICRISAT).

West Africa Maize Collaborative Research Network [Réseau Maïs].

(02156) Conference des Responsables de Recherche Agronomique Africains.

West Africa Network on Animal Traction (WAATA).

(02622) Deutsche Gesellschaft fuer Technische Zusammenarbeit (GTZ) Gmb H.

West Africa Regional Pearl Millet Improvement Program.

(02154) International Crops Research Institute for the Semi-Arid Tropics (ICRISAT Sahel Center).

West African Fertilizer Management and Evaluation Network (WAFMEN).

(02614) International Development Research Centre (IDRC); United Nations Development Program (UNDP).

West African Irrigation Research Development Network (WAIRD).

(02612) International Irrigation Management Institute (IIMI).

West and Central Africa Maize Collaborative Research Network (WECAMAN).

(02157) U.S. Agency for International Development (USAID)/Semi-Arid Food Grain Research and Development (SAFGRAD).

West and Central Africa Sorghum Research Network (WCASRN).

(02075) U.S. Agency for International Development (USAID)/Semi-Arid Food Grain Research and Development (SAFGRAD).

Barundi

African Center of Meteorological Applications for Development (ACMAD).

(01109) World Meteorological Organization (WMO).

Agronomic Network for East and Southern Africa.

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(02611) United Nations Development Program (UNDP); World Bank.

Applied research programme: Eastern and Central African Agroforestry Network for Africa (ECA-AFRENA) - The bimodal highlands.

(02615) International Council for Research in Agroforestry.

Ascochyta blight research.

(03629) Centro Internacional de Agricultura Tropical (CIAT)/National Agricultural Research Institutes.

Central and West African Root Crops Collaborative Research Network (CEWARRN).

(02166) International Institute of Tropical Agriculture.

Control of soil acidity in agroforestry.

(04743) Overseas Development Administration (NRRD).

East Africa Regional Cooperative for Research on Bananas (and Ensete) (EARCORBE).

(02168) International Network for the Improvement of Banana and Plantain.

INIBAP/Taxonomic Linguistic Study of Plantain Cultivars in Africa.

(05649) INIBAP.

International Benchmark Soils Network for Agro-technology Transfer (IBSNAT).

(02635) U.S. Agency for International Development.

International Network for the Improvement of Bananas and Plantains (INIBAP).

(05369) International Network for the Improvement of Bananas and Plantains.

International Rice Testing Program for Africa (IRTP).

(02160) United Nations Development Program (UNDP)/European Economic Commission (EEC)/Japan.

Network on management of acid soils in humid Africa (AFRICALAND - Management of acid soils).

(01021) International Board for Soil Research and Management.

Programme for Improvement of Potatoes in Central Africa [Programme Regional pour l'Amelioration de la Culture de la Pomme de Terre en Afrique Centrale] (PRAPAC).

(02079) U.S. Agency for International Development.

Réseau Coton (COTON).

(02082) France; Conference des Responsables de Recherches Agronomique Africains et Français (CORAF).

Reseau Erosion (EROS) [Erosion Network].

(02638) ORSTOM/Institut Français de Recherche Scientifique pour le Développement en Coopération.

Reseau Europeen d'Etude des Laterites (EUROLAT) [European Network on Ferral soils Studies].

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(02639) Ministère de la Recherche et de l'Enseignement Supérieur; Université of Strasbourg.

Reseau sur la Conservation Post-Recolte des Denrees Alimentaires (GRENIER) [Network for Post-Harvest Storage of Food Crops].

(02647) Association des Universites Partiellement ou Entierement de Langue Francaise (AUPELF).

Strategies Alimentaires (STRA) [Food Strategies Network].

(02655) ORSTOM/Institut Francais de Recherche Scientifique pour le Developpement en Cooperation.

Sub-Saharan Africa hydrological assessment.

(01108) World Bank.

The East and Southern Africa Root Crops Research Network (ESARRN).

(02080) U.S. Agency for International Development (USAID)/International Development Research Centre (IDRC)/International Institute of Tropical Agriculture (IITA).

The Geological Network for Agrominerals in East and Southern Africa.

(02613) United Nations Development Program (UNDP); World Bank.

Universities and national agricultural research in Sub-Saharan Africa.

(03678) International Service for National Agricultural Research.

Cameroon

Tropenbos' Foundation.

(05507) Tropenbos Foundation.

Cercospora angolensis, a disease of citrus: studies on the pathogen and interactions of climate/host/parasite in Yaounde.

(05283) International Foundation for Science.

Adaptability and selection studies of potato (*Solanum tuberosum*) in the western highland region of Cameroon.

(03244) IFS.

Adoption of agroforestry systems in developing countries.

(01791) Overseas Development Administration (NRFD).

Africa Regional: A comparative study of the productivity of traditional tree crops and introduced multipurpose trees with special reference to the effects on associated crops - A case study.

(04720) Overseas Development Administration (NRFD).

African Center of Meteorological Applications for Development (ACMAD).

(01109) World Meteorological Organization (WMO).

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African Research Network on Rural Poultry Development.
(02624) United Nations Food and Agriculture Organization.

Agricultural education.
(01918) U.S. Agency for International Development.

Agricultural education II.
(01920) U.S. Agency for International Development.

Agricultural research II.
(01206) World Bank; Cameroon.

Agricultural restructuring and diversification (formerly Export promotion/diversification, formerly Private export crops).
(01104) World Bank; Cameroon.

Agriculture.
(04414) World Bank; Cameroon.

Agroforestry research for development of the drylands of West Africa.
(02113) International Fund for Agricultural Development.

Agroforestry systems (Cameroon) - Phase I.
(04172) International Development Research Centre.

Agroforestry systems (Cameroon) - Phase II.
(05327) International Development Research Centre.

Alley Farming Network for Tropical Africa.
(02088) Canadian International Development Agency (CIDA)/International Development Research Centre (IDRC).

An evaluation of traditional fermentation methods and their effects on the chemical composition of cassava-based products.
(05449) International Foundation for Science.

An inventory and evaluation of major diseases on vegetable crops in Cameroon.
(03293) IFS.

Applied research programme: Network for Humid Lowlands of West Africa (HULWA-AFRENA).
(02618) International Council for Research in Agroforestry (ICRAF).

Appui en recherches agroforestieres.
(05627) SNV (Association Neerlandaise d'Assistance au Developpement).

Assessment of conditions for replicating production systems in Africa's savanna areas - second stage.
(02098) Centre de Cooperation Internationale en Recherche Agronomique pour le Developpement (CIRAD).

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Association Internationale pour l'Optimisation de la Nutrition des Plantes (ANIOF)
[International Association for the Optimization of Plant Nutrition].
(02641) Centre de Cooperation Internationale en Recherche Agronomique pour le
Developpement (CIRAD).

Cameroon banana production and trade.
(03738) International Network for the Improvement of Banana and Plantain.

Cassava Network [Réseau Manioc].
(02084) Conférence des Responsables de Recherche Agronomique Africains et Français.

Cattle Research Network (CARNET) (formerly Cattle Milk and Meat Network).
(05358) International Livestock Center for Africa.

Central and West African Root Crops Collaborative Research Network (CEWARRN).
(02166) International Institute of Tropical Agriculture.

Centre d'Etude de l'Environnement et de Developpement au Cameroun.
(05654) State University Leiden, Centre for Environmental Science.

Chemical studies of the Erythrina of Cameroon.
(03306) IFS.

Climatic adaptation of laying hens.
(03325) IFS.

Cocoa rehabilitation.
(03456) World Bank; Cameroon.

Collaborative Research Support Program (CRSP): Beans and cowpeas.
(01345) U.S. Agency International Development (USAID)/Michigan State University.

Collaborative Research Support Program (CRSP): Soils management (TROPSOILS).
(01346) U.S. Agency for International Development (USAID)/North Carolina State
University.

Communication and information aimed at the rural people of Cameroon - Phase III.
(05416) International Development Research Centre.

Community reforestation (CARE).
(01919) U.S. Agency for International Development.

Conditions for developing non-farm productive activities in rural areas of Africa. A
comparison of Yatenga/Burkina Faso and Extreme-Nord/Cameroun.
(04639) Universitaet Frankfurt.

Control of soil acidity in agroforestry.
(04743) Overseas Development Administration (NRFD).

Cooperative Cereals Research Network (CCRN).

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(02171) International Crops Research Institute for the Semi-Arid Tropics.

Cooperative Programme for the Improvement of Genetic Resources of Multipurpose Woody Species.

(02174) Food and Agriculture Organization of the United Nations.

Coordination of locust and grasshopper control.

(01527) Food and Agriculture Organization of the United Nations.

Development of adapted farming systems on the basis of draught animal utilization in the North-west Province of Cameroon.

(03885) Universitaet Goettingen.

Development of breeding methods for improved utilization of local gene resources in poultry for improving the productivity of livestock and production of animal protein in Cameroon.

(04642) Institute of Animal Research; Cameroon.

Drought Resistance Research Network (R3S) [Réseau de Recherche sur la Résistance à la Sécheresse].

(02610) Conférence des Responsables de Recherche Agronomique Africains et Français.

Ecological protection (formerly Forestry and environment).

(01178) World Bank; Cameroon.

Egusi shellers (Cameroon).

(02429) International Development Research Centre.

Epidemiology of cercosporiosis caused by *Mycosphaerella* sp. on banana in Cameroon, and evaluation of the varietal susceptibility to the disease.

(05447) International Foundation for Science.

Establishment of an agricultural laboratory.

(04549) International Atomic Energy Agency.

Evaluation of productivity of local hair sheep populations and introduction of high yielding genetic material through crossbreeding.

(04641) Institute of Animal Research, Cameroon.

Evaluation of tropical lowland forage legumes for sub-humid West Africa at ILCA.

(03779) Universitaet Giessen.

Examination of *Teclea campestris* and *Vepris luisii*, endemic Cameroonian Rutaceae spp. with reputed medicinal properties.

(03030) IFS.

Fertilizer Marketing and Trade Information Program (FMTIP).

(02145) Directorate General for International Cooperation (DGIS); U.S. Agency for International Development (USAID).

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Food security project.
(04160) World Bank; Cameroon.

Forest ecology and training in Cameroon.
(02840) Commission of the European Communities.

Forest regeneration; germination and growth of forest species in South Cameroon.
(05284) International Foundation for Science.

Genetic improvement of safou (*Dacryodes edulis*).
(05461) International Foundation for Science.

Groundnut Network [Réseau Arachide].
(02087) Conférence des Responsables Agronomiques Africains et Français.

Hevecam rubber.
(03454) World Bank; Cameroon.

Identification of management factors limiting maize yields in peasant farms in the humid part of Cameroon by quantitative land evaluation.
(05474) International Foundation for Science.

Improvement of cowpea cultivation (*Vigna unguiculata*).
(03003) IFS.

Improvement of mixed cropping in traditional farming systems in Cameroon.
(03019) IFS.

Improving water management in the semi-arid region of Cameroon.
(03802) Bundesministerium fuer Wirtschaftliche Zusammenarbeit/Federal Ministry for Economic Cooperation (BMZ).

Improving water management in the semiarid region of Cameroon.
(03928) Institut fuer Pflanzenbau und Tierhygiene in den Tropen und Subtropen, Universitaet Goettingen.

INIBAP/Taxonomic Linguistic Study of Plantain Cultivars in Africa.
(05649) INIBAP.

International Benchmark Soils Network for Agro-technology Transfer (IBSNAT).
(02635) U.S. Agency for International Development.

International Network on Soil Fertility and Sustainable Rice Farming (INSURIF).
(05370) International Rice Research Institute.

International Rice Testing Program for Africa (IRTP).
(02160) United Nations Development Program (UNDP)/European Economic Commission (EEC)/Japan.

International Rubber Research and Development Board (IRRDDB).

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(01212) International Rubber Research and Development Board.

International Soybean Program (INTSOY).

(05373) University of Illinois at Urbana-Champaign.

Investigations in different forms of soil erosion under different cropping systems in Nigeria.

(01377) Gesellschaft fuer Technische Zusammenarbeit (GTZ).

Investigations on significance of major genes for breeding of layers and broilers in tropical locations (Cameroon).

(04643) Institut of Animal Research; Cameroon.

Investment and survival strategies of women.

(04831) Overseas Development Administration (NRRD).

Livestock sector development.

(03455) World Bank; Cameroon.

Management of vertisols under semi-arid conditions in Africa (MCVUSAC).

(01022) International Board for Soil Research and Management.

Methodology for agricultural marketing systems policy and practise, and its application to current reforms.

(01721) Overseas Development Administration (NRRD).

Methods of colonization of two coleopters *Piezotrachelus* sp. and *Callosobruchus rhodesianus* in the pods of cowpeas.

(03331) IFS.

National agricultural extension and training.

(01180) World Bank; Cameroon.

National agricultural research.

(01134) World Bank; Cameroon.

National cereals research and extension II.

(01877) U.S. Agency for International Development.

Network for Improvement of Rice Cultivation [Réseau Riz].

(02161) Conférence des Responsables de Recherche Agronomique Africains et Français.

Network on land development for sustainable agriculture in Africa (AFRICALAND - Land development).

(02109) International Board for Soil Research and Management.

Network on management of acid soils in humid Africa (AFRICALAND - Management of acid soils).

(01021) International Board for Soil Research and Management.

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Palm oil extraction (Cameroon)

(02426) International Development Research Centre.

Phytochemical studies on two plants with reputed insecticidal and pharmacological properties: *Pachypodanthuim* sp. and *Thomandesia lauriflora*.

(03173) IFS.

Phytochemical, chemotaxonomical and biological studies of Cameroonian species of the family *Cecropiaceae*.

(03387) IFS.

Post-harvest technology of root and tuber crops: cassava fermentation.

(02902) IFS.

Preparation and preservation of *Vernonia calvoana* ('Ndole') and *Amaranthus* spp. (*amaranthis*).

(03335) IFS.

Processing of the trifoliolate yam (*Dioscorea dumetorum*) into flour with low swelling capacity for the preparation of weaning gruel.

(05285) International Foundation for Science.

Programme 2B: On-farm research - Analysis of interactions and impact of agroforestry practices.

(03700) International Council for Research in Agroforestry.

Programme 5: Training - Training for researchers and development planners.

(03710) International Council for Research in Agroforestry.

Public works in Africa to improve food-security.

(04626) Deutsche Gesellschaft fuer technische Zusammenarbeit (GTZ).

Reconnaissance / preparation study on forestry biotechnology in the drought-prone Sub-Saharan African countries, with special reference to Sahelian and Sudanian zones

(SSZ).

(02094) World Bank.

Regional Tropical Leafy Trees Improvement Program (Programme Regional d'Amelioration des Feuillus Tropicaux (PRAFT)).

(02169) European Economic Commission (EEC).

Regulation of the metabolism in *Onchocerca volvulus*.

(03187) IFS.

Réseau Coton (COTON).

(02082) France; Conférence des Responsables de Recherches Agronomique Africains et Français (CORAF).

Réseau Développement (RAD) [Development Network].

(02653) GRET.

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Reseau Europeen d'Etude des Laterites (EUROLAT) [European Network on Ferralsols Studies].

(02639) Ministere de la Recherche et de l'Enseignement Superieur. Universite of Strasbourg.

Reseau Femmes et Developpement (FEM/DEV) [Women in Development Network].

(02652) ORSTOM/Institut Francais de Recherche Scientifique pour le Developpement en Cooperation.

Reseau International de Traitement des Donnees Sols (RIDTS) [International Network for Soils Data Processing].

(02640) Agence de Cooperation Culturelle et Technique (ACCT).

Reseau sur la Conservation Post-Recolte des Denrees Alimentaires (GRENIER) [Network for Post-Harvest Storage of Food Crops].

(02647) Association des Universites Partiellement ou Entierement de Langue Francaise (AUPELF).

Root and tuber crops research.

(01878) U.S. Agency for International Development.

Search for chemotherapeutic compounds against tropical diseases from the genus *Entandrophragma* (Meliaceae).

(05478) International Foundation for Science.

Second Western Province rural development.

(01135) World Bank; Cameroon.

Significance of rotational crossbreeding for improving productive adaptability of pigs at tropical locations (Cameroon).

(04644) Institute of Animal Research; Cameroon.

Silvicultural studies in the Sudanese savannah plant-soil relations.

(03106) IFS.

Silviculture of *Mansonia altissima* and *Triplochiton scleroxylon* in relation to insect pests in different ecological regions of Cameroon.

(03249) IFS.

Soil acidity, P-forms, P-fixation and correlation with selected soil properties of Oxisol and Ultisol in Cameroon.

(03397) IFS.

Strengthening maize and cassava research in eleven countries of West and Central Africa: Plan of action.

(02665) Ministere de la Cooperation (France).

Studies of factors affecting the biology of *Aphis gossypii*, its production of honeydew and control methods of this pest of cotton in North Cameroon.

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(03328) IFS.

Studies on local varieties of Bambara groundnut (*Voandzeia Subterranea*) in the littoral and west provinces of Cameroon.

(03294) IFS.

Study of *Busseola fusca*, a lepidopteran attacking maize.

(03009) IFS.

Study on chemical constituents of *Lopira lanceolata*, a medicinal plant of Cameroon.

(03305) IFS.

Study on the impact of the variety and the maturity at harvest on the effect of chlorination, packaging and curing of cocoyam in storage.

(03381) IFS.

Sub-Saharan Africa hydrological assessment.

(01108) World Bank.

Support of Zootechnical Research Institute (IRC).

(01426) Gesellschaft fuer Technische Zusammenarbeit (GTZ).

Tabersonine (Cameroon).

(04952) International Development Research Centre.

Technological change and transformation of land tenure systems in Sub-Saharan Africa.

(01510) Universitaet Goettingen.

Technology of microcatchment water harvesting for irrigation in semi-arid zones.

(01472) Universitaet Goettingen.

The characterization of rice growing agro-ecosystems in West Africa (initial phase).

(05601) WSC (Winand Staring Centre for Integrated Land, Soil and Water Research).

The utilisation of sweet potato and cassava root meal in poultry diets.

(05757) Overseas Development Administration (NRFD).

The West and Central Africa Cowpea Collaborative Research Network (RENACO).

(02078) U.S. Agency for International Development (USAID)/Semi-Arid Food Grain Research and Development (SAFGRAD).

Universities and national agricultural research in Sub-Saharan Africa.

(03678) International Service for National Agricultural Research.

Utilization of aquatic plants for the purification of waste water (phytopurification).

(03395) IFS.

West Africa Collaborative Groundnut Research Network.

(02162) International Crops Research Institute for the Semi-Arid Tropics (ICRISAT).

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West Africa Maize Collaborative Research Network [Réseau Maïs].
(02156) Conference des Responsables de Recherche Agronomique Africains.

West Africa Network on Animal Traction (WAATA).
(02622) Deutsche Gesellschaft fuer Technische Zusammenarbeit (GTZ) Gmb H.

West Africa Regional Cooperative for Research on Plantain (WARCORP).
(02167) International Institute of Tropical Agriculture.

West Africa Regional Pearl Millet Improvement Program.
(02154) International Crops Research Institute for the Semi-Arid Tropics (ICRISAT Sahel Center).

West African Farming Systems Research Network (WAFSRN/RESPAO).
(02619) International Fund for Agricultural Development (IFAD)/Semi-Arid Food Grain Research and Development (SAFGRAD).

West African Fertilizer Management and Evaluation Network (WAFMEN).
(02614) International Development Research Centre (IDRC); United Nations Development Program (UNDP).

West African Forages Network (WAFNET).
(02103) Multilateral Cooperation Division, Economic Cooperation Bureau, MOFA, JAPAN.

West and Central Africa Maize Collaborative Research Network (WECAMAN).
(02157) U.S. Agency for International Development (USAID)/Semi-Arid Food Grain Research and Development (SAFGRAD).

West and Central Africa Sorghum Research Network (WCASRN).
(02075) U.S. Agency for International Development (USAID)/Semi-Arid Food Grain Research and Development (SAFGRAD).

Zoonosis of human sleeping sickness in Cameroon: cattle, sheep, goats and swine as factors.
(03149) IFS.

Zoonosis of human sleeping sickness in Cameroon: cattle, sheep, goats and swine as factors.
(05157) International Foundation for Science.

Canada

Aromatic extracts (Guinea).
(04953) International Development Research Centre.

International Soybean Program (INTSOY).
(05373) University of Illinois at Urbana-Champaign.

Rubber seed oil: Finding uses for a waste product (Nigeria).

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(05414) International Development Research Centre.

Sustainable agroforestry (Brandon/Ghana/Philippines).
(04948) International Development Research Centre.

Tabersonine (Cameroon).
(04952) International Development Research Centre.

Cape Verde

African Center of Meteorological Applications for Development (ACMAD).
(01109) World Meteorological Organization (WMO).

Agriculture Hydrologie-Meteorologie.
(02634) Centre Regional de Formation et d'Application en Agrometeorologie et Hydrologie
(AGRHYMET).

Cooperative Programme for the Improvement of Genetic Resources of Multipurpose Woody
Species.
(02174) Food and Agriculture Organization of the United Nations.

Crop protection programme.
(03409) CILSS-Sahel Institute.

Drought Resistance Research Network (R3S) [Réseau de Recherche sur la Résistance à la
Sécheresse].
(02610) Conférence des Responsables de Recherche Agronomique Africains et Français.

Ecological monitoring of the dynamics of desertification.
(03415) CILSS-Sahel Institute.

Ecology/environment programme: reforestation and conservation of the forestry
resources.
(03416) CILSS-Sahel Institute.

Improvements to millet, sorghum, cowpea, and maize crops in the Sahel.
(02738) Commission of the European Communities.

Increase of productivity and control of diseases of small ruminants.
(03410) CILSS-Sahel Institute.

Monitoring of renewable natural resources in the Sahel.
(02739) Commission of the European Communities.

Pathology of small ruminants: etiology, vaccines and prophylaxis.
(03411) CILSS-Sahel Institute.

Programme for the strengthening of research on production systems.
(03418) CILSS-Sahel Institute.

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Programme on supporting services: documentation, information and training.
(03419) CILSS-Sahel Institute.

Proposal for a research project on the development of new methods in locust control.
(02090) Gesellschaft fuer Technische Zusammenarbeit (GTZ).

Regional programme for the improvement of millet, sorghum, cowpeas, and maize
(transitional phase).
(03407) CILSS-Sahel Institute.

Research and study programme on the improved management of extensive national
rangelands in the Sahel (PGENES).
(03412) CILSS-Sahel Institute.

Research and study programme on the possibility of intensification of fodder and animal
production in the framework of an association of agriculture and livestock breeding in
Sub-Saharan, Sudanian and Guinean zones.
(03413) CILSS-Sahel Institute.

Research programme on food security, strategies and policies.
(03417) CILSS-Sahel Institute.

Research programme on phylogenetic resources.
(03408) CILSS-Sahel Institute.

Sahelian Information Network (SIN).
(02657) Institute of Sahel (INSAH).

Sub-Saharan Africa hydrological assessment.
(01108) World Bank.

The West and Central Africa Cowpea Collaborative Research Network (RENACO).
(02078) U.S. Agency for International Development (USAID)/Semi-Arid Food Grain Research
and Development (SAFGRAD).

West African Farming Systems Research Network (WAFSRN/RESPAO).
(02619) International Fund for Agricultural Development (IFAD)/Semi-Arid Food Grain
Research and Development (SAFGRAD).

West and Central Africa Maize Collaborative Research Network (WECAMAN).
(02157) U.S. Agency for International Development (USAID)/Semi-Arid Food Grain Research
and Development (SAFGRAD).

Central African Republic

Acquisition and distribution of comprehensive Landsat TM satellite imagery.
(04483) Global Environment Facility, Central African Republic.

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Africa-wide biological control programme for cassava pests.
(01828) International Fund for Agricultural Development.

African Center of Meteorological Applications for Development (ACMAD).
(01109) World Meteorological Organization (WMO).

Agriculture services.
(01119) World Bank; Central African Republic.

Association Internationale pour l'Optimisation de la Nutrition des Plantes (ANIOP)
[International Association for the Optimization of Plant Nutrition].
(02641) Centre de Cooperation Internationale en Recherche Agronomique pour le
Developpement (CIRAD).

CAR - rural development.
(01894) U.S. Agency for International Development.

Cassava Network [Réseau Manioc].
(02084) Conférence des Responsables de Recherche Agronomique Africains et Français.

Central and West African Root Crops Collaborative Research Network (CEWARRN).
(02166) International Institute of Tropical Agriculture.

Chemical and pharmacological studies of three medicinal plants from the Central African
Republic.
(05479) International Foundation for Science.

Cotton area rural development project.
(01132) World Bank; Central African Republic.

National livestock development II.
(04415) World Bank; Central African Republic.

National livestock project.
(01131) World Bank; Central African Republic.

Natural resource management project.
(01186) World Bank; Central African Republic.

Network for Improvement of Rice Cultivation [Réseau Riz].
(02161) Conférence des Responsables de Recherche Agronomique Africains et Français.

Private rural enterprise and diversification (formerly Export crop development).
(01184) World Bank; Central African Republic.

Réseau Coton (COTON).
(02082) France: Conférence des Responsables de Recherches Agronomique Africains et
Français (CORAF).

Reseau Europeen d'Etude des Laterites (EUROLAT) [European Network on Ferralsols]

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Studies].

(02639) Ministère de la Recherche et de l'Enseignement Supérieur, Université of Strasbourg.

Reseau International de Traitement des Données Sols (RIDTS) [International Network for Soils Data Processing].

(02640) Agence de Coopération Culturelle et Technique (ACCT).

Reseau sur la Conservation Post-Recolte des Denrees Alimentaires (GRENIER) [Network for Post-Harvest Storage of Food Crops].

(02647) Association des Universités Partiellement ou Entièrement de Langue Française (AUPELF).

Rural enterprise development.

(03659) U.S. Agency for International Development/Africare.

Stratégies Alimentaires (STRA) [Food Strategies Network].

(02655) ORSTOM/Institut Français de Recherche Scientifique pour le Développement en Coopération.

Sub-Saharan Africa hydrological assessment.

(01108) World Bank.

The West and Central Africa Cowpea Collaborative Research Network (RENACO).

(02078) U.S. Agency for International Development (USAID)/Semi-Arid Food Grain Research and Development (SAFGRAD).

West Africa Maize Collaborative Research Network [Réseau Maïs].

(02156) Conférence des Responsables de Recherche Agronomique Africains.

West Africa Regional Cooperative for Research on Plantain (WARCORP).

(02167) International Institute of Tropical Agriculture.

West and Central Africa Maize Collaborative Research Network (WECAMAN).

(02157) U.S. Agency for International Development (USAID)/Semi-Arid Food Grain Research and Development (SAFGRAD).

West and Central Africa Sorghum Research Network (WCASRN).

(02075) U.S. Agency for International Development (USAID)/Semi-Arid Food Grain Research and Development (SAFGRAD).

Chad

African Center of Meteorological Applications for Development (ACMAD).

(01109) World Meteorological Organization (WMO).

Agriculture Hydrologie-Meteorologie.

(02634) Centre Régional de Formation et d'Application en Agrometeorologie et Hydrologie (AGRHYMET).

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An integrated research programme on the development of biological pesticides for locust and grasshopper control.

(01546) U.S. Agency for International Development.

Cassava Network [Réseau Manioc].

(02084) Conférence des Responsables de Recherche Agronomique Africains et Français.

Central and West African Root Crops Collaborative Research Network (CEWARRN).

(02166) International Institute of Tropical Agriculture.

Cooperative Programme for the Improvement of Genetic Resources of Multipurpose Woody Species.

(02174) Food and Agriculture Organization of the United Nations.

Crop protection programme.

(03409) CILSS-Sahel Institute.

Drought Resistance Research Network (R3S) [Réseau de Recherche sur la Résistance à la Sécheresse].

(02610) Conférence des Responsables de Recherche Agronomique Africains et Français.

Ecological monitoring of the dynamics of desertification.

(03415) CILSS-Sahel Institute.

Ecology/environment programme: reforestation and conservation of the forestry resources.

(03416) CILSS-Sahel Institute.

Groundnut Network [Réseau Arachide].

(02087) Conférence des Responsables Agronomiques Africains et Français.

Improvements to millet, sorghum, cowpea, and maize crops in the Sahel.

(02738) Commission of the European Communities.

Increase of productivity and control of diseases of small ruminants.

(03410) CILSS-Sahel Institute.

Monitoring of renewable natural resources in the Sahel.

(02739) Commission of the European Communities.

Pathology of small ruminants: etiology, vaccines and prophylaxis.

(03417) CILSS-Sahel Institute.

Programme for the strengthening of research on production systems.

(03418) CILSS-Sahel Institute.

Programme on supporting services: documentation, information and training.

(03419) CILSS-Sahel Institute.

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Regional programme for the improvement of millet, sorghum, cowpeas, and maize (transitional phase).

(03407) CILSS-Sahel Institute.

Research and study programme on the improved management of extensive national rangelands in the Sahel (PGENES).

(03412) CILSS-Sahel Institute.

Research and study programme on the possibility of intensification of fodder and animal production in the framework of an association of agriculture and livestock breeding in Sub-Saharan, Sudanian and Guinean zones.

(03413) CILSS-Sahel Institute.

Research programme on food security, strategies and policies.

(03417) CILSS-Sahel Institute.

Research programme on phylogenetic resources.

(03408) CILSS-Sahel Institute.

Réseau Coton (COTON).

(02082) France; Conférence des Responsables de Recherches Agronomique Africains et Français (CORAF).

Sahelian Information Network (SIN).

(02657) Institute of Sahel (INSAH).

Sub-Saharan Africa hydrological assessment.

(01108) World Bank.

The West and Central Africa Cowpea Collaborative Research Network (RENACO).

(02078) U.S. Agency for International Development (USAID)/Semi-Arid Food Grain Research and Development (SAFGRAD).

West Africa Collaborative Groundnut Research Network.

(02162) International Crops Research Institute for the Semi-Arid Tropics (ICRISAT).

West Africa Maize Collaborative Research Network [Réseau Maïs].

(02156) Conférence des Responsables de Recherche Agronomique Africains.

West Africa Regional Pearl Millet Improvement Program.

(02154) International Crops Research Institute for the Semi-Arid Tropics (ICRISAT Sahel Center).

West and Central Africa Maize Collaborative Research Network (WECAMAN).

(02157) U.S. Agency for International Development (USAID)/Semi-Arid Food Grain Research and Development (SAFGRAD).

West and Central Africa Sorghum Research Network (WCASRN).

(02075) U.S. Agency for International Development (USAID)/Semi-Arid Food Grain Research and Development (SAFGRAD).

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Chile

Draught animals for production/feeding and working strategies for draught animals.
(04/753) Overseas Development Administration (NPRD).

China

International Network for the Improvement of Bananas and Plantains (INIBAP).
(05369) International Network for the Improvement of Bananas and Plantains.
International Network on Soil Fertility and Sustainable Rice Farming (INSURF).
(05370) International Rice Research Institute.
International Rubber Research and Development Board (IRRDB).
(01212) International Rubber Research and Development Board.
International Soybean Program (INTSOY).
(05373) University of Illinois at Urbana-Champaign.
Structure, growth response and system dynamics of virgin and selectively logged
rainforest to silvicultural treatments: Ubeña, the Philippines, Borneo and south
China.
(03858) Bundesanstalt fuer Forst-und Holzwirtschaft (BFH).

Colombia

Tropenbos' Foundation.
(05507) Tropenbos Foundation.
Ascochyta blight research.
(03629) Centro Internacional de Agricultura Tropical (CIAT)/National Agricultural
Research Institutes.
Draught animals for production/feeding and working strategies for draught animal
(04/753) Overseas Development Administration (NPRD).
International Network on Soil Fertility and Sustainable Rice Farming (INSURF).
(05370) International Rice Research Institute.
International Network on the Genetic Enhancement of Rice (INGER).
(05368) International Rice Research Institute.
International Soybean Program (INTSOY).
(05373) University of Illinois at Urbana-Champaign.
Post-harvest assessment of root and tuber crop storage.

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(04834) Overseas Development Administration (NRRD).

Comoros

African Center of Meteorological Applications for Development (ACMAD).
(01109) World Meteorological Organization (WMO).

Reseau Developpement (R/D) [Development Network].
(02653) GRET.

Congo

Africa-wide biological control programme for cassava pests.
(01828) International Fund for Agricultural Development.

African Center of Meteorological Applications for Development (ACMAD).
(01109) World Meteorological Organization (WMO).

Agrosilviculture en zone humide - Congo [Humid zone agrosilvopastoral systems - Congo].
(01289) International Development Research Centre.

Applying science and technology to development.
(01947) U.S. Agency for International Development.

Association Internationale pour l'Optimisation de la Nutrition des Plantes (ANIOP)
[International Association for the Optimization of Plant Nutrition].
(02641) Centre de Cooperation Internationale en Recherche Agronomique pour le
Developpement (CIRAD).

Cassava improvement by reduction of the rate of cyanhydric acid.
(03002) IFS.

Cassava Network [Réseau Manioc].
(02084) Conférence des Responsables de Recherche Agronomique Africains et Français.

Central and West African Root Crops Collaborative Research Network (CEWARRN).
(02166) International Institute of Tropical Agriculture.

Comparison of indigenous and Australian fungi for controlled mycorrhiza of Eucalyptus
in the Congo.
(03378) IFS.

Congo wildlands protection and management.
(04482) Global Environmental Facility; Congo.

Drought resistance of soybean in the Niari valley.
(03238) IFS.

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Drought Resistance Research Network (R3S) [Réseau de Recherche sur la Résistance à la Sécheresse].

(02610) Conférence des Responsables de Recherche Agronomique Africains et Français.

Dynamics of the economically important Meliaceae after exploitation in the moist forest of the People's Republic of Congo.

(03799) Universitaet Goettingen.

Ecological incidence of afforestation in Eucalyptus in the savannah in the region surrounding Brazzaville.

(03379) IFS.

Ecological study of the Bruchidae attacking leguminous plants in the Congo.

(03015) IFS.

Effect of integrated poultry-aquaculture systems in the rural areas of Congo.

(03255) IFS.

Groundnut Network [Réseau Arachide].

(02087) Conférence des Responsables Agronomiques Africains et Français.

Improvement of production from local aquaculture stations.

(03125) IFS.

Improvement of soil fertility under different cultivation systems.

(03063) IFS.

International Rice Testing Program for Africa (IRTP).

(02160) United Nations Development Program (UNDP)/European Economic Commission (EEC)/Japan.

Local pig husbandry (Congo).

(04206) International Development Research Centre.

Micropropagation and in vitro rejuvenation of Terminalia superba.

(05173) International Foundation for Science.

Micropropagation and in vitro rejuvenation of Terminalia superba.

(03195) IFS.

National agricultural extension and adaptive research project.

(01191) World Bank; Congo.

Natural resources management project.

(04367) World Bank; Congo.

Network for Improvement of Rice Cultivation [Réseau Riz].

(02161) Conférence des Responsables de Recherche Agronomique Africains et Français.

Network on management of acid soils in humid Africa (AFFRICALAND - Management of acid

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soils).

(01021) International Board for Soil Research and Management.

Population dynamics and ecology of the grasshopper *Zonocerus variegatus* in the Mayombe region, Congo.

(05486) International Foundation for Science.

Regeneration of the humid forest in Mayombe, Congo.

(03247) IFS.

Regional Tropical Leafy Trees Improvement Program [Programme Regional d'Amelioration des Feuillus Tropicaux (PRAFT)].

(02169) European Economic Commission (EEC).

Reseau Erosion (EROS) [Erosion Network].

(02638) ORSTOM/Institut Francais de Recherche Scientifique pour le Developpement en Cooperation.

Reseau Europeen d'Etude des Laterites (EUROLAT) [European Network on Ferral soils Studies].

(02639) Ministere de la Recherche et de l'Enseignement Superieur, Universite of Strasbourg.

Reseau sur la Conservation Post-Recolte des Denrees Alimentaires (GRENIER) [Network for Post-Harvest Storage of Food Crops].

(02647) Association des Universites Partiellement ou Entierement de Langue Francaise (AUPELF).

Strategies Alimentaires (STRA) [Food Strategies Network].

(02655) ORSTOM/Institut Francais de Recherche Scientifique pour le Developpement en Cooperation.

Strengthening maize and cassava research in eleven countries of West and Central Africa: Plan of action.

(02665) Ministere de la Cooperation (France).

Study of anthracnose and putrefaction of cassava in Congo.

(03052) IFS.

Study of the microbiology and biochemistry of palm wine.

(03198) IFS.

Study on the phytochemistry and microbiology of *syzygium brazzavillense*.

(03302) IFS.

Sub-Saharan Africa hydrological assessment.

(01108) World Bank.

Use of maize residues for biogas production.

(03275) IFS.

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West Afr- 1 Maize Collaborative Research Network (Réseau Maïs);
(02156) Conférence des Responsables de Recherche Agronomique Africains.

West Africa Regional Cooperative for Research on Plantain (WARCORP);
(02167) International Institute of Tropical Agriculture.

Costa Rica

(a) Molecular biology of the interaction(s) between yam (*Dioscorea spec.*) and the fungus *Colletotrichum gloeosporioides*; (b) Isolation of fungal defence genes from yams; (c) DNA fingerprinting of the yam genome.
(05689) Institut fuer Pflanzliche Molekularbiologie, Fachbereich Biologie der Universitaet Frankfurt

International Network for the Improvement of Bananas and Plantains (INIBAP);
(05369) International Network for the Improvement of Bananas and Plantains.

Microbial control of root-knot nematodes
(01814) Overseas Development Administration (NPRD).

Weed problems and weed management in cropping systems.
(03897) Universitaet Hohenheim.

Côte d'Ivoire

Tropenbos Foundation;
(05507) Tropenbos Foundation.

African Center of Meteorological Applications for Development (ACMAD);
(01109) World Meteorological Organization (WMO).

African Research Network for Agricultural By-Products (AFNAB);
(02170) International Development Research Centre (IDRC); International Livestock Centre for Africa (ILCA).

African Small Ruminant Collaborative Research Network
(02620) International Fund for Agricultural Development.

African Small Ruminant Collaborative Research Network (SRNET);
(05812) International Livestock Centre for Africa (ILCA).

Agricultural export promotion;
(04418) World Bank; Côte d'Ivoire.

Agricultural extension;
(03465) World Bank; Côte d'Ivoire.

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Agricultural Machinery Training Project for Irrigated Rice Cultivation.
(05846) Japan International Cooperation Agency.

Agriculture.
(04422) World Bank; Cote d'Ivoire.

Agroeconomic study of cassava in Sub-Saharan Africa.
(01222) Rockefeller Foundation.

Alley Farming Network for Tropical Africa.
(02088) Canadian International Development Agency (CIDA)/International Development Research Centre (IDRC).

An examination of *Dioscorea* spp (yam) for nematode resistance.
(04782) Overseas Development Administration (NRRD).

Applied research programme: Network for Humid Lowlands of West Africa (HULWA-AFRENA).
(02618) International Council for Research in Agroforestry (ICRAF).

Assessment of conditions for replicating production systems in Africa's savanna areas - second stage.
(02098) Centre de Cooperation Internationale en Recherche Agronomique pour le Developpement (CIRAD).

Biochemical markers associated to Fusariosis of oil palm tree: their use in the breeding programmes.
(05448) International Foundation for Science.

Biological control of stem-borers of cereals by use of plant extracts found in the Ivorian pharmacopeia.
(03391) IFS.

Cassava Network [Réseau Manioc].
(02084) Conférence des Responsables de Recherche Agronomique Africains et Français.

Cattle Research Network (CARNET) (formerly Cattle Milk and Meat Network).
(05358) International Livestock Center for Africa.

Center West agricultural development project.
(01604) World Bank; Cote d'Ivoire.

Central and West African Root Crops Collaborative Research Network (CEWARRN).
(02166) International Institute of Tropical Agriculture.

Characterization, evaluation and estimation of the damages due to nematodes, phytoparasites of bananas.
(03736) International Network for the Improvement of Banana and Plantain.

Co-ordinated Research Programme on the Application of Irradiation Technique for Food Processing in Africa.

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(02629) United Nations Food and Agriculture Organization.

Collection, evaluation and genetic improvement of cocoyams.
(03180) IFS.

Developing graduate training in agricultural economics.
(02041) Winrock International.

Développement des recherches menées en zone de forêt dense humide dans le domaine de l'agroforesterie / Development of agroforestry research carried out in the tropical rain forest zone.
(04654) Universitaet Bayreuth.

Doctoral program in Rural Economics at CIREC (Côte d'Ivoire).
(04921) International Development Research Centre.

Drought Resistance Research Network (R3S) [Réseau de Recherche sur la Résistance à la Sécheresse].
(02610) Conférence des Responsables de Recherche Agronomique Africains et Français.

Ecological side-effects of tsetse control in central and northern Ivory Coast.
(04637) Universitaet des Saarlandes.

Evaluation of the technological characteristics of underutilized tree species in Cote d'Ivoire.
(05146) International Foundation for Science.

Evaluation of the technological characteristics of underutilized tree species in Ivory Coast.
(03115) IFS.

Evaluation of tropical lowland forage legumes for sub-humid West Africa at ILCA.
(03779) Universitaet Giessen.

Evaluation of variability in collections of *C. canephora* with regards to a programme for crop improvement.
(05272) International Foundation for Science.

Fertilizer Marketing and Trade Information Program (FMTIP).
(02145) Directorate General for International Cooperation (DGIS); U.S. Agency for International Development (USAID).

Fifth oil palm development project.
(01006) World Bank; Cote d'Ivoire.

Forestry II.
(03463) World Bank; Cote d'Ivoire.

Forestry sector project.
(01192) World Bank; Cote d'Ivoire.

Index of projects by country

Fourth rubber project.

(01003) World Bank, Cote d'Ivoire.

Genetic study of the aubergine cultivars *Solanum aethiopicum* and *S. macrocarpon* and their relation with the wild species *Solanum anguivi* and.

(03193) IFS.

Groundnut Network [Réseau Arachide].

(02087) Conférence des Responsables Agronomiques Africains et Français.

Impact of the most important trees for alley-cropping on soil fertility properties in the Ivory Coast/West Africa.

(04669) Universitaet Bayreuth.

Improvement of the reproductive performance of trypanotolerant cattle and sheep.

(05542) FAO/IAEA.

Improvements of the traditional poultry breeding.

(03093) IFS.

Influence of soil fauna on soil fertility and crops in the Savanna region of Cote d'Ivoire.

(03329) IFS.

International Rice Testing Program for Africa (IRTP).

(02160) United Nations Development Program (UNDP)/European Economic Commission (EEC)/Japan.

International Rubber Research and Development Board (IRRDB).

(01212) International Rubber Research and Development Board.

International Soybean Program (INTSOY).

(05373) University of Illinois at Urbana-Champaign.

Investigation in biological parameters of *Achatina achatina*.

(03806) Universitaet Goettingen.

Investigations on the interaction between trypanosomiasis challenge and nutritional status of Djallonke sheep in the subhumid savanna of West Africa.

(04621) Universitaet Hohenheim.

Livestock.

(04420) World Bank, Cote d'Ivoire.

Local Application of Remote Sensing Techniques (LARST) for forestry management.

(04845) Overseas Development Administration (OFID).

Microbial control of root knot nematodes.

(04864) Overseas Development Administration (OFID).

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Microbial control of root-knot nematodes.

(01814) Overseas Development Administration (NRRD).

National agricultural services.

(02095) World Bank; Cote d'Ivoire.

National environment program.

(01002) World Bank; Cote d'Ivoire.

National environment program (formerly Agriculture).

(04421) World Bank; Cote d'Ivoire.

National resources/management support.

(01185) U.S. Agency for International Development.

Network for Improvement of Rice Cultivation [Réseau Riz].

(02161) Conférence des Responsables de Recherche Agronomique Africains et Français.

Network on land development for sustainable agriculture in Africa (AFRICALAND - Land development).

(02109) International Board for Soil Research and Management.

Network on management of acid soils in humid Africa (AFRICALAND - Management of acid soils).

(01021) International Board for Soil Research and Management.

ONG initiatives (Côte d'Ivoire).

(05318) International Development Research Centre.

Optimal management of aquaculture of pond systems in developing countries.

(01464) Universitaet Kiel.

Peri-urban vegetable production and consumption in Sub-saharan Africa.

(04905) The Asian Vegetable Research and Development Center (AVRDC).

Plantain conservation (Ivory Coast).

(02520) International Development Research Centre.

Plantain physiologie: Maturation and stockage.

(03728) International Network for the Improvement of Banana and Plantain.

Regional Tropical Leafy Trees Improvement Program [Programme Regional d'Amelioration des Feuillus Tropicaux (PRAFT)].

(02169) European Economic Commission (EEC).

Relationships between tree growth, tree nutrition and site in *Tectona grandis* plantation in West Africa.

(04653) Universitaet Bayreuth.

Index of projects by country

Research, coordination, and training for improved livestock production in Sub-Saharan Africa.

(02732) Commission of the European Communities.

Réseau Coton (COTON).

(02082) France; Conference des Responsables de Recherches Agronomique Africains et Français (CORAF).

Reseau Erosion (EROS) [Erosion Network].

(02638) ORSTOM/Institut Français de Recherche Scientifique pour le Développement en Coopération.

Reseau Europeen d'Etude des Laterites (EUROLAT) [European Network on Ferralsols Studies].

(02639) Ministère de la Recherche et de l'Enseignement Supérieur: Université of Strasbourg.

Reseau Femmes et Développement (FEM/DEV) [Women in Development Network].

(02652) ORSTOM/Institut Français de Recherche Scientifique pour le Développement en Coopération.

Reseau sur la Conservation Post-Recolte des Denrees Alimentaires (GRENIER) [Network for Post-Harvest Storage of Food Crops].

(02647) Association des Universités Partiellement ou Entièrement de Langue Française (AUIPELF).

Resistance mechanisms to Anthracnose in yams.

(04804) Overseas Development Administration (NRRD).

Rubber V.

(03464) World Bank; Côte d'Ivoire.

Rural economics research (Côte d'Ivoire).

(05322) International Development Research Centre.

Rural land management project (formerly Land tenure).

(04419) World Bank; Côte d'Ivoire.

SADAOC (Sécurité Alimentaire durable en Afrique de l'Ouest Centrale).

(05662) ECDPM (European Centre for Development Policy Management).

Sero-surveillance of rinderpest and other diseases in Africa, using immunoassay techniques.

(02628) Swedish Agency for Rural Cooperation (SAREC).

Small dams (Côte d'Ivoire).

(04176) International Development Research Centre.

Small grants (WARDA).

(05339) International Development Research Centre.

Index of projects by country

Small rural business management (Côte d'Ivoire).
(05335) International Development Research Centre.

Social Science Interface Research Unit (SSIRU).
(02779) The International Centre of Insect Physiology and Ecology.

Strategies Alimentaires (STRA) [Food Strategies Network].
(02655) ORSTOM/Institut Français de Recherche Scientifique pour le Développement en
Coopération.

Strengthening maize and cassava research in eleven countries of West and Central
Africa: Plan of action.
(02665) Ministère de la Coopération (France).

Striga resistance in rice.
(04805) Overseas Development Administration (NRRD).

Striga resistance in rice.
(05748) Overseas Development Administration (NRRD).

Studies on *Chrysichthys* spp. in relation to productivity.
(02949) IFS.

Studies on cyclicity of indigenous cattle and sheep on the research station.
(04550) International Atomic Energy Agency.

Studies on the feeding of tilapia.
(03090) IFS.

Study of the primary production in the 'acadja-enclos' system.
(03360) IFS.

Study on the nutritive value of some traditional grains in the Ivory Coast.
(03197) IFS.

Sub-Saharan Africa hydrological assessment.
(01108) World Bank.

The characterization of rice growing agro-ecosystems in West Africa (initial phase).
(05601) WSC (Winand Staring Centre for Integrated Land, Soil and Water Research).

The impact of weed management on regulation of rice insect pests by natural enemies in
West Africa.
(04696) Overseas Development Administration (NRRD).

The Livestock Trypanotolerant Network.
(02081) Overseas Development Administration.

The West and Central Africa Cowpea Collaborative Research Network (RENACO).

Index of projects by country

(02078) U.S. Agency for International Development (USAID)/Semi-Arid Food Grain Research and Development (SAFGRAD).

Trypanosomiasis and trypanotolerance in small ruminants in the Ouest-Forestiere region of the Ivory Coast.
(03192) IFS.

Urea injector test.
(04143) Research Institute for Agrobiolgy and Soil Fertility (AB).

Water needs of plantain in Cote d'Ivoire.
(05459) International Foundation for Science.

Weed management in upland rice in West Africa.
(04866) Overseas Development Administration (NRRD).

West Africa Collaborative Groundnut Research Network.
(02162) International Crops Research Institute for the Semi-Arid Tropics (ICRISAT).

West Africa Maize Collaborative Research Network [Réseau Mais].
(02156) Conférence des Responsables de Recherche Agronomique Africains.

West Africa Network on Animal Traction (WAATA).
(02622) Deutsche Gesellschaft fuer Technische Zusammenarbeit (GTZ) Gmb H.

West Africa Regional Cooperative for Research on Plantain (WARCORP).
(02167) International Institute of Tropical Agriculture.

West Africa Regional Pearl Millet Improvement Program.
(02154) International Crops Research Institute for the Semi-Arid Tropics (ICRISAT Sahel Center).

West African Farming Systems Research Network (WAFSRN/RESPAO).
(02619) International Fund for Agricultural Development (IFAD)/Semi-Arid Food Grain Research and Development (SAFGRAD).

West African Fertilizer Management and Evaluation Network (WAFMEN).
(02614) International Development Research Centre (IDRC); United Nations Development Program (UNDP).

West African Forages Network (WAFNET).
(02103) Multilateral Cooperation Division, Economic Cooperation Bureau, MOFA, JAPAN.

West African Rice Information System (WARIS).
(04246) International Development Research Centre.

West and Central Africa Maize Collaborative Research Network (WECAMAN).
(02157) U.S. Agency for International Development (USAID)/Semi-Arid Food Grain Research and Development (SAFGRAD).

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West and Central Africa Sorghum Research Network (WCASRN).
(02075) U.S. Agency for International Development (USAID)/Semi-Arid Food Grain Research and Development (SAFGRAD).

Women and access to land in rural areas (Côte d'Ivoire).
(04946) International Development Research Centre.

Women and cassava (Côte d'Ivoire).
(05321) International Development Research Centre.

Cuba

International Network on Soil Fertility and Sustainable Rice Farming (INSURF).
(05370) International Rice Research Institute.

International Soybean Program (INTSOY).
(05373) University of Illinois at Urbana-Champaign.

Djibouti

African Center of Meteorological Applications for Development (ACMAD).
(01109) World Meteorological Organization (WMO).

Cooperative Programme for the Improvement of Genetic Resources of Multipurpose Woody Species.
(02174) Food and Agriculture Organization of the United Nations.

Sub-Saharan Africa hydrological assessment.
(01108) World Bank.

Dominican Republic

International Network on Soil Fertility and Sustainable Rice Farming (INSURF).
(05370) International Rice Research Institute.

Ecuador

International Soybean Program (INTSOY).
(05373) University of Illinois at Urbana-Champaign.

Egypt

A Feasibility study on establishing an African Centre for Fertilizer Development.
(01684) GTZ (Deutsche Gesellschaft fuer Technische Zusammenarbeit).

Index of projects by country

African Center of Meteorological Applications for Development (ACMAD).
(01109) World Meteorological Organization (WMO).

Association Internationale pour l'Optimisation de la Nutrition des Plantes (A'NIOP)
[International Association for the Optimization of Plant Nutrition].
(02641) Centre de Cooperation Internationale en Recherche Agronomique pour le
Developpement (CIRAD).

Co-ordinated Research Programme on the Application of Irradiation Technique for Food
Processing in Africa.
(02629) United Nations Food and Agriculture Organization.

Improving the Diagnosis and Control of Trypanosomiasis and other Vector-borne Diseases
of African Livestock, using Immunoassay Methods.
(02627) Directorate General for International Cooperation (DGIS).

Improving the Productivity of Indigenous African Livestock using Radioimmunoassay and
related Techniques.
(02621) Directorate General for International Cooperation (DGIS).

National Soil Reference Collections (NASREC II).
(05624) ISRIC (International Soil Reference and Information Centre).

Sero-surveillance of rinderpest and other diseases in Africa, using immunoassay
techniques.
(02628) Swedish Agency for Rural Cooperation (SAREC).

Equatorial Guinea

African Center of Meteorological Applications for Development (ACMAD).
(01109) World Meteorological Organization (WMO).

Central and West African Root Crops Collaborative Research Network (CEWARRN).
(02166) International Institute of Tropical Agriculture.

Crop diversification and agricultural services project.
(01193) World Bank; Equatorial Guinea.

Natural resource management and conservation (formerly Land resources management and
conservation).
(04416) World Bank; Equatorial Guinea.

Sub-Saharan Africa hydrological assessment.
(01108) World Bank.

Ethiopia

African Center of Meteorological Applications for Development (ACMAD).

Index of projects by country

(01109) World Meteorological Organization (WMO).

African Research Network for Agricultural By-Products (ARNAB).
(02170) International Development Research Centre (IDRC); International Livestock Centre for Africa (ILCA).

African Small Ruminant Collaborative Research Network.
(02620) International Fund for Agricultural Development.

African Small Ruminant Collaborative Research Network (SRNET).
(05812) International Livestock Centre for Africa (ILCA).

Agronomic Network for East and Southern Africa.
(02611) United Nations Development Program (UNDP); World Bank.

Alley Farming Network for Tropical Africa.
(02088) Canadian International Development Agency (CIDA)/International Development Research Centre (IDRC).

Animal Traction Research Network.
(05813) International Livestock Centre for Africa (ILCA).

Applied research programme: Eastern and Central African Agroforestry Network for Africa (ECA-AFRENA) - The bimodal highlands.
(02615) International Council for Research in Agroforestry.

Association Internationale pour l'Optimisation de la Nutrition des Plantes (ANIOP) [International Association for the Optimization of Plant Nutrition].
(02641) Centre de Coopération Internationale en Recherche Agronomique pour le Développement (CIRAD).

Cooperative Cereals Research Network (CCRN).
(02171) International Crops Research Institute for the Semi-Arid Tropics.

Cooperative Programme for the Improvement of Genetic Resources of Multipurpose Woody Species.
(02174) Food and Agriculture Organization of the United Nations.

East Africa Regional Cooperative for Research on Bananas (and Ensete) (EARCORBE).
(02168) International Network for the Improvement of Banana and Plantain.

Improving the Productivity of Indigenous African Livestock using Radioimmunoassay and related Techniques.
(02621) Directorate General for International Cooperation (DGIS).

International agricultural research centers: 09 International Livestock Center for Africa (ILCA).
(01967) U.S. Agency for International Development.

Management of vertisols under semi-arid conditions in Africa (MOVUSAC).

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(01022) International Board for Soil Research and Management.

Pan-African Networks for Rural Social Science Research.
(02661) Winrock International; Ford Foundation.

Programme 5: Training - Training for researchers and development planners.
(03710) International Council for Research in Agroforestry.

Public works in Africa to improve food-security.
(04626) Deutsche Gesellschaft fuer technische Zusammenarbeit (GTZ).

Research, coordination, and training for improved livestock production in Sub-Saharan Africa.
(02732) Commission of the European Communities.

Reseau Developpement (R/D) [Development Network].
(02653) GRET.

Sero-surveillance of rinderpest and other diseases in Africa, using immunoassay techniques.
(02628) Swedish Agency for Rural Cooperation (SAREC).

Sidamo/Gamo Gofa peasant agricultural development project.
(01113) African Development Bank.

Small Ruminant and Camel Group Research Network.
(05381) International Livestock Center for Africa.

Small Ruminants and Camel Group.
(02632) Deutsche Gesellschaft fuer Technische Zusammenarbeit (GTZ) GmbH.

Storage of cereals by pastoralists.
(04761) Overseas Development Administration (NRFD).

Strategies Alimentaires (STRA) [Food Strategies Network].
(02655) ORSTOM/Institut Francais de Recherche Scientifique pour le Developpement en Cooperation.

The East and Southern Africa Root Crops Research Network (ESARRN).
(02080) U.S. Agency for International Development (USAID)/International Development Research Centre (IDRC)/International Institute of Tropical Agriculture (IITA).

The Geological Network for Agrominerals in East and Southern Africa.
(02613) United Nations Development Program (UNDP); World Bank.

The Livestock Trypanotolerant Network.
(02081) Overseas Development Administration.

Weed problems and weed management in cropping systems.
(03897) Universitaet Hohenheim.

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Fiji

Strategies for the control of yam anthracnose.
(05797) Overseas Development Administration (NRPD).

France

Cassava Network [Réseau Manioc].
(02084) Conférence des Responsables de Recherche Agronomique Africains et Français.

Cooking bananas and plantains.

(04773) Overseas Development Administration (NRPD).

Draught animals for production/feeding and working strategies for draught animals.

(04733) Overseas Development Administration (NRPD).

Drought Resistance Research Network (R3S) [Réseau de Recherche sur la Résistance à la Sécheresse].

(02610) Conférence des Responsables de Recherche Agronomique Africains et Français.

Groundnut Network [Réseau Arachide].

(02087) Conférence des Responsables Agronomiques Africains et Français.

INIBAP/Taxonomic Linguistic Study of Plantain Cultivars in Africa.

(05649) INIBAP.

International Network for the Improvement of Bananas and Plantains (INIBAP?).

(05369) International Network for the Improvement of Bananas and Plantains.

International Rubber Research and Development Board (IRRDB).

(01212) International Rubber Research and Development Board.

International Soybean Program (INTSOY).

(05373) University of Illinois at Urbana-Champaign.

Network for Improvement of Rice Cultivation [Réseau Riz].

(02161) Conférence des Responsables de Recherche Agronomique Africains et Français.

Réseau Coton (COTON).

(02082) France; Conférence des Responsables de Recherches Agronomique Africains et Français (CORAF?).

Gabon

African Center of Meteorological Applications for Development (ACMAD).
(01109) World Meteorological Organization (WMO).

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Agricultural services (formerly Agriculture).
(04417) World Bank; Gabon.

Bioecological study of *Phenacoccus manihoti*, an insect attacking cassava in Gabon.
(03155) IFS.

Bioecological study of *Phenacoccus manihoti*, an insect attacking cassava in Gabon.
(05161) International Foundation for Science.

Cassava Network [Réseau Manioc].
(02084) Conférence des Responsables de Recherche Agronomique Africains et Français.

Central and West African Root Crops Collaborative Research Network (CEWARRN).
(02166) International Institute of Tropical Agriculture.

Forestry/environment.
(04343) World Bank; Gabon.

INIBAP/Taxonomic Linguistic Study of Plantain Cultivars in Africa.
(05649) INIBAP.

Network for Improvement of Rice Cultivation [Réseau Riz].
(02161) Conférence des Responsables de Recherche Agronomique Africains et Français.

Reseau sur la Conservation Post-Recolte des Denrees Alimentaires (GREMIER) [Network for Post-Harvest Storage of Food Crops].
(02647) Association des Universites Partiellement ou Entierement de Langue Francaise (AUPELF).

Strategies Alimentaires (STRA) [Food Strategies Network].
(02655) ORSTOM/Institut Francais de Recherche Scientifique pour le Developpement en Cooperation.

Strengthening maize and cassava research in eleven countries of West and Central Africa: Plan of action.
(02665) Ministere de la Cooperation (France).

Sub-Saharan Africa hydrological assessment.
(01108) World Bank.

The Livestock Trypanotolerant Network.
(02081) Overseas Development Administration.

Vegetative reproduction techniques for Okoume (*Aucoumea klaineana*): cuttings and grafting.
(03273) IFS.

West Africa Maize Collaborative Research Network [Réseau Maïs].
(02156) Conférence des Responsables de Recherche Agronomique Africains.

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West Africa Regional Cooperative for Research on Plantain (WARCORP).
(02157) International Institute of Tropical Agriculture.

Gambia

(05849) West Africa Rice Development Association (WARDA).

(05850) West Africa Rice Development Association (WARDA).

(05851) West Africa Rice Development Association (WARDA).

(05852) West Africa Rice Development Association (WARDA).

African Center of Meteorological Applications for Development (ACMAD).
(01109) World Meteorological Organization (WMO).

African Research Network for Agricultural By-Products (ARNAB).
(02170) International Development Research Centre (IDRC); International Livestock
Centre for Africa (ILCA).

Agriculture Hydrologie-Meteorologie.
(02634) Centre Regional de Formation et d'Application en Agrometeorologie et Hydrologie
(AGRIHYMET).

Central and West African Root Crops Collaborative Research Network (CEWARRN).
(02166) International Institute of Tropical Agriculture.

Cooperative Cereals Research Network (CCRN).
(02171) International Crops Research Institute for the Semi-Arid Tropics.

Cooperative Programme for the Improvement of Genetic Resources of Multipurpose Woody
Species.
(02174) Food and Agriculture Organization of the United Nations.

Crop protection programme.
(03409) CILSS-Sahel Institute.

Drought Resistance Research Network (R3S) [Réseau de Recherche sur la Résistance à la
Sécheresse].
(02610) Conférence des Responsables de Recherche Agronomique Africains et Français.

Ecological monitoring of the dynamics of desertification.
(03415) CILSS-Sahel Institute.

Ecology/environment programme: reforestation and conservation of the forestry
resources.
(03416) CILSS-Sahel Institute.

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Identification and monitoring of African weather regimes - Phase I West Africa.
(04725) Overseas Development Administration (NRRD).

Improvements to millet, sorghum, cowpea, and maize crops in the Sahel.
(02728) Commission of the European Communities.

Improving the Diagnosis and Control of Trypanosomiasis and other Vector-borne Diseases of African Livestock, using Immunoassay Methods.
(01227) Directorate General for international Cooperation (DGIS).

Improvement of productivity and control of diseases of small ruminants.
(03414) CILSS-Sahel Institute.

International Rice Testing Program for Africa (IRTP).
(02122) United Nations Development Program (UNDP)/European Economic Commission (EEC)/Japan.

Mangrove Swamp Rice Network (MSRN).
(05823) West Africa Rice Development Association (WARDA).

Monitoring of renewable natural resources in the Sahel.
(02739) Commission of the European Communities.

Pathology of small ruminants: etiology, vaccines and prophylaxis.
(03411) CILSS-Sahel Institute.

Programme for the strengthening of research on production systems.
(03418) CILSS-Sahel Institute.

Programme on supporting services: documentation, information and training.
(03419) CILSS-Sahel Institute.

Regional programme for the improvement of millet, sorghum, cowpeas, and maize (transitional phase).
(03407) CILSS-Sahel Institute.

Research and study programme on the improved management of extensive national rangelands in the Sahel (PGENES).
(03412) CILSS-Sahel Institute.

Research and study programme on the possibility of intensification of fodder and animal production in the framework of an association of agriculture and livestock breeding in Sub-Saharan, Sudanian and Guinean zones.
(03413) CILSS-Sahel Institute.

Research programme on food security, strategies and policies.
(03417) CILSS-Sahel Institute.

Research programme on phylogenetic resources.
(03408) CILSS-Sahel Institute.

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Sahelian Information Network (SIN).
(02657) Institute of Sahel (INSAH).

Sub-Saharan Africa hydrological assessment.
(01108) World Bank.

The Livestock Trypanotolerant Network.
(02081) Overseas Development Administration.

The West and Central Africa Cowpea Collaborative Research Network (RENACO).
(02078) U.S. Agency for International Development (USAID)/Semi-Arid Food Grain Research and Development (SAFGRAD).

West Africa Collaborative Groundnut Research Network.
(02162) International Crops Research Institute for the Semi-Arid Tropics (ICRISAT).

West Africa Regional Pearl Millet Improvement Program.
(02154) International Crops Research Institute for the Semi-Arid Tropics (ICRISAT Sahel Center).

West African Farming Systems Research Network (WAFSRN/RESPAO).
(02619) International Fund for Agricultural Development (IFAD)/Semi-Arid Food Grain Research and Development (SAFGRAD).

West African Fertilizer Management and Evaluation Network (WAFMEN).
(02614) International Development Research Centre (IDRC); United Nations Development Program (UNDP).

West and Central Africa Maize Collaborative Research Network (WECAMAN).
(02157) U.S. Agency for International Development (USAID)/Semi-Arid Food Grain Research and Development (SAFGRAD).

West and Central Africa Sorghum Research Network (WCASRN).
(02075) U.S. Agency for International Development (USAID)/Semi-Arid Food Grain Research and Development (SAFGRAD).

Germany

Control of *Zonocerus variegatus*.
(03825) Universität Freiburg.

Improving water management in the semi-arid region of Cameroon.
(03802) Bundesministerium fuer Wirtschaftliche Zusammenarbeit/Federal Ministry for Economic Cooperation (BMZ).

Locust and grasshopper control by application of neem products.
(03848) Justus-Liebig Universität Giessen.

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Ghana

Africa-wide biological control programme for cassava pests.
(01828) International Fund for Agricultural Development.

Agricultural credit for development in the Upper West Region of Ghana.
(04607) Universitaet Giessen.

Agricultural diversification project.
(02026) World Bank; Ghana.

Agricultural extension (formerly National agricultural extension project).
(03429) World Bank; Ghana.

Agricultural marketing.
(04426) World Bank; Ghana.

Agricultural sector.
(04425) World Bank; Ghana.

Agricultural sector adjustment (formerly Agricultural SECAL).
(04424) World Bank; Ghana.

Agricultural services rehabilitation project.
(01105) World Bank; Ghana.

Agroeconomic study of cassava in Sub-Saharan Africa.
(01222) Rockefeller Foundation.

Agroforestry systems in the Tropics.
(03859) Gesellschaft fuer Technische Zusammenarbeit (GTZ).

Alley Farming Network for Tropical Africa.
(02088) Canadian International Development Agency (CIDA)/International Development Research Centre (IDRC).

Anti-diabetic traditional medicinal plants: metabolic effects.
(02953) IFS.

Anti-microbial activity of fermented Ghanaian maize dough.
(05466) International Foundation for Science.

Applied research programme: Network for Humid Lowlands of West Africa (HULWA-AFFRENA).
(02618) International Council for Research in Agroforestry (ICRAF).

Assessing operator exposure.
(04881) Overseas Development Administration.

By-products (Ghana).
(04929) International Development Research Centre.

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Cage feeding to study digestibility and conversion rate of some formulated feeds for *Tilapia discolor* in Lake Busumtwi.
(02968) IFS.

Cage feeding to study digestibility and conversion rate of some formulated feeds for *Tilapia discolor* in Lake Busumtwi.
(05115) International Foundation for Science.

Cattle Research Network (CARNET) (formerly Cattle Milk and Meat Network).
(05358) International Livestock Center for Africa.

Causes, effects and control of biodeterioration.
(04739) Overseas Development Administration (NRRD).

Central and West African Root Crops Collaborative Research Network (CEWARRN).
(02166) International Institute of Tropical Agriculture.

Co-ordinated Research Programme on the Application of Irradiation Technique for Food Processing in Africa.
(02629) United Nations Food and Agriculture Organization.

Cocoa rehabilitation project.
(01010) World Bank; Ghana.

Corn dough fermentation to produce kenkey, porridge and other Ghanaian dishes.
(02940) IFS.

Decontamination of mycotoxin-containing foods and feeds with bacteria or with bacterial metabolites.
(05735) Institut fuer Hygiene und Toxikologie der Bundesforschungsanstalt Ernaehrung, Karlsruhe.

Degradation of sawdust and the potential of the degraded product for growing vegetables.
(05286) International Foundation for Science.

Development and utilisation of plant derived insecticides with special reference to components from the Neem tree and *Jatropha* species.
(03199) IFS.

Development and utilisation of plant derived insecticides with special reference to components from the Neem tree and *Jatropha* species.
(05174) International Foundation for Science.

Development of equipment and methods for continuous production of bacterial antigens within a closed bioreactor system.
(03938) Institut fuer Pflanzenbau und Tierhygiene in den Tropen und Subtropen, Universitaet Goettingen.

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Effects of processing on distribution and destruction of mycotoxins.
(04737) Overseas Development Administration (NRRD).

Effects of solar radiation on cyanobacteria: Effects of increased UV-B solar radiation (ozone destruction) on cyanobacteria which are important for nitrogen fixation for higher plants.
(03958) Universitaet Erlangen.

Environmental resource management (formerly Environment).
(04362) World Bank; Ghana.

Epidemiology of gastrointestinal parasites of lambs.
(05482) International Foundation for Science.

Estimation of monthly runoff data on the basis of multispectral satellite imagery.
(03795) Universitaet Bochum.

Ethnobotanic investigation of plants used by the Ghanaian traditional healers in curing diseases.
(02943) IFS.

Extraction of fungal toxicants from three Ghanaian plants and utilization of such in controlling foliar plant pathogens.
(03388) IFS.

Fertilizer Marketing and Trade Information Program (FMTIP).
(02145) Directorate General for International Cooperation (DGIS); U.S. Agency for International Development (USAID).

Food processing (McGill/Ghana).
(05347) International Development Research Centre.

Forest resource management project.
(01195) World Bank; Ghana.

Forestry.
(04364) World Bank; Ghana.

Ghana : Effect of climate and soil on distribution and regeneration of timber trees.
(04727) Overseas Development Administration (NRRD).

Ghana : Sustainability of economic activities based on non-timber forest products.
(04893) Overseas Development Administration (NRRD).

Ghana grains development project - Phase III.
(02104) Canadian International Development Agency.

Global 2000 - Sasakawa Africa initiative agriculture project.
(01291) Global 2000 Found.

Index of projects by country

Identification and monitoring of African weather regimes - Phase I West Africa.
(04726) Overseas Development Administration (NRRD).

Identification of Bacteria through analysis of metabolic products and cell components
by means of Gas Liquid Chromatography (GLC).
(03786) Institute for Tropical Animal Health, University Goettingen.

Identifying the constraints on livestock productivity and land use in Africa brought
about by livestock including the tsetse transmitted Trypanosomiasis.
(05798) Overseas Development Administration (NRRD).

Improvements to rural oilseed processing in Africa.
(04699) Overseas Development Administration (NRRD).

Improving the Diagnosis and Control of Trypanosomiasis and other Vector-borne Diseases
of African Livestock, using Immunoassay Methods.
(02627) Directorate General for International Cooperation (DGIS).

Improving the Productivity of Indigenous African Livestock using Radioimmunoassay and
related Techniques.
(02621) Directorate General for International Cooperation (DGIS).

International Rice Testing Program for Africa (IRTP).
(02160) United Nations Development Program (UNDP)/European Economic Commission
(EEC)/Japan.

Investigating the suitability of solid state fermentation (tempe) of various legumes
and legume cereal mixtures in Ghana.
(03339) IFS.

Investigation of the susceptibility to infestation of some newly introduced Ghanaian
maize varieties to *Sitophilus zeamais*.
(03241) IFS.

Investigations in production and reproduction records and their interrelationship with
environmental factors in Diallonke sheep in Ghana.
(01443) Deutsche Forschungsgemeinschaft (DFG).

Investigations of requirements for a new technique of large scale cocoa fermentation
adapted to local conditions in Ghana.
(02884) Commission of the European Communities.

Investigations on stockburn in sub-Saharan Africa.
(04688) Overseas Development Administration (NRRD).

Isolation and utilization of essential oils.
(02955) IFS.

Labour investment in perennial crop production.
(04830) Overseas Development Administration (NRRD).

Index of projects by country

Livestock (formerly Livestock services).
(03421) World Bank; Ghana.

Low cost cassava root storage technology - adaptive transfer from Latin America and field testing in Sub-Saharan Africa.
(05767) Overseas Development Administration (NRRD).

Low-cost fruit and vegetable drying for small-scale rural enterprise development.
(05745) Overseas Development Administration (NRRD).

Management of vertisols under semi-arid conditions in Africa (MOVUSAC).
(01022) International Board for Soil Research and Management.

Managing the African honey bee.
(03368) IFS.

Methodologies for better technology transfer.
(04783) Overseas Development Administration (NRRD).

National agricultural research project.
(01332) World Bank; Ghana.

National Soil Reference Collections (NASREC II).
(05624) ISRIC (International Soil Reference and Information Centre).

Network on land development for sustainable agriculture in Africa (AFRICALAND - Land development).
(02109) International Board for Soil Research and Management.

Network on management of acid soils in humid Africa (AFRICALAND - Management of acid soils).
(01021) International Board for Soil Research and Management.

Nitrogen and the control of Striga.
(05804) Overseas Development Administration (NRRD).

Nitrogen fixation, utilization and Bradyrhizobium interstrain competition in intercropping systems.
(03401) IFS.

No dumping here: Control of pesticides in developing countries.
(05422) International Development Research Centre.

Nuclear Agriculture Centre.
(04552) International Atomic Energy Agency.

Nyankpala agricultural experiment station, Tamale.
(01425) Gesellschaft fuer Technische Zusammenarbeit (GTZ).

Index of projects by country

Oil palm development project - Phase II.

(03474) World Bank; Ghana.

Optimal management of aquaculture of pond systems in developing countries.

(01464) Universitaet Kiel.

Pan-African Networks for Rural Social Science Research.

(02661) Winrock International; Ford Foundation.

Pharmacological and toxicological studies of the alkaloid cryptolepine and its modifications in animal models.

(03111) IFS.

Phosphorus availability (SIP/Ghana/Brazil) - Phase II.

(04209) International Development Research Centre.

Plantain (Ghana).

(04192) International Development Research Centre.

Pond culture (Ghana).

(02501) International Development Research Centre.

Post-harvest assessment of root and tuber crop storage.

(04834) Overseas Development Administration (NRRD).

Production of bacterial vaccines in a continuous bioreactor with subsequent purification of antigen through ultrafiltration.

(03785) Institute for Tropical Animal Health, University Goettingen.

Programme 2B: On-farm research - Analysis of interactions and impact of agroforestry practices.

(03700) International Council for Research in Agroforestry.

Programme of Support to Promote Grassroots Participatory Rural Development in Kadjebi-district.

(05661) SNV (Netherlands Development Organization).

Reconnaissance / preparation study on forestry biotechnology in the drought-prone Sub-Saharan African countries, with special reference to Sahelian and Sudanian zones (SSZ).

(02094) World Bank.

Regional Tropical Leafy Trees Improvement Program [Programme Regional d'Amelioration des Feuillus Tropicaux (PRAFT)].

(02169) European Economic Commission (EEC).

SADAOC (Securite Alimentaire durable en Afrique de l'Ouest Centrale).

(05662) ECDFPM (European Centre for Development Policy Management).

Sero-surveillance of rinderpest and other diseases in Africa, using immunoassay

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techniques.

(02628) Swedish Agency for Rural Cooperation (SAREC).

Small scale irrigation.

(04363) World Bank; Ghana.

Soil Fertility Restoration Project (SFRP).

(02143) International Fertilizer Development Center, Africa (IFDC-Africa).

Soybean utilization (IITA) - Phase II.

(04182) International Development Research Centre.

Strengthening maize and cassava research in eleven countries of West and Central Africa: Plan of action.

(02665) Ministere de la Cooperation (France).

Sub-Saharan Africa hydrological assessment.

(01108) World Bank.

Sustainable agroforestry (Brandon/Ghana/Philippines).

(04948) International Development Research Centre.

Sustainable use of natural resources? Case study on the dynamics of land use in Northern Ghana.

(05705) Institut fuer Agrarökonomie der Universität Göttingen.

The Development of Practices for Area-wide Tsetse Eradication with emphasis on the Sterile Insect Technique.

(02626) United Nations Food and Agriculture Organization.

The role of the renewable natural resources sector in the generation of sustainable livelihoods in developing countries.

(05792) Overseas Development Administration (NRPAD).

The West and Central Africa Cowpea Collaborative Research Network (RENACO).

(02078) U.S. Agency for International Development (USAID)/Semi-Arid Food Grain Research and Development (SAFGRAD).

U.S./Israel program for cooperative development research.

(01949) U.S. Agency for International Development.

Vegetable improvement: processing and fresh market tomato breeding.

(02970) IFS.

Village self-help projects (Ghana).

(05320) International Development Research Centre.

West Africa Collaborative Groundnut Research Network.

(02162) International Crops Research Institute for the Semi-Arid Tropics (ICRISAT).

Index of projects by country

West Africa Network on Animal Traction (WAATA).
(02622) Deutsche Gesellschaft fuer Technische Zusammenarbeit (GTZ) Gmb H.

West Africa Regional Cooperative for Research on Plantain (WARCORP).
(02167) International Institute of Tropical Agriculture.

West Africa Regional Pearl Millet Improvement Program.
(02154) International Crops Research Institute for the Semi-Arid Tropics (ICRISAT Sahel Center).

West African Farming Systems Research Network (WAFSRN/RESPAO).
(02619) International Fund for Agricultural Development (IFAD)/Semi-Arid Food Grain Research and Development (SAFGRAD).

West African Fertilizer Management and Evaluation Network (WAFMEN).
(02614) International Development Research Centre (IDRC); United Nations Development Program (UNDP).

West African Forages Network (WAFNET).
(02103) Multilateral Cooperation Division, Economic Cooperation Bureau, MOFA, JAPAN.

West and Central Africa Maize Collaborative Research Network (WECAMAN).
(02157) U.S. Agency for International Development (USAID)/Semi-Arid Food Grain Research and Development (SAFGRAD).

West and Central Africa Sorghum Research Network (WCASRN).
(02075) U.S. Agency for International Development (USAID)/Semi-Arid Food Grain Research and Development (SAFGRAD).

Women's knowledge, management and control of seed genetic resources.
(04261) International Development Research Centre.

Global

Tropenbos' Foundation.
(05507) Tropenbos Foundation.

(a) Molecular biology of the interaction(s) between yam (*Dioscorea spec.*) and the fungus *Colletotrichum gloeosporioides*; (b) Isolation of fungal defence genes from yams; (c) DNA fingerprinting of the yam genome.
(05689) Institut fuer Pflanzliche Molekularbiologie, Fachbereich Biologie der Universitaet Frankfurt.

Africa-wide biological control programme for cassava pests.
(01828) International Fund for Agricultural Development.

An integrated research programme on the development of biological pesticides for locust and grasshopper control.
(01546) U.S. Agency for International Development.

Index of projects by country

Applying science and technology to development.

(01947) U.S. Agency for International Development.

Ascochyta blight research.

(03629) Centro Internacional de Agricultura Tropical (CIAT)/National Agricultural Research Institutes.

Association Internationale pour l'Optimisation de la Nutrition des Plantes (ANIOP)

[International Association for the Optimization of Plant Nutrition].

(02641) Centre de Cooperation Internationale en Recherche Agronomique pour le Developpement (CiRAD).

Biological integrated control of the larger grain borer, *Prostephanus truncatus* Horn.

(03907) Institut fuer Phytopathologie, Arbeitsgruppe Vorrat, Universitaet Kiel.

Cassava Network [Réseau Manioc].

(02084) Conférence des Responsables de Recherche Agronomique Africains et Français.

Causes, effects and control of biodeterioration.

(04739) Overseas Development Administration (NRRD).

Collaborative Research Support Program (CRSP): Beans and cowpeas.

(01345) U.S. Agency International Development (USAID)/Michigan State University.

Collaborative Research Support Program (CRSP): Peanuts.

(01341) U.S. Agency for International Development (USAID)/University of Georgia.

Collaborative Research Support Program (CRSP): Soils management (TROPISOILS).

(01346) U.S. Agency for International Development (USAID)/North Carolina State University.

Common Property Resource Network.

(05360) University of Minnesota at Minneapolis St. Paul.

Cooking bananas and plantains.

(04773) Overseas Development Administration (NRRD).

Development of equipment and methods for continuous production of bacterial antigens within a closed bioreactor system.

(03938) Institut fuer Pflanzenbau und Tierhygiene in den Tropen und Subtropen, Universitaet Goettingen.

Development of rapid tests for identification and differentiation of yarn viruses.

(04900) Overseas Development Administration (NRRD).

Draught animals for production/feeding and working strategies for draught animals.

(04753) Overseas Development Administration (NRRD).

Drought Resistance Research Network (R3S) [Réseau de Recherche sur la Résistance à la

Index of projects by country

Sécheresse].

(02610) Conférence des Responsables de Recherche Agronomique Africains et Français.

Effects of solar radiation on cyanobacteria: Effects of increased UV-B solar radiation (ozone destruction) on cyanobacteria which are important for nitrogen fixation for higher plants.

(03958) Universitaet Erlangen.

Feeding and management strategies for draught animals.

(01820) Overseas Development Administration (NRRD).

Genome analysis of banana and plantain (*Musa* spp.) and the black Sigatoka fungus *Mycosphaerella fijiensis*.

(05691) Institut fuer Pflanzliche Molekularbiologie, Fachbereich Biologie der Universitaet Frankfurt.

Groundnut Network [Réseau Arachide].

(02087) Conférence des Responsables Agronomiques Africains et Français.

International Benchmark Soils Network for Agro-technology Transfer (IBSNAT).

(02635) U.S. Agency for International Development.

International Network for the Improvement of Bananas and Plantains (INIBAP).

(05369) International Network for the Improvement of Bananas and Plantains.

International Network on Soil Fertility and Sustainable Rice Farming (INSURF).

(05370) International Rice Research Institute.

International Network on the Genetic Enhancement of Rice (INGER).

(05368) International Rice Research Institute.

International Pearl Millet Adaptation Trial (IPMAT).

(05375) International Crops Research Institute for the Semi-Arid Tropics.

International Pearl Millet Disease Resistance Testing Program (IPMDRTP).

(05376) International Crops Research Institute for the Semi-Arid Tropics.

International Rubber Research and Development Board (IRRDB).

(01212) International Rubber Research and Development Board.

International Soybean Program (INTSOY).

(05373) University of Illinois at Urbana-Champaign.

Investigations on stackburn in sub-Saharan Africa.

(04688) Overseas Development Administration (NRRD).

Labour investment in perennial crop production.

(04830) Overseas Development Administration (NRRD).

Local Application of Remote Sensing Techniques (LARST) for forestry management.

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(04845) Overseas Development Administration (NRRD).

Low-cost fruit and vegetable drying for small-scale rural enterprise development.

(05745) Overseas Development Administration (NRRD).

Microbial control of root-knot nematodes.

(01814) Overseas Development Administration (NRRD).

Network for Improvement of Rice Cultivation [Réseau Riz].

(02161) Conférence des Responsables de Recherche Agronomique Africains et Français.

No dumping here: Control of pesticides in developing countries.

(05422) International Development Research Centre.

Optimal management of aquaculture of pond systems in developing countries.

(01464) Universitaet Kiel.

Phosphorus availability (SIP/Ghana/Brazil) - Phase II.

(04209) International Development Research Centre.

Post-harvest assessment of root and tuber crop storage.

(04834) Overseas Development Administration (NRRD).

Regional Tropical Leafy Trees Improvement Program [Programme Regional d'Amelioration des Feuillus Tropicaux (FRAFT)].

(02169) European Economic Commission (EEC).

Réseau Coton (COTON).

(02082) France; Conférence des Responsables de Recherches Agronomique Africains et Français (CORAF).

Socio-economic assessment of biotechnologies for small farmers.

(04707) Overseas Development Administration (NRRD).

Strategies for the control of yam anthracnose.

(05797) Overseas Development Administration (NRRD).

Structure, growth response and system dynamics of virgin and selectively logged rainforest to silvicultural treatments: Liberia, the Philippines, Borneo and south China.

(03858) Bundesanstalt fuer Forst-und Holzwirtschaft (BFH).

Sustainable agroforestry (Brandon/Ghana/Philippines).

(04948) International Development Research Centre.

Urea injector test.

(04143) Research Institute for Agrobiolgy and Soil Fertility (AB).

Weed problems and weed management in cropping systems.

(03897) Universitaet Hohenheim.

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Guadeloupe

International Network for the Improvement of Bananas and Plantains (INIBAP).
(05369) International Network for the Improvement of Bananas and Plantains.

Guinea

(05849) West Africa Rice Development Association (WARDA).

(05850) West Africa Rice Development Association (WARDA).

(05851) West Africa Rice Development Association (WARDA).

(05852) West Africa Rice Development Association (WARDA).

African Center of Meteorological Applications for Development (ACMAD).
(01109) World Meteorological Organization (WMO).

Agricultural services (formerly Second agricultural services project).
(01197) World Bank; Guinea.

Agriculture sector restructuring.
(03660) U.S. Agency for International Development.

Aromatic extracts (Guinea).
(04953) International Development Research Centre.

Cassava Network [Réseau Manioc].
(02084) Conférence des Responsables de Recherche Agronomique Africains et Français.

Cattle Research Network (CARNET) (formerly Cattle Milk and Meat Network).
(05358) International Livestock Center for Africa.

Central and West African Root Crops Collaborative Research Network (CEWARFN).
(02166) International Institute of Tropical Agriculture.

Drought Resistance Research Network (R3S) [Réseau de Recherche sur la Résistance à la Sécheresse].
(02610) Conférence des Responsables de Recherche Agronomique Africains et Français.

Ecological and biological study of *Cricetomys* sp: evaluation of its reproductive potential in the Peninsula of Kaloum.
(03179) IFS.

First agricultural services project.
(01137) World Bank; Guinea.

Index of projects by country

Forestry and fishery management.
(01196) World Bank; Guinea.

Groundnut Network [Réseau Arachide].
(02087) Conférence des Responsables Agronomiques Africains et Français.

Gueckedou agricultural development project.
(01136) World Bank; Guinea.

Increased groundnut cultivation and seed production in Guinea.
(03310) IFS.

Influences of mineral and organic dressing on plantain cultivation, identification of cultivars and production in arid zones.
(03732) International Network for the Improvement of Banana and Plantain.

Intensifying cultivation of groundnut and pigeon pea, leguminous crops of potential value for small holders in Guinea.
(05269) International Foundation for Science.

Mangrove Swamp Rice Network (MSRN).
(05848) West Africa Rice Development Association (WARDA).

Monitoring of renewable natural resources in the Sahel.
(02739) Commission of the European Communities.

National agricultural export promotion project (Export crop, formerly Agricultural export promotion, formerly Export crops).
(01017) World Bank; Guinea.

National research and extension project.
(01139) World Bank; Guinea.

National seeds project.
(01678) World Bank; Guinea.

Natural resources management.
(03661) U.S. Agency for International Development.

Network for Improvement of Rice Cultivation [Réseau Riz].
(02161) Conférence des Responsables de Recherche Agronomique Africains et Français.

Nutrition and crop protection.
(03737) International Network for the Improvement of Banana and Plantain.

Rural environment management (formerly Environmental protection program, formerly Natural resources management).
(02096) World Bank; Guinea.

Small holder productivity.

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(01896) U.S. Agency for International Development.

Smallholder production.
(01850) U.S. Agency for International Development.

Strengthening maize and cassava research in eleven countries of West and Central Africa: Plan of action.
(02665) Ministère de la Coopération (France).

Sub-Saharan Africa hydrological assessment.
(01108) World Bank.

The effect of strategic supplementary feeding on growth and reproduction of NDama cattle.
(04646) Justus von Liebig Universität Gießen.

The West and Central Africa Cowpea Collaborative Research Network (RENACO).
(02078) U.S. Agency for International Development (USAID)/Semi-Arid Food Grain Research and Development (SAFGRAD).

U.S./Israel program for cooperative development research.
(01949) U.S. Agency for International Development.

West Africa Maize Collaborative Research Network [Réseau Maïs].
(02156) Conférence des Responsables de Recherche Agronomique Africains.

West Africa Regional Cooperative for Research on Plantain (WARCORP).
(02167) International Institute of Tropical Agriculture.

West African Fertilizer Management and Evaluation Network (WAFMEN).
(02614) International Development Research Centre (IDRC); United Nations Development Program (UNDP).

West and Central Africa Maize Collaborative Research Network (MECAMAN).
(02157) U.S. Agency for International Development (USAID)/Semi-Arid Food Grain Research and Development (SAFGRAD).

West and Central Africa Sorghum Research Network (WCASRN).
(02075) U.S. Agency for International Development (USAID)/Semi-Arid Food Grain Research and Development (SAFGRAD).

Guinea-Bissau

(05849) West Africa Rice Development Association (WARDA).

(05850) West Africa Rice Development Association (WARDA).

(05851) West Africa Rice Development Association (WARDA).

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(05852) West Africa Rice Development Association (WARDA).

African Center of Meteorological Applications for Development (ACMAD).

(01109) World Meteorological Organization (WMO).

Agricultural sector development.

(02030) World Bank; Guinea-Bissau.

Agricultural services.

(05399) World Bank; Guinea-Bissau.

Agricultural services.

(05400) World Bank; Guinea-Bissau.

Agriculture Hydrologie-Meteorologie.

(02634) Centre Regional de Formation et d'Application en Agrometeorologie et Hydrologie (AGRHYMET).

Alley Farming Network for Tropical Africa.

(02088) Canadian International Development Agency (CIDA)/International Development Research Centre (IDRC).

Central and West African Root Crops Collaborative Research Network (CEWARRN).

(02166) International Institute of Tropical Agriculture.

Cooperative Programme for the Improvement of Genetic Resources of Multipurpose Woody Species.

(02174) Food and Agriculture Organization of the United Nations.

Crop protection programme.

(03409) CILSS-Sahel Institute.

Developpement Bas Fonds de Riz production Bafata.

(05600) SNV (Association Neerlandais d'Assistance au Developpement).

Drought Resistance Research Network (R3S) [Réseau de Recherche sur la Résistance à la Sécheresse].

(02610) Conférence des Responsables de Recherche Agronomique Africains et Français.

Ecological monitoring of the dynamics of desertification.

(03415) CILSS-Sahel Institute.

Ecology/environment programme: reforestation and conservation of the forestry resources.

(03416) CILSS-Sahel Institute.

Improvements to millet, sorghum, cowpea, and maize crops in the Sahel.

(02738) Commission of the European Communities.

Increase of productivity and control of diseases of small ruminants.

Index of projects by country

- (03410) CILSS-Sahel Institute.
- International Rice Testing Program for Africa (IFITP).
(02160) United Nations Development Program (UNDP)/European Economic Commission (EEC)/Japan.
- Mangrove Swamp Rice Network (MSRN).
(05848) West Africa Rice Development Association (WARDA).
- Monitoring of renewable natural resources in the Sahel
(02739) Commission of the European Communities.
- Natural resources management (formerly Agricultural rural resources and forestry).
(04344) World Bank; Guinea-Bissau.
- Pathology of small ruminants: etiology, vaccines and prophylaxis.
(03411) CILSS-Sahel Institute.
- Programme for the strengthening of research on production systems.
(03418) CILSS-Sahel Institute.
- Programme on supporting services: documentation, information and training.
(03419) CILSS-Sahel Institute.
- Projecto Agro-Silvo-pastoral do Leste Baía de (I + II).
(05631) SNV (Netherlands Development Cooperation).
- Regional programme for the improvement of millet, sorghum, cowpeas, and maize (transitional phase).
(03407) CILSS-Sahel Institute.
- Research and study programme on the improved management of extensive national rangelands in the Sahel (PGENES).
(03412) CILSS-Sahel Institute.
- Research and study programme on the possibility of intensification of fodder and animal production in the framework of an association of agriculture and livestock breeding in Sub-Sahelian, Sudanian and Guinean zones.
(03413) CILSS-Sahel Institute.
- Research programme on food security, strategies and r
(03417) CILSS-Sahel Institute.
- Research programme on phylogenetic resources.
(03408) CILSS-Sahel Institute.
- Rice production II.
(01886) U.S. Agency for International Development.
- Sahelian Information Network (SIN).

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(02657) Institute of Sahel (INSAH).

Sub-Saharan Africa hydrological assessment.

(01108) World Bank.

The West and Central Africa Cowpea Collaborative Research Network (RENACO).

(02078) U.S. Agency for International Development (USAID)/Semi-Arid Food Grain Research and Development (SAFGRAD).

West Africa Regional Cooperative for Research on Plantain (WARCORP).

(02167) International Institute of Tropical Agriculture.

West and Central Africa Maize Collaborative Research Network (WECAMAN).

(02157) U.S. Agency for International Development (USAID)/Semi-Arid Food Grain Research and Development (SAFGRAD).

West and Central Africa Sorghum Research Network (WCASRN).

(02075) U.S. Agency for International Development (USAID)/Semi-Arid Food Grain Research and Development (SAFGRAD).

Guyana

Tropenbos' Foundation.

(05507) Tropenbos Foundation.

International Soybean Program (INTSOY).

(05373) University of Illinois at Urbana-Champaign.

Honduras

Causes, effects and control of biodeterioration.

(04739) Overseas Development Administration (NRRD).

Cooking bananas and plantains.

(04773) Overseas Development Administration (NRRD).

International Network for the Improvement of Bananas and Plantains (INIBAP).

(05369) International Network for the Improvement of Bananas and Plantains.

International Soybean Program (INTSOY).

(05373) University of Illinois at Urbana-Champaign.

India

Causes, effects and control of biodeterioration.

(04739) Overseas Development Administration (NRRD).

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International Network on Soil Fertility and Sustainable Rice Farming (INSURF).
(05370) International Rice Research Institute.

International Pearl Millet Adaptation Trial (IPMAT).
(05375) International Crops Research Institute for the Semi-Arid Tropics.

International Pearl Millet Disease Resistance Testing Program (IPMDRTP).
(05376) International Crops Research Institute for the Semi-Arid Tropics.

International Rubber Research and Development Board (IRRDB).
(01212) International Rubber Research and Development Board.

International Soybean Program (INTSOY).
(05373) University of Illinois at Urbana-Champaign.

Indonesia

Tropenbos' Foundation.
(05507) Tropenbos Foundation.

Draught animals for production/feeding and working strategies for draught animals.
(04753) Overseas Development Administration (NRRD).

Feeding and management strategies for draught animals.
(01820) Overseas Development Administration (NRRD).

International Network on Soil Fertility and Sustainable Rice Farming (INSURF).
(05370) International Rice Research Institute.

International Rubber Research and Development Board (IRRDB).
(01212) International Rubber Research and Development Board.

International Soybean Program (INTSOY).
(05373) University of Illinois at Urbana-Champaign.

Labour investment in perennial crop production.
(04830) Overseas Development Administration (NRRD).

Local Application of Remote Sensing Techniques (LARST) for forestry management.
(04845) Overseas Development Administration (NRRD).

Urea injector test.
(04143) Research Institute for Agronomy and Soil Fertility (AB).

Israel

Improving water management in the semi-arid region of Cameroon.
(03802) Bundesministerium fuer Wirtschaftliche Zusammenarbeit/Federal Ministry for

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Economic Cooperation (BMZ).

Optimal management of aquaculture of pond systems in developing countries.
(01464) Universitaet Kiel.

Jamaica

(a) Molecular biology of the interaction(s) between yam (*Dioscorea spec.*) and the fungus *Colletotrichum gloeosporioides*; (b) Isolation of fungal defence genes from yams; (c) DNA fingerprinting of the yam genome.
(05689) Institut fuer Pflanzliche Molekularbiologie, Fachbereich Biologie der Universitaet Frankfurt.

International Network for the Improvement of Bananas and Plantains (INIBAP).
(05369) International Network for the Improvement of Bananas and Plantains.

Kenya

African Center of Meteorological Applications for Development (ACMAD).
(01109) World Meteorological Organization (WMO).

African Research Network for Agricultural By-Products (ARNAB).
(02170) International Development Research Centre (IDRC); International Livestock Centre for Africa (ILCA).

African Small Ruminant Collaborative Research Network.
(02620) International Fund for Agricultural Development.

Agroforestry systems in the Tropics.
(03859) Gesellschaft fuer Technische Zusammenarbeit (GTZ).

Agronomic Network for East and Southern Africa.
(02611) United Nations Development Program (UNDP); World Bank.

Alley Farming Network for Tropical Africa.
(02088) Canadian International Development Agency (CIDA)/International Development Research Centre (IDRC).

Applied research programme: Eastern and Central African Agroforestry Network for Africa (ECA-AFRENA) - The bimodal highlands.
(02615) International Council for Research in Agroforestry.

Applying science and technology to development.
(01947) U.S. Agency for International Development.

Association Internationale pour l'Optimisation de la Nutrition des Plantes (ANIOP)
[International Association for the Optimization of Plant Nutrition].
(02641) Centre de Cooperation Internationale en Recherche Agronomique pour le

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Developpement (CIRAD).

Case studies on raising agricultural productivity of women in Africa for increased food production.
(02151) World Bank.

Characterisation of diversity for disease resistance of Phaseolus bean mixture in East Africa.
(01821) Overseas Development Administration (NRRD).

Co-ordinated Research Programme on the Application of Irradiation Technique for Food Processing in Africa.
(02629) United Nations Food and Agriculture Organization.

Cooperative Cereals Research Network (CCRN).
(02171) International Crops Research Institute for the Semi-Arid Tropics.

Cooperative Programme for the Improvement of Genetic Resources of Multipurpose Woody Species.
(02174) Food and Agriculture Organization of the United Nations.

East Africa Regional Cooperative for Research on Bananas (and Ensete) (EARCORBE).
(02168) International Network for the Improvement of Banana and Plantain.

Immunity against trypanosomiasis and mechanisms of trypanotolerance in animals.
(03932) Institut fuer Parasitologie und Tropenveterinaermedizin, Freie Universitaet Berlin.

Improving the Diagnosis and Control of Trypanosomiasis and other Vector-borne Diseases of African Livestock, using Immunoassay Methods.
(02627) Directorate General for International Cooperation (DGIS).

International agricultural research centers: 09 International Livestock Center for Africa (ILCA).
(01967) U.S. Agency for International Development.

International Network for the Improvement of Bananas and Plantains (INIBAP).
(05369) International Network for the Improvement of Bananas and Plantains.

International Rice Testing Program for Africa (IRTP).
(02160) United Nations Development Program (UNDP)/European Economic Commission (EEC)/Japan.

Management of vertisols under semi-arid conditions in Africa (MOVUSAC).
(01022) International Board for Soil Research and Management.

National Soil Reference Collections (NASREC II).
(05624) ISRIC (International Soil Reference and Information Centre).

Network on management of acid soils in humid Africa (AFRICALAND - Management of acid

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soils).

(01021) International Board for Soil Research and Management.

Nitrogen and the control of Striga.

(05804) Overseas Development Administration (NRRD).

No dumping here: Control of pesticides in developing countries.

(05422) International Development Research Centre.

Phytosanitary controls for African Cassava Mosaic Virus (ACMV).

(05778) Overseas Development Administration (NRRD).

Programme 2B: On-farm research - Analysis of interactions and impact of agroforestry practices.

(03700) International Council for Research in Agroforestry.

Programme 5: Training - Training for researchers and development planners.

(03710) International Council for Research in Agroforestry.

Public works in Africa to improve food-security.

(04626) Deutsche Gesellschaft fuer technische Zusammenarbeit (GTZ).

Regional cooperation on cotton research and development.

(01116) World Bank.

Reseau Erosion (EROS) [Erosion Network].

(02638) ORSTOM/Institut Francais de Recherche Scientifique pour le Developpement en Cooperation.

Reseau Femmes et Developpement (FEM/DEV) [Women in Development Network].

(02652) ORSTOM/Institut Francais de Recherche Scientifique pour le Developpement en Cooperation.

Sero-surveillance of rinderpest and other diseases in Africa, using immunoassay techniques.

(02628) Swedish Agency for Rural Cooperation (SAREC).

Small Ruminant and Camel Group Research Network.

(05381) International Livestock Center for Africa.

Small Ruminants and Camel Group.

(02632) Deutsche Gesellschaft fuer Technische Zusammenarbeit (GTZ) GmbH.

Social Science Interface Research Unit (SSIRU).

(02779) The International Centre of Insect Physiology and Ecology.

Socio-economic assessment of biotechnologies for small farmers.

(04707) Overseas Development Administration (NRRD).

Storage of cereals by pastoralists.

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(04761) Overseas Development Administration (NRRD).

Strategies Alimentaires (STRA) [Food Strategies Network].

(02655) ORSTOM/Institut Francais de Recherche Scientifique pour le Developpement en Cooperation.

The Development of Practices for Area-wide Tsetse Eradication with emphasis on the Sterile Insect Technique.

(02626) United Nations Food and Agriculture Organization.

The East and Southern Africa Root Crops Research Network (ESARRN).

(02080) U.S. Agency for International Development (USAID)/International Development Research Centre (IDRC)/International Institute of Tropical Agriculture (IITA).

The Geological Network for Agrominerals in East and Southern Africa.

(02613) United Nations Development Program (UNDP); World Bank.

The Livestock Trypanotolerant Network.

(02081) Overseas Development Administration.

Traditional Techniques of Micro Climate Improvement (TTMI), phase II.

(05658) WAU (Wageningen Agricultural University).

U.S./Israel program for cooperative development research.

(01949) U.S. Agency for International Development.

Universities and national agricultural research in Sub-Saharan Africa.

(03678) International Service for National Agricultural Research.

West Kenya rainfed rice development project.

(01115) African Development Bank.

Republic of Korea

International Soybean Program (INTSOY).

(05373) University of Illinois at Urbana-Champaign.

Lesotho

African Center of Meteorological Applications for Development (ACMAD).

(01109) World Meteorological Organization (WMO).

Cooperative Cereals Research Network (CCRN).

(02171) International Crops Research Institute for the Semi-Arid Tropics.

Fertilizer Marketing and Trade Information Program (FMTIP).

(02145) Directorate General for International Cooperation (DGIS); U.S. Agency for International Development (USAID).

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Sub-Saharan Africa hydrological assessment.
(01108) World Bank.

Liberia

African Center of Meteorological Applications for Development (ACMAD).
(01109) World Meteorological Organization (WMO).

Agricultural extension needs assessment survey.
(04461) Food and Agriculture Organization of the United Nations.

Agricultural research and extension II.
(01849) U.S. Agency for International Development.

Alley Farming Network for Tropical Africa.
(02088) Canadian International Development Agency (CIDA)/International Development Research Centre (IDRC).

Central Agricultural Research Institute.
(01085) Food and Agriculture Organization of the United Nations (FAO).

Central and West African Root Crops Collaborative Research Network (CEWARRN).
(02166) International Institute of Tropical Agriculture.

Characterization of lymphocytes and production of interferon as parameters for distinguishing trypanotolerance in animals and people.
(02847) Commission of the European Communities.

Immunity against trypanosomiasis and mechanisms of trypanotolerance in animals.
(03932) Institut fuer Parasitologie und Tropenveterinaermedizin, Freie Universitaet Berlin.

International Network on Soil Fertility and Sustainable Rice Farming (INSURF).
(05370) International Rice Research Institute.

International Rice Testing Program for Africa (IRTP).
(02160) United Nations Development Program (UNDP)/European Economic Commission (EEC)/Japan.

Pan-African Networks for Rural Social Science Research.
(02661) Winrock International; Ford Foundation.

Phosphorus requirements of upland rice in Liberia.
(03154) IFS.

Private voluntary and nongovernmental organization support (PVO/NGO).
(03662) U.S. Agency for International Development.

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Regional Tropical Leafy Trees Improvement Program [Programme Regional d'Amelioration des Feuillus Tropicaux (PRAFT)].

(02169) European Economic Commission (EEC).

Relationships between tree growth, tree nutrition and site in *Tectona grandis* plantation in West Africa.

(04653) Universitaet Bayreuth.

Site evaluation in the rain forest of East Liberia.

(03811) Universitaet Bayreuth.

Solar drying of timber in Ghana - development of low-cost technology for rural and agricultural construction.

(03044) IFS.

Strengthening maize and cassava research in eleven countries of West and Central Africa: Plan of action.

(02665) Ministere de la Cooperation (France).

Structure, growth response and system dynamics of virgin and selectively logged rainforest to silvicultural treatments: Liberia, the Phillipines, Borneo and south China.

(03858) Bundesanstalt fuer Forst- und Holzwirtschaft (BFH).

Sub-Saharan Africa hydrological assessment.

(01108) World Bank.

Support to the West Africa Rice Development Association, WARDA.

(05050) Swedish Agency for Research Cooperation with Developing Countries.

West Africa Network on Animal Traction (WAATA).

(02622) Deutsche Gesellschaft fuer Technische Zusammenarbeit (GTZ) GmbH.

West Africa Regional Cooperative for Research on Plantain (WARCORP).

(02167) International Institute of Tropical Agriculture.

West African Farming Systems Research Network (WAFSRN/RESPAO).

(02619) International Fund for Agricultural Development (IFAD)/Semi-Arid Food Grain Research and Development (SAFGRAD).

West African Fertilizer Management and Evaluation Network (WAFMEN).

(02614) International Development Research Centre (IDRC); United Nations Development Program (UNDP).

West African Rice Information System (WARIS).

(04246) International Development Research Centre.

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Libyan Arab Jamahiriya

African Center of Meteorological Applications for Development (ACMAD).
(01109) World Meteorological Organization (WMO).

Co-ordinated Research Programme on the Application of Irradiation Technique for Food Processing in Africa.
(02629) United Nations Food and Agriculture Organization.

International Soybean Program (INTSOY).
(05373) University of Illinois at Urbana-Champaign.

Madagascar

African Center of Meteorological Applications for Development (ACMAD).
(01109) World Meteorological Organization (WMO).

Association Internationale pour l'Optimisation de la Nutrition des Plantes (ANIOP)
[International Association for the Optimization of Plant Nutrition].
(02641) Centre de Cooperation Internationale en Recherche Agronomique pour le Developpement (CIRAD).

Cassava Network [Réseau Manioc].
(02084) Conférence des Responsables de Recherche Agricole Africains et Français.

Central and West African Root Crops Collaborative Research Network (CEWARRN).
(02166) International Institute of Tropical Agriculture.

Development of equipment and methods for continuous production of bacterial antigens within a closed bioreactor system.
(03938) Institut fuer Pflanzenbau und Tierhygiene in den Tropen und Subtropen, Universitaet Goettingen.

Fertilizer Marketing and Trade Information Program (FMTIP).
(02145) Directorate General for International Cooperation (DGIS); U.S. Agency for International Development (USAID).

Groundnut Network [Réseau Arachide].
(02087) Conférence des Responsables Agronomiques Africains et Français.

Identification of Bacteria through analysis of metabolic products and cell components by means of Gas Liquid Chromatography (GLC).
(03786) Institute for Tropical Animal Health, University Goettingen.

International Network on Soil Fertility and Sustainable Rice Farming (INSURF).
(05370) International Rice Research Institute.

International Rice Testing Program for Africa (IRTP).
(02160) United Nations Development Program (UNDP)/European Economic Commission

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(EEC)/Japan.

Network for Improvement of Rice Cultivation [Réseau Riz].
(02161) Conférence des Responsables de Recherche Agronomique Africains et Français.

Network on management of acid soils in humid Africa (AFRICALAND - Management of acid soils).
(01021) International Board for Soil Research and Management.

Production of bacterial vaccines in a continuous bioreactor with subsequent purification of antigen through ultrafiltration.
(03785) Institute for Tropical Animal Health, University Goettingen.

Proposal for a research project on the development of new methods in locust control.
(02090) Gesellschaft fuer Technische Zusammenarbeit (GTZ).

Réseau Coton (COTON).
(02082) France: Conférence des Responsables de Recherches Agronomique Africains et Français (CORAF).

Reseau Developpement (RVD) [Development Network].
(02653) GRET.

Reseau Femmes et Developpement (FEMDEV) [Women in Development Network].
(02652) ORSTOM/Institut Francais de Recherche Scientifique pour le Developpement en Cooperation.

Sub-Saharan Africa hydrological assessment.
(01108) World Bank.

The East and Southern Africa Root Crops Research Network (ESARRN).
(02080) U.S. Agency for International Development (USAID)/International Development Research Centre (IDRC)/International Institute of Tropical Agriculture (IITA).

West Africa Collaborative Groundnut Research Network.
(02162) International Crops Research Institute for the Semi-Arid Tropics (ICRISAT).

West Africa Maize Collaborative Research Network [Réseau Mais].
(02156) Conférence des Responsables de Recherche Agronomique Africains.

West and Central Africa Maize Collaborative Research Network (WECAMAN).
(02157) U.S. Agency for International Development (USAID)/Semi-Arid Food Grain Research and Development (SAFGRAD).

Malawi

African Center of Meteorological Applications for Development (ACMAD).
(01109) World Meteorological Organization (WMO).

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African Research Network for Agricultural By-Products (ARNAB).

(02170) International Development Research Centre (IDRC); International Livestock Centre for Africa (ILCA).

Agronomic Network for East and Southern Africa.

(02611) United Nations Development Program (UNDP); World Bank.

Alley Farming Network for Tropical Africa.

(02088) Canadian International Development Agency (CIDA)/International Development Research Centre (IDRC).

Applying science and technology to development.

(01947) U.S. Agency for International Development.

Collaborative Research Support Program (CRSP): Beans and cowpeas.

(01345) U.S. Agency International Development (USAID)/Michigan State University.

Cooperative Cereals Research Network (CCRN).

(02171) International Crops Research Institute for the Semi-Arid Tropics.

Improving the Productivity of Indigenous African Livestock using Radioimmunoassay and related Techniques.

(02621) Directorate General for International Cooperation (DGIS).

International Pearl Millet Adaptation Trial (IPMAT).

(05375) International Crops Research Institute for the Semi-Arid Tropics.

International Rice Testing Program for Africa (IRTP).

(02160) United Nations Development Program (UNDP)/European Economic Commission (EEC)/Japan.

Management of vertisols under semi-arid conditions in Africa (MOVUSAC).

(01022) International Board for Soil Research and Management.

Methodologies for better technology transfer.

(04783) Overseas Development Administration (NRFD).

Methodology for agricultural marketing systems policy and practise, and its application to current reforms.

(01721) Overseas Development Administration (NRFD).

Microbial control of root knot nematodes.

(04864) Overseas Development Administration (NRFD).

Microbial control of root-knot nematodes.

(01814) Overseas Development Administration (NRFD).

Optimal management of aquaculture of pond systems in developing countries.

(01464) Universitaet Kiel.

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Pan-African Networks for Rural Social Science Research.
(02661) Winrock International; Ford Foundation.

Strategies Alimentaires (STRA) [Food Strategies Network].
(02655) ORSTOM/Institut Francais de Recherche Scientifique pour le Developpement en Cooperation.

Sub-Saharan Africa hydrological assessment.
(01108) World Bank.

The East and Southern Africa Root Crops Research Network (ESARRN).
(02080) U.S. Agency for International Development (USAID)/International Development Research Centre (IDRC)/International Institute of Tropical Agriculture (IITA).

The Geological Network for Agrominerals in East and Southern Africa.
(02613) United Nations Development Program (UNDP); World Bank.

U.S./Israel program for cooperative development research.
(01949) U.S. Agency for International Development.

Malaysia

International Network on Soil Fertility and Sustainable Rice Farming (INSURF).
(05370) International Rice Research Institute.

International Rubber Research and Development Board (IRRDB).
(01212) International Rubber Research and Development Board.

Weed problems and weed management in cropping systems.
(03897) Universitaet Hohenheim.

Mali

African Center of Meteorological Applications for Development (ACMAD).
(01109) World Meteorological Organization (WMO).

Agriculture Hydrologie-Meteorologie.
(02634) Centre Regional de Formation et d'Application en Agrometeorologie et Hydrologie (AGRHYMET).

Agroforestry research for development of the drylands of West Africa.
(02113) International Fund for Agricultural Development.

An integrated research programme on the development of biological pesticides for locust and grasshopper control.
(01546) U.S. Agency for International Development.

Assessment of conditions for replicating production systems in Africa's savanna areas -

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second stage.

(02098) Centre de Cooperation Internationale en Recherche Agronomique pour le Developpement (CIRAD).

Cassava Network [Réseau Manioc].

(02084) Conférence des Responsables de Recherche Agronomique Africains et Français.

Cattle Research Network (CARNET) (formerly Cattle Milk and Meat Network).

(05358) International Livestock Center for Africa.

Central and West African Root Crops Collaborative Research Network (CEWARRN).

(02166) International Institute of Tropical Agriculture.

Collaborative Research Support Program (CRSP): Peanuts.

(01341) U.S. Agency for International Development (USAID)/University of Georgia.

Collaborative Research Support Program (CRSP): Soils management (TROPISOILS).

(01346) U.S. Agency for International Development (USAID)/North Carolina State University.

Cooperative Cereals Research Network (CCRN).

(02171) International Crops Research Institute for the Semi-Arid Tropics.

Cooperative Programme for the Improvement of Genetic Resources of Multipurpose Woody Species.

(02174) Food and Agriculture Organization of the United Nations.

Crop protection programme.

(03409) CILSS-Sahel Institute.

Development cooperation Soil and Fertilizer.

(05595) IB (Institute for Soil Fertility Research).

Drought Resistance Research Network (R3S) [Réseau de Recherche sur la Résistance à la Sécheresse].

(02610) Conférence des Responsables de Recherche Agronomique Africains et Français.

Ecological monitoring of the dynamics of desertification.

(03415) CILSS-Sahel Institute.

Ecology/environment programme: reforestation and conservation of the forestry resources.

(03416) CILSS-Sahel Institute.

Groundnut Network [Réseau Arachide].

(02087) Conférence des Responsables Agronomiques Africains et Français.

Improvements to millet, sorghum, cowpea, and maize crops in the Sahel.

(02738) Commission of the European Communities.

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Improving the Diagnosis and Control of Trypanosomiasis and other Vector-borne Diseases of African Livestock, using Immunoassay Methods.

(02627) Directorate General for International Cooperation (DGIS).

Increase of productivity and control of diseases of small ruminants.

(03410) CILSS-Sahel Institute.

International agricultural research centers: 09 International Livestock Center for Africa (ILCA).

(01967) U.S. Agency for International Development.

International Rice Testing Program for Africa (IRTP).

(02160) United Nations Development Program (UNDP)/European Economic Commission (EEC)/Japan.

Management of vertisols under semi-arid conditions in Africa (MOVUSAC).

(01022) International Board for Soil Research and Management.

Monitoring of renewable natural resources in the Sahel.

(02739) Commission of the European Communities.

National Soil Reference Collections (NASREC II).

(05624) ISRIC (International Soil Reference and Information Centre).

Network for Improvement of Rice Cultivation [Réseau Riz].

(02161) Conférence des Responsables de Recherche Agronomique Africains et Français.

On-Farm Fertilizer Adoption Program (OFFAP).

(02148) International Fertilizer Development Center, Africa (IFDC-Africa).

Pan-African Networks for Rural Social Science Research.

(02661) Winrock International; Ford Foundation.

Pathology of small ruminants: etiology, vaccines and prophylaxis.

(03411) CILSS-Sahel Institute.

Phase I: Resistance of cowpea to *Striga gesnerioides* and *Alectra vogelii* Phase II:

Resistance of legumes and cereals to *Striga* species.

(01767) Overseas Development Administration (NRRD).

Programme for the strengthening of research on production systems.

(03419) CILSS-Sahel Institute.

Programme on supporting services: documentation, information and training.

(03419) CILSS-Sahel Institute.

Reconnaissance / preparation study on forestry biotechnology in the drought-prone Sub-Saharan African countries, with special reference to Sahelian and Sudanian zones (SSZ).

(02094) World Bank.

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Regional programme for the improvement of millet, sorghum, cowpeas, and maize (transitional phase).

(03407) CILSS-Sahel Institute.

Research and study programme on the improved management of extensive national rangelands in the Sahel (PGENES).

(03412) CILSS-Sahel Institute.

Research and study programme on the possibility of intensification of fodder and animal production in the framework of an association of agriculture and livestock breeding in Sub-Saharan, Sudanian and Guinean zones.

(03413) CILSS-Sahel Institute.

Research programme on food security, strategies and policies.

(03417) CILSS-Sahel Institute.

Research programme on phylogenetic resources.

(03408) CILSS-Sahel Institute.

Réseau Coton (COTON).

(02082) France: Conférence des Responsables de Recherches Agronomique Africains et Français (CORAF).

Reseau Erosion (EROS) [Erosion Network].

(02638) ORSTOM/Institut Français de Recherche Scientifique pour le Développement en Coopération.

Reseau Femmes et Développement (FEM/DEV) [Women in Development Network].

(02652) ORSTOM/Institut Français de Recherche Scientifique pour le Développement en Coopération.

Sahelian Information Network (SIN).

(02657) Institute of Sahel (INSAH).

Sero-surveillance of rinderpest and other diseases in Africa, using immunoassay techniques.

(02628) Swedish Agency for Rural Cooperation (SAREC).

Small Ruminant and Camel Group Research Network.

(05381) International Livestock Center for Africa.

Small Ruminants and Camel Group.

(02632) Deutsche Gesellschaft fuer Technische Zusammenarbeit (GTZ) Gmb H.

Storage of cereals by pastoralists.

(04761) Overseas Development Administration (NPRD).

Stratégies Alimentaires (STRA) [Food Strategies Network].

(02655) ORSTOM/Institut Français de Recherche Scientifique pour le Développement en

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Cooperation.

Sub-Saharan Africa hydrological assessment.
(01108) World Bank.

The epidemiology and control of the sorghum foliar pathogens in the semi-arid tropics.
(01813) Overseas Development Administration (NRRD).

The West and Central Africa Cowpea Collaborative Research Network (RENACO).
(02078) U.S. Agency for International Development (USAID)/Semi-Arid Food Grain Research and Development (SAFGRAD).

West Africa Collaborative Groundnut Research Network.
(02162) International Crops Research Institute for the Semi-Arid Tropics (ICRISAT).

West Africa Maize Collaborative Research Network [Réseau Maïs].
(02156) Conférence des Responsables de Recherche Agronomique Africains.

West Africa Network on Animal Traction (WAATA).
(02522) Deutsche Gesellschaft fuer Technische Zusammenarbeit (GTZ) Gmb H.

West Africa Regional Pearl Millet Improvement Program.
(02154) International Crops Research Institute for the Semi-Arid Tropics (ICRISAT Sahel Center).

West African Fertilizer Management and Evaluation Network (WAFMEN).
(02614) International Development Research Centre (IDRC); United Nations Development Program (UNDP).

West African Irrigation Research Development Network (WAIRD).
(02612) International Irrigation Management Institute (IIMI).

West and Central Africa Maize Collaborative Research Network (WECAMAN).
(02157) U.S. Agency for International Development (USAID)/Semi-Arid Food Grain Research and Development (SAFGRAD).

West and Central Africa Sorghum Research Network (WCASRN).
(02075) U.S. Agency for International Development (USAID)/Semi-Arid Food Grain Research and Development (SAFGRAD).

Mauritania

African Center of Meteorological Applications for Development (ACMAD).
(01109) World Meteorological Organization (WMO).

Agriculture Hydrologie-Meteorologie.
(02634) Centre Regional de Formation et d'Application en Agrometeorologie et Hydrologie (AGRHMET).

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Central and West African Root Crops Collaborative Research Network (CEWARRN).
(02166) International Institute of Tropical Agriculture.

Cooperative Programme for the Improvement of Genetic Resources of Multipurpose Woody Species.
(02174) Food and Agriculture Organization of the United Nations.

Crop protection programme.
(03409) CILSS-Sahel Institute.

Drought Resistance Research Network (R3S) [Réseau de Recherche sur la Résistance à la Sécheresse].
(02610) Conférence des Responsables de Recherche Agronomique Africains et Français.

Ecological monitoring of the dynamics of desertification.
(03415) CILSS-Sahel Institute.

Ecology/environment programme: reforestation and conservation of the forestry resources.
(03416) CILSS-Sahel Institute.

Improvements to millet, sorghum, cowpea, and maize crops in the Sahel.
(02738) Commission of the European Communities.

Increase of productivity and control of diseases of small ruminants.
(03410) CILSS-Sahel Institute.

Monitoring of renewable natural resources in the Sahel.
(02739) Commission of the European Communities.

Network for Improvement of Rice Cultivation [Réseau Riz].
(02161) Conférence des Responsables de Recherche Agronomique Africains et Français.

Pathology of small ruminants: etiology, vaccines and prophylaxis.
(03411) CILSS-Sahel Institute.

Programme for the strengthening of research on production systems.
(03418) CILSS-Sahel Institute.

Programme on supporting services: documentation, information and training.
(03419) CILSS-Sahel Institute.

Reconnaissance / preparation study on forestry biotechnology in the drought-prone Sub-Saharan African countries, with special reference to Sahelian and Sudanian zones (SSZ).
(02094) World Bank.

Regional programme for the improvement of millet, sorghum, cowpeas, and maize (transitional phase).
(03407) CILSS-Sahel Institute.

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Research and study programme on the improved management of extensive national rangelands in the Sahel (PGENES).
(03412) CILSS-Sahel Institute.

Research and study programme on the possibility of intensification of fodder and animal production in the framework of an association of agriculture and livestock breeding in Sub-Saharan, Sudanian and Guinean zones.
(03413) CILSS-Sahel Institute.

Research programme on food security, strategies and policies.
(03417) CILSS-Sahel Institute.

Research programme on phylogenetic resources.
(03408) CILSS-Sahel Institute.

Reseau sur la Conservation Post-Recolte des Denrees Alimentaires (GRENIER) [Network for Post-Harvest Storage of Food Crops].
(02647) Association des Universites Partiellement ou Entierement de Langue Francaise (AUPELF).

Sahelian Information Network (SIN).
(02657) Institute of Sahel (INSAH).

Strategies Alimentaires (STRA) [Food Strategies Network].
(02655) ORSTOM/Institut Francais de Recherche Scientifique pour le Developpement en Cooperation.

Sub-Saharan Africa hydrological assessment.
(01108) World Bank.

The West and Central Africa Cowpea Collaborative Research Network (RENACO).
(02078) U.S. Agency for International Development (USAID)/Semi-Arid Food Grain Research and Development (SAFGRAD).

West Africa Maize Collaborative Research Network [Réseau Maïs].
(02156) Conference des Responsables de Recherche Agronomique Africains.

West Africa Regional Pearl Millet Improvement Program.
(02154) International Crops Research Institute for the Semi-Arid Tropics (ICRISAT Sahel Center).

West and Central Africa Maize Collaborative Research Network (WECAMAN).
(02157) U.S. Agency for International Development (USAID)/Semi-Arid Food Grain Research and Development (SAFGRAD).

West and Central Africa Sorghum Research Network (WCASPN).
(02075) U.S. Agency for International Development (USAID)/Semi-Arid Food Grain Research and Development (SAFGRAD).

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Mauritius

African Center of Meteorological Applications for Development (ACMAD).
(01109) World Meteorological Organization (WMO).

Reseau sur la Conservation Post-Recolte des Denrees Alimentaires (GRENIER) [Network for Post-Harvest Storage of Food Crops].
(02647) Association des Universites Partiellement ou Entierement de Langue Francaise (AUPELF).

U.S./Israel program for cooperative development research.
(01949) U.S. Agency for International Development.

Mexico

Biological integrated control of the larger grain borer, *Prostephanus truncatus* Horn.
(03907) Institut fuer Phytopathologie, Arbeitsgruppe Vorrat, Universitaet Kiel.

Development of equipment and methods for continuous production of bacterial antigens within a closed bioreactor system.
(03908) Institut fuer Pflanzenbau und Tierhygiene in den Tropen und Subtropen, Universitaet Goettingen.

International Rubber Research and Development Board (IRRDB).
(01212) International Rubber Research and Development Board.

International Soybean Program (INTSOY).
(05373) University of Illinois at Urbana-Champaign.

Morocco

African Center of Meteorological Applications for Development (ACMAD).
(01109) World Meteorological Organization (WMO).

Aromatic extracts (Guinea).
(04953) International Development Research Centre.

Association Internationale pour l'Optimisation de la Nutrition des Plantes (ANIOF) [International Association for the Optimization of Plant Nutrition].
(02641) Centre de Cooperation Internationale en Recherche Agronomique pour le Developpement (CIRAD).

Draught animals for production/feeding and working strategies for draught animals.
(04753) Overseas Development Administration (NRFD).

Feeding and management strategies for draught animals.
(01820) Overseas Development Administration (NRFD).

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Improving the Diagnosis and Control of Trypanosomiasis and other Vector-borne Diseases of African Livestock, using Immunoassay Methods.

(02627) Directorate General for International Cooperation (DGIS).

Improving the Productivity of Indigenous African Livestock using Radioimmunoassay and related Techniques.

(02621) Directorate General for International Cooperation (DGIS).

Mozambique

African Center of Meteorological Applications for Development (ACMAD).

(01109) World Meteorological Organization (WMO).

African Small Ruminant Collaborative Research Network.

(02620) International Fund for Agricultural Development.

Network on management of acid soils in humid Africa (AFRICALAND - Management of acid soils).

(01021) International Board for Soil Research and Management.

Public works in Africa to improve food-security.

(04626) Deutsche Gesellschaft fuer technische Zusammenarbeit (GTZ).

Small Ruminant and Camel Group Research Network.

(05381) International Livestock Center for Africa.

Small Ruminants and Camel Group.

(02632) Deutsche Gesellschaft fuer Technische Zusammenarbeit (GTZ) Gmb H.

Sub-Saharan Africa hydrological assessment.

(01108) World Bank.

The East and Southern Africa Root Crops Research Network (ESARRN).

(02080) U.S. Agency for International Development (USAID)/International Development Research Centre (IDRC)/International Institute of Tropical Agriculture (IITA).

Myanmar

International Network on Soil Fertility and Sustainable Rice Farming (INSURF).

(05370) International Rice Research Institute.

Nepal

Draught animals for production/feeding and working strategies for draught animals.

(04753) Overseas Development Administration (NRFD).

International Network on Soil Fertility and Sustainable Rice Farming (INSURF).

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(05370) International Rice Research Institute.

International Soybean Program (INTSOY).

(05373) University of Illinois at Urbana-Champaign.

Post-harvest assessment of root and tuber crop storage.

(04834) Overseas Development Administration (NRRD).

Socio-economic assessment of biotechnologies for small farmers.

(04707) Overseas Development Administration (NRRD).

Niger

African Center of Meteorological Applications for Development (ACMAD).

(01109) World Meteorological Organization (WMO).

African Research Network on Rural Poultry Development.

(02624) United Nations Food and Agriculture Organization.

African Small Ruminant Collaborative Research Network (SRNET).

(05812) International Livestock Centre for Africa (ILCA).

Agriculture Hydrologie-Meteorologie.

(02634) Centre Regional de Formation et d'Application en Agrometeorologie et Hydrologie

(AGRHYMET).

Agroforestry research for development of the drylands of West Africa.

(02113) International Fund for Agricultural Development.

Agronomic Fertilizer Research Program (AFRP).

(02147, International Fertilizer Development Center, Africa (IFDC-Africa).

An integrated research programme on the development of biological pesticides for locust and grasshopper control.

(01546) U.S. Agency for International Development.

Association Internationale pour l'Optimisation de la Nutrition des Plantes (ANIOP)

[International Association for the Optimization of Plant Nutrition].

(02641) Centre de Cooperation Internationale en Recherche Agronomique pour le

Developpement (CIRAD).

Cassava Network [Réseau Manioc].

(02084) Conférence des Responsables de Recherche Agronomique Africains et Français.

Central and West African Root Crops Collaborative Research Network (CEWARRN).

(02166) International Institute of Tropical Agriculture.

Collaborative Research Support Program (CRSP): Peanuts.

(01341) U.S. Agency for International Development (USAID)/University of Georgia.

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Collaborative Research Support Program (CRSP): Soils management (TROPISOILS).
(01346) U.S. Agency for International Development (USAID)/North Carolina State University.

Cooperative Cereals Research Network (CCRN).
(02171) International Crops Research Institute for the Semi-Arid Tropics.

Cooperative Programme for the Improvement of Genetic Resources of Multipurpose Woody Species.
(02174) Food and Agriculture Organization of the United Nations.

Crop protection programme.
(03409) CILSS-Sahel Institute.

Draught animals for production/feeding and working strategies for draught animals.
(04753) Overseas Development Administration (NRRD).

Drought Resistance Research Network (R3S) [Réseau de Recherche sur la Résistance à la Sécheresse].
(02610) Conférence des Responsables de Recherche Agronomique Africains et Français.

Ecological monitoring of the dynamics of desertification.
(03415) CILSS-Sahel Institute.

Ecology/environment programme: reforestation and conservation of the forestry resources.
(03416) CILSS-Sahel Institute.

Effects of dust deposits and microvariability on edaphical site conditions with regard to semi-arid and sub-humid locations in West Africa.
(04657) Universität Hohenheim.

Feeding and management strategies for draught animals.
(01820) Overseas Development Administration (NRRD).

Fertilizer Marketing and Trade Information Program (FMTIP).
(02145) Directorate General for International Cooperation (DGIS); U.S. Agency for International Development (USAID).

Groundnut Network [Réseau Arachide].
(02087) Conférence des Responsables Agronomiques Africains et Français.

Improvements to millet, sorghum, cowpea, and maize crops in the Sahel.
(02738) Commission of the European Communities.

Improving the Productivity of Indigenous African Livestock using Radioimmunoassay and related Techniques.
(02621) Directorate General for International Cooperation (DGIS).

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Increase of productivity and control of diseases of small ruminants.
(03410) CILSS-Sahel Institute.

Influence of neem (*Azadirachta indica*) products on locusts and grasshoppers.
(03847) Justus-Liebig Universität Giessen.

International Pearl Millet Disease Resistance Testing Program (IPMDRTP).
(05376) International Crops Research Institute for the Semi-Arid Tropics.

Monitoring of renewable natural resources in the Sahel.
(02739) Commission of the European Communities.

Network for Improvement of Rice Cultivation [Réseau Riz].
(02167) Conférence des Responsables de Recherche Agronomique Africains et Français.

On-Farm Fertilizer Adoption Program (OFFAP).
(02148) International Fertilizer Development Center, Africa (IFDC-Africa).

Pathology of small ruminants: etiology, vaccines and prophylaxis.
(03411) CILSS-Sahel Institute.

Phenolics including tannins in multipurpose trees and browse and their effect on ruminant nutrition and health.
(04620) Universität Hohenheim.

Programme for the strengthening of research on production systems.
(03418) CILSS-Sahel Institute.

Programme on supporting services: documentation, information and training.
(03419) CILSS-Sahel Institute.

Public works in Africa to improve food-security.
(04626) Deutsche Gesellschaft fuer technische Zusammenarbeit (GTZ).

Reconnaissance / preparation study on forestry biotechnology in the drought-prone Sub-Saharan African countries, with special reference to Sahelian and Sudanian zones (SSZ).
(02094) World Bank.

Regional programme for the improvement of millet, sorghum, cowpeas, and maize (transitional phase).
(03407) CILSS-Sahel Institute.

Research and study programme on the improved management of extensive national rangelands in the Sahel (PGENES).
(03412) CILSS-Sahel Institute.

Research and study programme on the possibility of intensification of fodder and animal production in the framework of an association of agriculture and livestock breeding in Sub-Saharan, Sudanian and Guinean zones.

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(03413) CILSS-Sahel Institute.

Research programme on food security, strategies and policies.

(03417) CILSS-Sahel Institute.

Research programme on phylogenetic resources.

(03408) CILSS-Sahel Institute.

Research, coordination, and training for improved livestock production in Sub-Saharan Africa.

(02732) Commission of the European Communities.

Reseau Developpement (R/D) [Development Network].

(02653) GRET.

Reseau Femmes et Developpement (FEM/DEV) [Women in Development Network].

(02652) ORSTOM/Institut Francais de Recherche Scientifique pour le Developpement en Cooperation.

Reseau sur la Conservation Post-Recolte des Denrees Alimentaires (GRENIER) [Network for Post-Harvest Storage of Food Crops].

(02647) Association des Universites Partiellement ou Entierement de Langue Francaise (AUPELF).

Sahelian Information Network (SIN).

(02657) Institute of Sahel (INSAH).

Sero-surveillance of rinderpest and other diseases in Africa, using immunoassay techniques.

(02628) Swedish Agency for Rural Cooperation (SAREC).

Soil Fertility Restoration Project (SFRP).

(02143) International Fertilizer Development Center, Africa (IFDC-Africa).

Storage of cereals by pastoralists.

(04761) Overseas Development Administration (NRFD).

Strategies Alimentaires (STRA) [Food Strategies Network].

(02655) ORSTOM/Institut Francais de Recherche Scientifique pour le Developpement en Cooperation.

Sub-Saharan Africa hydrological assessment.

(01108) World Bank.

The effect of tannins on nutrient digestibility and animal performance in small ruminants.

(04635) Universitaet Hohenheim.

The West and Central Africa Cowpea Collaborative Research Network (RENACO).

(02078) U.S. Agency for International Development (USAID)/Semi-Arid Food Grain Research

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and Development (SAFGRAD).

Universities and national agricultural research in Sub-Saharan Africa.
(03678) International Service for National Agricultural Research.

West Africa Collaborative Groundnut Research Network.
(02162) International Crops Research Institute for the Semi-Arid Tropics (ICRISAT).

West Africa Maize Collaborative Research Network [Réseau Maïs].
(02156) Conférence des Responsables de Recherche Agronomique Africains.

West Africa Network on Animal Traction (WAATA).
(02622) Deutsche Gesellschaft fuer Technische Zusammenarbeit (GTZ) Gmb H.

West Africa Regional Pearl Millet Improvement Program.
(02154) International Crops Research Institute for the Semi-Arid Tropics (ICRISAT Sahel Center).

West African Fertilizer Management and Evaluation Network (WAFMEN).
(02614) International Development Research Centre (IDRC); United Nations Development Program (UNDP).

West African Irrigation Research Development Network (WAIRD).
(02612) International Irrigation Management Institute (IIMI).

West and Central Africa Maize Collaborative Research Network (WECAMAN).
(02157) U.S. Agency for International Development (USAID)/Semi-Arid Food Grain Research and Development (SAFGRAD).

West and Central Africa Sorghum Research Network (WCASRN).
(02075) U.S. Agency for International Development (USAID)/Semi-Arid Food Grain Research and Development (SAFGRAD).

Nigeria

(05849) West Africa Rice Development Association (WARDA).

(05850) West Africa Rice Development Association (WARDA).

(05851) West Africa Rice Development Association (WARDA).

(05852) West Africa Rice Development Association (WARDA).

(a) Molecular biology of the interaction(s) between yam (*Dioscorea spec.*) and the fungus *Colletotrichum gloeosporioides*; (b) Isolation of fungal defence genes from yams; (c) DNA fingerprinting of the yam genome.
(05689) Institut fuer Pflanzliche Molekularbiologie, Fachbereich Biologie der Universitaet Frankfurt.

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A trial spawning of the catfish *Chrysichthys nigrodigitatus* and determination of some nutrient requirements of the fry.
(03287) IFS.

Acid soils (Nigeria).
(04193) International Development Research Centre.

Adoption of agroforestry systems in developing countries.
(01791) Overseas Development Administration (NRRD).

Adoption of animal traction as farm power source in Southern Nigeria: socio-economic and institutional analysis.
(05258) International Foundation for Science.

Africa-wide biological control programme for cassava pests.
(01828) International Fund for Agricultural Development.

African Center of Meteorological Applications for Development (ACMAD).
(01109) World Meteorological Organization (WMO).

African Research Network on Rural Poultry Development.
(02624) United Nations Food and Agriculture Organization.

African Small Ruminant Collaborative Research Network.
(02620) International Fund for Agricultural Development.

Agroeconomic study of cassava in Sub-Saharan Africa.
(01222) Rockefeller Foundation.

Alley Farming Network for Tropical Africa.
(02088) Canadian International Development Agency (CIDA)/International Development Research Centre (IDRC).

An examination of *Dioscorea* spp (yam) for nematode resistance.
(04782) Overseas Development Administration (NRRD).

Anaerobic digestion of industrial waste at ambient tropical temperatures.
(03283) IFS.

Analysis of soil forming processes under humid tropical conditions.
(04655) Universitaet Kiel.

Anti-hypertensive actions of some Nigerian natural products.
(03393) IFS.

Antifungal phytoalexins from *Dioscorea* spp.
(03277) IFS.

Antimalarial, antimicrobial, anti-inflammatory and cytotoxic activity of extracts from three Nigerian medicinal plants.

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(03341) IFS.

Applied research programme: Network for Humid Lowlands of West Africa (HULWA-AFRENA).
(02618) International Council for Research in Agroforestry (ICRAF).

Aspects of the reproductive biology of *Irvingia gabonensis* in Southern Nigeria.
(05280) International Foundation for Science.

Assistance to the National Water Resources Institute - Phase II.
(04530) United Nations Educational, Scientific and Cultural Organization (UNESCO).

Association Internationale pour l'Optimisation de la Nutrition des Plantes (ANIOP)
[International Association for the Optimization of Plant Nutrition].
(02641) Centre de Cooperation Internationale en Recherche Agronomique pour le
Developpement (CIRAD).

Bioassay-directed identification and isolation of pesticides from plants.
(05480) International Foundation for Science.

Biodeterioration of west African rice.
(04777) Overseas Development Administration (NRRD).

Biological activity of herbicide residues in the oil palm growing ecologies of Nigeria.
(03274) IFS.

Biology of yam anthracnose (*Colletotrichum*).
(04887) Overseas Development Administration (NRRD).

Breed and seasonal influences on the reproductive potential of the cock in a humid
tropical environment.
(03370) IFS.

Case studies on raising agricultural productivity of women in Africa for increased food
production.
(02151) World Bank.

Cassava cyanide: improved techniques for estimation and influence of environment on
concentration.
(04904) Australian Centre for International Agricultural Research.

Cattle Research Network (CARNET) (formerly Cattle Milk and Meat Network).
(05358) International Livestock Center for Africa.

Central and West African Root Crops Collaborative Research Network (CEWARFN).
(02166) International Institute of Tropical Agriculture.

Chemical and biological studies on garri toxicity syndrome with particular reference to
the free and bound hydrocyanic acid content.
(03385) IFS.

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- Child nutrition and agriculture (Nigeria).
(04232) International Development Research Centre.
- Co-ordinated Research Programme on the Application of Irradiation Technique for Food Processing in Africa.
(02629) United Nations Food and Agriculture Organization.
- Collaborative Research Support Program (CRSP): Beans and cowpeas.
(01345) U.S. Agency International Development (USAID)/Michigan State University.
- Collaborative Research Support Program (CRSP): Peanuts.
(01341) U.S. Agency for International Development (USAID)/University of Georgia.
- Comparative study of resistance or susceptibility of indigenous Nigerian and exotic chickens to infectious bursal disease.
(05484) International Foundation for Science.
- Control of *Callosobruchus maculatus* with two insecticidal plants and identification of their bioactive components".
(03201) IFS.
- Control of *Callosobruchus maculatus* with two insecticidal plants and identification of their bioactive components.
(05175) International Foundation for Science.
- Control of black cercosporiosis on plantain by resistant cultivars.
(03742) International Network for the Improvement of Banana and Plantain.
- Control of yam anthracnose and other yam pests.
(05782) Overseas Development Administration (NRFD).
- Cooking bananas and plantains.
(04773) Overseas Development Administration (NRFD).
- Cooperative Cereals Research Network (CCRN).
(02171) International Crops Research Institute for the Semi-Arid Tropics.
- Cooperative Programme for the Improvement of Genetic Resources of Multipurpose Woody Species.
(02174) Food and Agriculture Organization of the United Nations.
- Corrosion in tropical agriculture—Corrosion and metals/materials degradation in cassava root processing industries.
(03351) IFS.
- Cultivation of fenugreek seed and the isolation and quantification of its steroidal saponinins.
(03110) IFS.
- Development and engineering economic assessment of non-alcoholic beverages from some

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tropical crops.

(05477) International Foundation for Science.

Development cooperation Soil and Fertilizer.

(05595) IB (Institute for Soil Fertility Research).

Development of rapid tests for identification and differentiation of yam viruses.

(04900) Overseas Development Administration (NRRD).

Development of simple methods and techniques for the detection, quantification and identification of pectolytic *Erwinia* species on or in (latent infection) potato tubers.

(05703) Institut fuer Pflanzenpathologie und Pflanzenschutz der Universitaet Goettingen.

Development of soy-based evaporated cow milk analog.

(03382) IFS.

Development of starter cultures for the production of indigenous fermented food condiments.

(02939) IFS.

Development of weaning food from local fermented food.

(03157) IFS.

Digestibility and bio-availability of agricultural by-products in Nigeria for use as feed for *Clarias* sp. and *Heterobranchus* sp.

(03190) IFS.

Draught animals for production/feeding and working strategies for draught animals.

(04753) Overseas Development Administration (NRRD).

Ecology of some medicinal woody plants in Nigeria: genus *Zanthoxylum*.

(05464) International Foundation for Science.

Economic role of women in the cocoa industry (Nigeria).

(04262) International Development Research Centre.

Effects of chemotherapy on reproductive lesions in Nigerian (Yankassa) sheep experimentally infected with trypanosomes.

(03266) IFS.

Effects of processing on distribution and destruction of mycotoxins.

(04737) Overseas Development Administration (NRRD).

Effects of season on testicular development, semen quality and seminal biochemistry of tropical boars.

(03372) IFS.

Environmental management (formerly Environment, formerly Adjustment Loan - Environment).

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(04352) World Bank; Nigeria.

Epidemiology and control of anthracnose disease of yam in Nigeria.
(05749) Overseas Development Administration (NRRD).

Epidemiology and control of Choanephora blights and dieback of amaranth (*Amaranthus* spp.) in the Nigerian rain forest and savanna zones.
(05275) International Foundation for Science.

Epidemiology of *Alternaria* blight of sunflower (*Helianthus Annus*) in the Nigerian Guinea savanna.
(03295) IFS.

Epidemiology of viral gastroenteritis in Nigerian ruminants and pigs.
(05257) International Foundation for Science.

Ethnoveterinary practices (Nigeria).
(05326) International Development Research Centre.

Etiology, epidemiology and control of some virus diseases of vegetables in Southern Nigeria.
(03309) IFS.

Evaluation and selection of *Azolla* spp. suitable for livestock feed formulation.
(05442) International Foundation for Science.

Evaluation of *Dracaena* berries for the control of schistosomiasis in Nigeria.
(03253) IFS.

Evaluation of feather meal and fish silage blends as alternative sources of animal protein in the intensive culture of fish in Nigeria.
(05455) International Foundation for Science.

Evaluation of gelatin spheres-in-oil-in-water emulsions as controlled release drug delivery systems in malarial chemotherapy
(03394) IFS.

Evaluation of non-conventional poultry feed ingredients and traditional management of Nigerian local chickens.
(03320) IFS.

Evaluation of planting spaced trees in cultivated fields on vertisolic soils under low rainfall, with special reference to soil conditions and crop yield.
(04701) Overseas Development Administration (NRRD).

Evaluation of the performance of sheep and goats fed crop residues chemically treated with organic waste ashes.
(03208) IFS.

Evaluation of tropical lowland forage legumes for sub-humid West Africa at ILCA.

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(03779) Universitaet Giessen.

Facilities of Nigerian Institute for Oceanography and Marine Research.

(04449) Ministry of Foreign Affairs.

Factors influencing the occurrence of yam tuber rots in West Africa.

(05739) Overseas Development Administration (NRRD).

Fadama development (formerly National Fadama development).

(04346) World Bank; Nigeria.

Feeding and management strategies for draught animals.

(01820) Overseas Development Administration (NRRD).

Fertilizer Marketing and Trade Information Program (FMTIP).

(02145) Directorate General for International Cooperation (DGIS); U.S. Agency for International Development (USAID).

Fertilizer SECAL.

(04441) World Bank; Nigeria.

Food technology policy (Nigeria).

(02586) International Development Research Centre.

Forestry III.

(04301) World Bank; Nigeria.

Genetic improvement of egg production potential of Nigerian indigenous chickens using migrant genes.

(03319) IFS.

Genetic studies on lactobacillus species isolated from some Nigerian fermented foods.

(05289) International Foundation for Science.

Genetic variability in growth and nitrogen fixation of some fast-growing tree species in low phosphate soil.

(03183) IFS.

Genome analysis of banana and plantain (*Musa* spp.) and the black Sigatoka fungus *Mycosphaerella fijiensis*.

(05691) Institut fuer Pflanzliche Molekularbiologie, Fachbereich Biologie der Universitaet Frankfurt.

Genomic variability of *Striga* and *Cynodon* species.

(04868) Overseas Development Administration (NRRD).

Genotypic differences in manganese tolerance of cowpea (*Vigna unguiculata*).

(04625) Universitaet Hannover.

Germplasm conservation and improvement of *Parkia bilobosa* (Jacq) Benth for multipurpose

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use.

(05665) University of Wales, Bangor; CNSF, Ouagadougou, Burkina Faso; FRIN, Nigeria; SAFS, Nancy, France; WAU; The Netherlands.

Gully erosion (Nigeria).

(05351) International Development Research Centre.

Human food value of Australian acacia seeds.

(05389) Australian Centre for international Agricultural Research.

Identification and purification of immunodiagnostic antigens of *Fasciola gigantica* for the specific serodiagnosis of fasciolosis in ruminants.

(05473) International Foundation for Science.

Identification of infectious bursal disease (Gumboro) virus serotypes in Nigeria.

(03229) IFS.

Identifying the constraints on livestock productivity and land use in Africa brought about by livestock including the tsetse transmitted Trypanosomiasis.

(05798) Overseas Development Administration (NRRD).

Impact of improved technology on plantain production in Bendel State of Nigeria.

(03743) International Network for the Improvement of Banana and Plantain.

Improving the Productivity of Indigenous African Livestock using Radioimmunoassay and related Techniques.

(02621) Directorate General for International Cooperation (DGIS).

Induction and control of oestrus in Nigerian zebu cows with progesterone releasing intra-vaginal devices (prids).

(03365) IFS.

INIBAP/Taxonomic Linguistic Study of Plantain Cultivars in Africa.

(05649) INIBAP.

Institute of Water Resources.

(04529) United Nations Educational, Scientific and Cultural Organization (UNESCO).

Institutionalizing the indigenous capacity in West Africa.

(05336) International Development Research Centre.

Integrated control of *Oryctes monoceros* on palms in Nigeria.

(05462) International Foundation for Science.

International agricultural research centers: 05 International Livestock Center for Africa (ILCA).

(01967) U.S. Agency for International Development.

International Network for the improvement of Bananas and Plantains (INIBAP).

(05369) International Network for the Improvement of Bananas and Plantains.

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International Network on Soil Fertility and Sustainable Rice Farming (INSURF).
(05370) International Rice Research Institute.

International Network on the Genetic Enhancement of Rice (INGER).
(05368) International Rice Research Institute.

International Pearl Millet Adaptation Trial (IPMAT).
(05375) International Crops Research Institute for the Semi-Arid Tropics.

International Pearl Millet Disease Resistance Testing Program (IPMDRTP).
(05376) International Crops Research Institute for the Semi-Arid Tropics.

International Rice Testing Program for Africa (IRTP).
(02160) United Nations Development Program (UNDP)/European Economic Commission (EEC)/Japan.

International Rubber Research and Development Board (IRRDB).
(01212) International Rubber Research and Development Board.

International Soybean Program (INTSOY).
(05373) University of Illinois at Urbana-Champaign.

Inventory of environmental research and development activities (Nigeria).
(02548) International Development Research Centre.

Investigation into the effects of chronic and subclinical trypanosomiasis on reproductive performance of male pigs in tsetse infested zone of Nigeria.
(03232) IFS.

Investigation of the causative agents of groundnut rosette disease in Africa.
(02821) Commission of the European Communities.

Investigations in different forms of soil erosion under different cropping systems in Nigeria.
(01377) Gesellschaft fuer Technische Zusammenarbeit (GTZ).

Investigations into the parasitic infestation and health problems of the African giant snail, *Archachatina marginata*.
(05265) International Foundation for Science.

Iron nutrition and availability from some tropical foods.
(03340) IFS.

Irrigation development.
(04302) World Bank; Nigeria.

Isolation, characterization of the biologically active substances from two species of Nigerian medicinal plants; *Nauclea* spp. and *Baphia* spp.
(03342) IFS.

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- Kaduna/Katsina agricultural development project (formerly Kaduna State integrated agricultural development project).
(01014) World Bank, Nigeria.
- Lactic acid bacteria in cassava fermentation for gari production.
(02901) IFS.
- Liberalization of agricultural marketing (Nigeria).
(04254) International Development Research Centre.
- Lipid peroxidation and activities of some phenol-metabolising enzymes in relation to seed vigour in stored pumpkin (*Telfaira occidentalis*) seeds.
(05276) International Foundation for Science.
- Litho and pedogenesis of soil cakeras in the humid tropics.
(04656) Universitat Kiel.
- Livestock II.
(03515) World Bank, Nigeria.
- Livestock III.
(03422) World Bank, Nigeria.
- Local-level mapping (Nigeria) - Phase II.
(05317) International Development Research Centre.
- Lower Anambra irrigation project (LAIIP).
(05103) Japan International Cooperation Agency.
- Management of the West African Dwarf Goat in the humid tropics (Phase II and III).
(03625) Agricultural University Wageningen.
- Management of the West African Dwarf Goat in the Humid Tropics (Phases II and III).
(05508) Agricultural University Wageningen, The Netherlands (Dept. Animal Husbandry, Dept. Agricultural Economics), Obafemi Awolowo University, (Dept. of Animal Science), Ile-Ife, Nigeria.
- Management of vertisols under semi-arid conditions in Africa (MOVUSAC).
(01022) International Board for Soil Research and Management
- Mangrove Swamp Rice Network (MNSRN).
(05846) West Africa Rice Development Association (WARDA).
- Meat/fish processing (Nigeria).
(02428) International Development Research Centre.
- Multi-state agricultural development project.
(01015) World Bank, Nigeria.

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Multi-State agricultural development project II.
(03517) World Bank; Nigeria.

National agricultural research project.
(01673) World Bank; Nigeria.

National agricultural technology support.
(03420) World Bank; Nigeria.

National seed and quarantine project.
(02755) World Bank; Nigeria.

National Soil Reference Collections (NASREC II).
(05624) ISRIC (International Soil Reference and Information Centre).

Natural products from some important agricultural pest insects of Nigeria.
(03186) IFS.

Naturally-occurring products modelled as micropolar fluids.
(03284) IFS.

Network on land development for sustainable agriculture in Africa (AFRICALAND - Land development).
(02109) International Board for Soil Research and Management.

Network on management of acid soils in humid Africa (AFRICALAND - Management of acid soils).
(01021) International Board for Soil Research and Management.

Nigeria: Access to urban waste markets by near-urban farmers.
(04896) Overseas Development Administration (NRRD).

NIPSSSET: African agriculture - year 2000 program.
(02071) Nigeria Institute of Plant Science and Solar Energy/Technology.

Nutrient and water-use efficiency of crops grown on highly weathered soils in the Humid Tropics.
(03890) Landwirtschaftliche Forschungsanstalt Buentehof.

Nutrient budgets in relation to the sustainability of indigenous farming systems in Northern Nigeria.
(05755) Overseas Development Administration (NRRD).

Okra Mosaic virus.
(03642) Administration Générale de la Coopération au Développement.

On-Farm Fertilizer Adoption Program (OFFAP).
(02148) International Fertilizer Development Center, Africa (IFDC-Africa).

Optimisation of natural-circulation solar-energy tropical crop dryers.

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(02879) Commission of the European Communities.

Optimization of a solar powered solid absorption refrigeration system for rural agricultural applications.

(03350) IFS.

Pan-African Networks for Rural Social Science Research.

(02661) Winrock International; Ford Foundation.

Pathogens and diseases of cultured fish in the southern states of Nigeria.

(03191) IFS.

Pharmacological, toxicological and phytochemical investigations of three medicinal plants of Eastern Nigeria.

(03304) IFS.

Phase I: Resistance of cowpea to *Striga gesnerioides* and *Alectra vogelii* Phase II: Resistance of legumes and cereals to *Striga* species.

(01767) Overseas Development Administration (NRRD).

Phenolics including tannins in multipurpose trees and browse and their effect on ruminant nutrition and health.

(04620) Universitaet Hohenheim.

Phytochemical and pharmacological evaluation of some important Nigerian medicinal plants.

(03276) IFS.

Phytochemical and pharmacological investigation into the leaves of *Alchornea cordifolia* as used in traditional medicine.

(03346) IFS.

Post-harvest assessment of root and tuber crop storage.

(04834) Overseas Development Administration (NRRD).

Processing, nutritional and sensory evaluation of the African yam bean (*Sphenostylis stenocarpa*) in Nigeria.

(05288) International Foundation for Science.

Production of single cell protein from industrial wastes.

(03156) IFS.

Promotion and financing of micro-industries, especially in the informal sector of Nigeria/West Africa.

(04632) Ruhr-Universitaet Bochum.

Protein and vitamin-fortification studies of fermented and unfermented maize and cassava foods.

(03216) IFS.

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Pubertal development in indigenous tropical cattle: N'dama and Muturu.
(03253) IFS.

Public works in Africa to improve food-security.
(04626) Deutsche Gesellschaft fuer technische Zusammenarbeit (GTZ).

Quality and stability of solar dried cured meat.
(03250) IFS.

Reconnaissance / preparation study on forestry biotechnology in the drought-prone Sub-Saharan African countries, with special reference to Sahelian and Sudanian zones (SSZ).
(02094) World Bank.

Regional cooperation on cotton research and development.
(01116) World Bank.

Regional Tropical Leafy Trees Improvement Program [Programme Regional d'Amelioration des Feuillus Tropicaux (PRAFT)].
(02169) European Economic Commission (EEC).

Relationship between water quality and Aeromonas hydrophila infections in pond-reared species of tilapia in Nigeria.
(03286) IFS.

Relationship between water quality and Aeromonas hydrophila infections in pond-reared species of tilapia in Nigeria.
(05214) International Foundation for Science.

Reproductive endocrinology of the red Sokoto goat (Maradi).
(03324) IFS.

Research and development of waste water treatment technology for irrigation in rural Nigeria.
(03352) IFS.

Research on small ruminants in the humid and sub-humid zones of West Africa.
(02110) International Fund for Agricultural Development.

Reseau sur la Conservation Post-Recolte des Denrees Alimentaires (GRENIER) [Network for Post-Harvest Storage of Food Crops].
(02647) Association des Universites Partiellement ou Entierement de Langue Francaise (AUPELF).

Root architecture of sorghum in relation to avoidance of a Striga harmonithica infection.
(05805) Overseas Development Administration (NRFD).

Rubber seed oil: Finding uses for a waste product (Nigeria).
(05414) International Development Research Centre.

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- Rumen degradability of tropical forages, browse plants and agro-industrial by-products.
(03094) IFS.
- Safety, efficacy and potency test ; on a PPR viral vaccine.
(03318) IFS.
- Schistosomide screening and evaluation of Nigerian medicinal plants.
(02954) IFS.
- Seasonal influence on the reproductive efficiency of the West African Dwarf (WAD) goat:
the hormonal profile during the reproductive cycle.
(03162) IFS.
- Seasonal influence on the reproductive efficiency of the West African Dwarf (WAD) goat:
the hormonal profile during the reproductive cycle.
(05164) International Foundation for Science.
- Second forestry project.
(04351) World Bank, Nigeria.
- Second national agriculture.
(05401) World Bank, Nigeria.
- Sero-surveillance of rinderpest and other diseases in Africa, using immunoassay
techniques.
(02628) Swedish Agency for Rural Cooperation (SAREC).
- Small Ruminant and Camel Group Research Network.
(05381) International Livestock Center for Africa.
- Small Ruminants and Camel Group.
(02632) Deutsche Gesellschaft fuer Technische Zusammenarbeit (GTZ) GmbH.
- Smallholder information and resources needs for maize production in Nigeria.
(04938) International Development Research Centre.
- Socio-economic assessment of biotechnologies for small farmers.
(04707) Overseas Development Administration (ORPD).
- Socio-economic inputs of cassava postharvest technologies on smallholders in South
East Nigeria.
(05725) Institut fuer Agrar- und Sozialökonomie in den Tropen und Subtropen der
Universität Hohenheim, Fachgebiet Landwirtschaftliche Betriebslehre in den Tropen und
Subtropen.
- Socioeconomic and environmental factors related to development and application of
vaccines for animal diseases in Africa.
(01222) Rockefeller Foundation.

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Soil genesis in the humid tropical lowlands.
(04606) Universitaet Kiel.

Sokoto State agricultural development.
(03514) World Bank; Nigeria.

Solid substrate fermentation of Bambara groundnut (*Vigna subterranea*).
(03384) IFS.

Southern Borno agricultural development project.
(03516) World Bank; Nigeria.

Soybean threshers (Nigeria).
(02519) International Development Research Centre.

Soybean utilization (IITA) - Phase II.
(04182) International Development Research Centre.

Spoilage and preservation of 'ugba' (*Pentaclethra macrophylla*), a local snack.
(03300) IFS.

Storage of cereals by pastoralists.
(04761) Overseas Development Administration (NRRD).

Strategies for the control of yam anthracnose.
(05797) Overseas Development Administration (NRRD).

Strengthening agricultural extension.
(04510) Food and Agriculture Organization of the United Nations (FAO).

Strengthening maize and cassava research in eleven countries of West and Central Africa: Plan of action.
(02665) Ministere de la Cooperation (France).

Studies on biological control of the black cowpea aphid, *Aphis craccivora*, by two indigenous coccinellid species in Nigeria.
(03243) IFS.

Studies on biological control of the black cowpea aphid, *Aphis craccivora*, by two indigenous coccinellid species in Nigeria.
(05195) International Foundation for Science.

Studies on growth and aspects of primary metabolism of *Manihot esculenta* (cassava) seedlings. The effect of water stress.
(03240) IFS.

Studies on linamarin breakdown during processing of cassava into gari.
(05290) International Foundation for Science.

Studies on spoilage and shelf-life extension of kwoka, a Nigerian traditional maize

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dish.

(03386) IFS.

Studies on the biology of *Callosobruchus subinnotatus* (Coleoptera: bruchidae) an insect pest of stored Bambara groundnuts.

(03213) IFS.

Studies on the fermentation production of lafun and fufu from cassava and their storage.

(03215) IFS.

Studies on the improvement of some locally fermented plant products as food supplements.

(03171) IFS.

Studies on the leaf spot diseases of *Telfairia occidentalis* 'Ugu' in Nigeria.

(03237) IFS.

Studies on the physico-mechanical properties and moisture relations of cocoa beans.

(03349) IFS.

Study of caprine pulmonary mycoplasmoses in Nigeria with particular reference to contagious caprine pleuropneumonia (CCPP).

(03371) IFS.

Study of infectious bursal disease in Nigeria: Role of antigenic differences and immunosuppression in vaccination.

(03288) IFS.

Study of the embryonic and post-embryonic development of the lymphoid tissues of the helmet guinea fowl.

(03230) IFS.

Sub-Saharan Africa hydrological assessment.

(01108) World Bank.

Supplemental irrigation in the humid tropics.

(03651) Administration Générale de la Coopération au Développement.

Support to the International Institute of Tropical Agriculture, IITA.

(05047) Swedish Agency for Research Cooperation with Developing Countries.

Survey, biology and control of grasshoppers.

(01526) Institute for Agricultural Research.

The characterization of rice growing agro-ecosystems in West Africa (initial phase).

(05601) WSC (Winand Staring Centre for Integrated Land, Soil and Water Research).

The development and evaluation of a new process line for garri production.

(03252) IFS.

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The development and evaluation of a new process line for garri production.
(05197) International Foundation for Science.

The development of practical diets from local feedstuffs and industrial wastes for the culture of tilapia (*Oreochromis niloticus*).
(03356) IFS.

The Development of Practices for Area-wide Tsetse Eradication with emphasis on the Sterile Insect Technique.
(02626) United Nations Food and Agriculture Organization.

The East and Southern Africa Root Crops Research Network (ESARRN).
(02080) U.S. Agency for International Development (USAID)/International Development Research Centre (IDRC)/International Institute of Tropical Agriculture (IITA).

The effect of some live mulches on the growth and yield of intercropped oil palm, maize and cassava, and on soil conditions.
(03298) IFS.

The effect of some live mulches on the growth and yield of intercropped oil palm, maize and cassava, and on soil conditions.
(05223) International Foundation for Science.

The effect of tannins on nutrient digestibility and animal performance in small ruminants.
(04635) Universitaet Hohenheim.

The epidemiology and control of the sorghum foliar pathogens in the semi-arid tropics.
(01813) Overseas Development Administration (NRRD).

The feeding behaviour of *Cicadulina*, vector of maize streak virus disease on resistant and susceptible maize genotypes.
(04858) Overseas Development Administration (NRED).

The production and marketing requirements of solar dried meat for the humid tropics.
(05789) Overseas Development Administration (NRRD).

The rate of adoption of minisett yam multiplication technique among farmers of Imo State, Nigeria.
(03282) IFS.

The role of para-influenza type 3 (PI-3) virus in relation to other respiratory pathogens in the etiology of caprine pneumonia in Nigeria.
(05440) International Foundation for Science.

The role of plant residues in soil management for food production in the humid tropics.
(05626) AB (Research Institute for Agrobiolgy and Soil Fertility).

The West and Central Africa Cowpea Collaborative Research Network (RENACO).

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(02078) U.S. Agency for International Development (USAID)/Semi-Arid Food Grain Research and Development (SAFGRAD).

Thin-layer drying and rewetting characteristics of cocoa beans.
(05437) International Foundation for Science.

Third multi-state agricultural development project.
(02754) World Bank; Nigeria.

Toxic and potential toxic factors and anti-nutritional factors in livestock feeds and their implications for livestock productivity.
(03257) IFS.

Traditional Techniques of Micro Climate Improvement (TTMI), phase II.
(05658) WAU (Wageningen Agricultural University).

Tree crops (Oilpalm, Rubber).
(02756) World Bank; Nigeria.

Tree regeneration, recruitment and mortality in Nigerian tropical moist forests.
(03333) IFS.

Universities and national agricultural research in Sub-Saharan Africa.
(03678) International Service for National Agricultural Research.

University environmental linkage: Range development and Camel studies.
(04648) Justus von Liebig Universitaet Giessen.

Utilization of cocoa-pod husks in low-cost diet and nutrition of the dwarf African catfish, *Clarias isheriensis*.
(03357) IFS.

Vector competence of *Culex antennatus* for the transmission of Rift Valley Fever virus.
(03326) IFS.

West Africa : Post harvest losses of rice.
(04675) Overseas Development Administration (NRRD).

West Africa Network on Animal Traction (WAATA).
(02622) Deutsche Gesellschaft fuer Technische Zusammenarbeit (GTZ) Gmb H.

West Africa Regional Cooperative for Research on Plantain (WARCORP).
(02167) International Institute of Tropical Agriculture.

West Africa Regional Pearl Millet Improvement Program.
(02154) International Crops Research Institute for the Semi-Arid Tropics (ICRISAT Sahel Center).

West African Farming Systems Research Network (WAFSRN/RESPAO).
(02619) International Fund for Agricultural Development (IFAD)/Semi-Arid Food Grain

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Research and Development (SAFGRAD).

West African Fertilizer Management and Evaluation Network (WAFMEN).
(02614) International Development Research Centre (IDRC); United Nations Development Program (UNDP).

West African Forages Network (WAFNET).
(02103) Multilateral Cooperation Division, Economic Cooperation Bureau, MOFA, JAPAN.

West African Irrigation Research Development Network (WAIRD).
(02612) International Irrigation Management Institute (IIMI).

West and Central Africa Maize Collaborative Research Network (WECAMAN).
(02157) U.S. Agency for International Development (USAID)/Semi-Arid Food Grain Research and Development (SAFGRAD).

West and Central Africa Sorghum Research Network (WCASRN).
(02075) U.S. Agency for International Development (USAID)/Semi-Arid Food Grain Research and Development (SAFGRAD).

Pakistan

An integrated research programme on the development of biological pesticides for locust and grasshopper control.
(01546) U.S. Agency for International Development.

Development of equipment and methods for continuous production of bacterial antigens within a closed bioreactor system.
(03938) Institut fuer Pflanzenbau und Tierhygiene in den Tropen und Subtropen, Universitaet Goettingen.

International Network on Soil Fertility and Sustainable Rice Farming (INSURF).
(05370) International Rice Research Institute.

International Pearl Millet Adaptation Trial (IPMAT).
(05375) International Crops Research Institute for the Semi-Arid Tropics.

Low-cost fruit and vegetable drying for small-scale rural enterprise development.
(05745) Overseas Development Administration (NRRD).

Panama

International Network for the Improvement of Bananas and Plantains (INIBAP).
(05369) International Network for the Improvement of Bananas and Plantains.

International Soybean Program (INTSOY).
(05373) University of Illinois at Urbana-Champaign.

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Peru

International Network on Soil Fertility and Sustainable Rice Farming (INSURF).
(05370) International Rice Research Institute.

International Soybean Program (INTSOY).
(05373) University of Illinois at Urbana-Champaign.

Post-harvest assessment of root and tuber crop storage.
(04834) Overseas Development Administration (NRRD).

Philippines

International Network for the Improvement of Bananas and Plantains (INIBAP).
(05369) International Network for the Improvement of Bananas and Plantains.

International Network on Soil Fertility and Sustainable Rice Farming (INSURF).
(05370) International Rice Research Institute.

International Rubber Research and Development Board (IRRDB).
(01212) International Rubber Research and Development Board.

International Soybean Program (INTSOY).
(05373) University of Illinois at Urbana-Champaign.

Optimal management of aquaculture of pond systems in developing countries.
(01464) Universitaet Kiel.

Structure, growth response and system dynamics of virgin and selectively logged
rainforest to silvicultural treatments: Liberia, the Philippines, Borneo and south
China.
(03858) Bundesanstalt fuer Forst-und Holzwirtschaft (BFH).

Sustainable agroforestry (Brandon/Ghana/Philippines).
(04948) International Development Research Centre.

Urea injector test.
(04143) Research Institute for Agrobiolgy and Soil Fertility (AB).

Portugal

Investigations on stackburn in sub-Saharan Africa.
(04688) Overseas Development Administration (NRRD).

Puerto Rico

International Soybean Program (INTSOY).

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(05373) University of Illinois at Urbana-Champaign.

Rwanda

African Center of Meteorological Applications for Development (ACMAD).
(01109) World Meteorological Organization (WMO).

African Small Ruminant Collaborative Research Network.
(02620) International Fund for Agricultural Development.

Alley Farming Network for Tropical Africa.
(02088) Canadian International Development Agency (CIDA)/International Development Research Centre (IDRC).

Applied research programme: Eastern and Central African Agroforestry Network for Africa (ECA-AFRENA) - The bimodal highlands.
(02615) International Council for Research in Agroforestry.

Ascochyta blight research.
(03629) Centro Internacional de Agricultura Tropical (CIAT)/National Agricultural Research Institutes.

Central and West African Root Crops Collaborative Research Network (CEWARRN).
(02166) International Institute of Tropical Agriculture.

Cooperative Cereals Research Network (CCRN).
(02171) International Crops Research Institute for the Semi-Arid Tropics.

East Africa Regional Cooperative for Research on Bananas (and Ensete) (EARCORBE).
(02168) International Network for the Improvement of Banana and Plantain

Fertilizer Marketing and Trade Information Program (FMTP).
(02145) Directorate General for International Cooperation (DGIS); U.S. Agency for International Development (USAID).

International Rice Testing Program for Africa (IRTP).
(02160) United Nations Development Program (UNDP)/European Economic Commission (EEC)/Japan.

Investigations on the diversity of rain and cloud forests in Rwanda and Zaire.
(05688) Botanisches Institut der Universität Bonn, Abt. Systematik und Morphologie.

Network on management of acid soils in humid Africa (AFRICALLAND - Management of acid soils).
(01021) International Board for Soil Research and Management.

Programme for Improvement of Potatoes in Central Africa [Programme Regional pour l'Amélioration de la Culture de la Pomme de Terre en Afrique Centrale] (PRAPAC).
(02079) U.S. Agency for International Development.

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Public works in Africa to improve food-security.

(04626) Deutsche Gesellschaft fuer technische Zusammenarbeit (GTZ).

Reseau Developpement (R/D) [Development Network].

(02653) GRET.

Reseau sur la Conservation Post-Recolte des Denrees Alimentaires (GRENIER) [Network for Post-Harvest Storage of Food Crops].

(02647) Association des Universites Partiellement ou Entierement de Langue Francaise (AUPELF).

Small Ruminant and Camel Group Research Network.

(05381) International Livestock Center for Africa.

Small Ruminants and Camel Group.

(02632) Deutsche Gesellschaft fuer Technische Zusammenarbeit (GTZ) Gmb H.

Social Science Interface Research Unit (SSIRU).

(02779) The International Centre of Insect Physiology and Ecology.

Strategies Alimentaires (STRA) [Food Strategies Network].

(02655) ORSTOM/Institut Francais de Recherche Scientifique pour le Developpement en Cooperation.

Sub-Saharan Africa hydrological assessment.

(01108) World Bank.

The East and Southern Africa Root Crops Research Network (ESARRN).

(02080) U.S. Agency for International Development (USAID)/International Development Research Centre (IDRC)/International Institute of Tropical Agriculture (IITA).

Sao Tome and Principe

African Center of Meteorological Applications for Development (ACMAD).

(01109) World Meteorological Organization (WMO).

Agricultural privatization and smallholder development (formerly Agricultural sector development).

(03746) World Bank, Sao Tome & Principe.

Central and West African Root Crops Collaborative Research Network (CEWARRN).

(02166) International Institute of Tropical Agriculture.

Sub-Saharan Africa hydrological assessment.

(01108) World Bank.

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Saudi Arabia

Association Internationale pour l'Optimisation de la Nutrition des Plantes (ANIOP)
[International Association for the Optimization of Plant Nutrition].
(02641) Centre de Cooperation Internationale en Recherche Agronomique pour le
Developpement (CIRAD).

Senegal

(05849) West Africa Rice Development Association (WARDA).

(05850) West Africa Rice Development Association (WARDA).

(05851) West Africa Rice Development Association (WARDA).

(05852) West Africa Rice Development Association (WARDA).

African Center of Meteorological Applications for Development (ACMAD).
(01109) World Meteorological Organization (WMO).

African Research Network for Agricultural By-Products (ARNAB).
(02170) International Development Research Centre (IDRC); International Livestock
Centre for Africa (ILCA).

African Small Ruminant Collaborative Research Network (SRNET).
(05812) International Livestock Centre for Africa (ILCA).

Agriculture Hydrologie-Meteorologie.
(02634) Centre Regional de Formation et d'Application en Agrometeorologie et Hydrologie
(AGRHYMET).

Agroforestry research for development of the drylands of West Africa.
(02113) International Fund for Agricultural Development.

Agroforestry systems in the Tropics.
(03859) Gesellschaft fuer Technische Zusammenarbeit (GTZ).

Alley Farming Network for Tropical Africa.
(02088) Canadian International Development Agency (CIDA)/International Development
Research Centre (IDRC).

Animal Traction Research Network.
(05813) International Livestock Centre for Africa (ILCA).

Assessment of conditions for replicating production systems in Africa's savanna areas -
second stage.
(02098) Centre de Cooperation Internationale en Recherche Agronomique pour le
Developpement (CIRAD).

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Cassava Network [Réseau Manioc].
(02084) Conférence des Responsables de Recherche Agronomique Africains et Français.

Cattle Research Network (CARNET) (formerly Cattle Milk and Meat Network).
(05358) International Livestock Center for Africa.

Co-ordinated Research Programme on the Application of Irradiation Technique for Food Processing in Africa.
(02629) United Nations Food and Agriculture Organization.

Collaborative Research Support Program (CRSP): Beans and cowpeas.
(01345) U.S. Agency International Development (USAID)/Michigan State University.

Collaborative Research Support Program (CRSP): Peanuts.
(01341) U.S. Agency for International Development (USAID)/University of Georgia.

Cooperative Programme for the Improvement of Genetic Resources of Multipurpose Woody Species.
(02174) Food and Agriculture Organization of the United Nations.

Crop protection programme.
(03409) CILSS-Sahel Institute.

Drought Resistance Research Network (R3S) [Réseau de Recherche sur la Résistance à la Sécheresse].
(02610) Conférence des Responsables de Recherche Agronomique Africains et Français.

Ecological monitoring of the dynamics of desertification.
(03415) CILSS-Sahel Institute.

Ecology/environment programme: reforestation and conservation of the forestry resources.
(03416) CILSS-Sahel Institute.

Fertilizer Marketing and Trade Information Program (FMTIP).
(02145) Directorate General for International Cooperation (DGIS): U.S. Agency for International Development (USAID).

Groundnut Network [Réseau Arachide].
(02087) Conférence des Responsables Agronomiques Africains et Français.

Improvements to millet, sorghum, cowpea, and maize crops in the Sahel.
(02738) Commission of the European Communities.

Improving the Diagnosis and Control of Trypanosomiasis and other Vector-borne Diseases of African Livestock, using Immunoassay Methods.
(02627) Directorate General for International Cooperation (DGIS).

Improving the Productivity of Indigenous African Livestock using Radioimmunoassay and related Techniques.

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(02621) Directorate General for International Cooperation (DGIS).

Increase of productivity and control of diseases of small ruminants.
(03410) CILSS-Sahel Institute.

International Network on Soil Fertility and Sustainable Rice Farming (INSURF).
(05370) International Rice Research Institute.

International Pearl Millet Adaptation Trial (IPMAT).
(05375) International Crops Research Institute for the Semi-Arid Tropics.

International Pearl Millet Disease Resistance Testing Program (IPMDRTP).
(05376) International Crops Research Institute for the Semi-Arid Tropics.

International Rice Testing Program for Africa (IRTP).
(02160) United Nations Development Program (UNDP)/European Economic Commission (EEC)/Japan.

International Soybean Program (INTSOY).
(05373) University of Illinois at Urbana-Champaign.

Mangrove Swamp Rice Network (MSRN).
(05848) West Africa Rice Development Association (WARDA).

Monitoring of renewable natural resources in the Sahel.
(02739) Commission of the European Communities.

Network for Improvement of Rice Cultivation [Réseau Riz].
(02161) Conférence des Responsables de Recherche Agronomique Africains et Français.

Pathology of small ruminants: etiology, vaccines and prophylaxis.
(03411) CILSS-Sahel Institute.

Programme for the strengthening of research on production systems.
(03418) CILSS-Sahel Institute.

Programme on supporting services: documentation, information and training.
(03419) CILSS-Sahel Institute.

Public works in Africa to improve food-security.
(04626) Deutsche Gesellschaft fuer technische Zusammenarbeit (GTZ).

Reconnaissance / preparation study on forestry biotechnology in the drought-prone Sub-Saharan African countries, with special reference to Sahelian and Sudanian zones (SSZ).
(02094) World Bank.

Regional programme for the improvement of millet, sorghum, cowpeas, and maize (transitional phase).
(03407) CILSS-Sahel Institute.

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Research and study programme on the improved management of extensive national rangelands in the Sahel (PGENES).

(03412) CILSS-Sahel Institute.

Research and study programme on the possibility of intensification of fodder and animal production in the framework of an association of agriculture and livestock breeding in Sub-Saharan, Sudanian and Guinean zones.

(03413) CILSS-Sahel Institute.

Research programme on food security, strategies and policies.

(03417) CILSS-Sahel Institute.

Research programme on phylogenetic resources.

(03408) CILSS-Sahel Institute.

Research, coordination, and training for improved livestock production in Sub-Saharan Africa.

(02732) Commission of the European Communities.

Réseau Coton (COTON).

(02082) France: Conférence des Responsables de Recherches Agronomiques Africains et Français (CORAF).

Reseau Developpement (R/D) [Development Network].

(02653) GRET.

Reseau Femmes et Developpement (FEM/DEV) [Women in Development Network].

(02652) ORSTOM/Institut Français de Recherche Scientifique pour le Developpement en Cooperation.

Reseau sur la Conservation Post-Recolte des Denrees Alimentaires (GRENIER) [Network for Post-Harvest Storage of Food Crops].

(02647) Association des Universites Partiellement ou Entierement de Langue Francaise (AUPELF).

Sahelian Information Network (SIN).

(02657) Institute of Sahel (INSAH).

Sero-surveillance of rinderpest and other diseases in Africa, using immunoassay techniques.

(02628) Swedish Agency for Rural Cooperation (SAREC).

Social Science Interface Research Unit (SSIRU).

(02779) The International Centre of Insect Physiology and Ecology.

Strategies Alimentaires (STRA) [Food Strategies Network].

(02655) ORSTOM/Institut Français de Recherche Scientifique pour le Developpement en Cooperation.

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Sub-Saharan Africa hydrological assessment.
(01108) World Bank.

The Livestock Trypanotolerant Network.
(02081) Overseas Development Administration.

The West and Central Africa Cowpea Collaborative Research Network (RENACO).
(02078) U.S. Agency for International Development (USAID)/Semi-Arid Food Grain Research and Development (SAFGRAD).

Universities and national agricultural research in Sub-Saharan Africa.
(03678) International Service for National Agricultural Research.

West Africa Collaborative Groundnut Research Network.
(02162) International Crops Research Institute for the Semi-Arid Tropics (ICRISAT).

West Africa Maize Collaborative Research Network [Réseau Mais].
(02156) Conférence des Responsables de Recherche Agronomique Africains.

West Africa Network on Animal Traction (WAATA).
(02622) Deutsche Gesellschaft fuer Technische Zusammenarbeit (GTZ) Gmb H.

West Africa Regional Cooperative for Research on Plantain (WARCORP).
(02167) International Institute of Tropical Agriculture.

West Africa Regional Pearl Millet Improvement Program.
(02154) International Crops Research Institute for the Semi-Arid Tropics (ICRISAT Sahel Center).

West African Farming Systems Research Network (WAFSRN/RESFAO).
(02619) International Fund for Agricultural Development (IFAD)/Semi-Arid Food Grain Research and Development (SAFGRAD).

West African Fertilizer Management and Evaluation Network (WAFMEN).
(02614) International Development Research Centre (IDRC); United Nations Development Program: (UNDP).

West African Forages Network (WAFNET).
(02103) Multilateral Cooperation Division, Economic Cooperation Bureau, MOFA, JAPAN.

West African Irrigation Research Development Network (WAIRD).
(02612) International Irrigation Management Institute (IIMI).

West African program for agro-mineral research.
(02146) International Fertilizer Development Center, Africa (IFDC-Africa).

West African Rice Information System (WARIS).
(04246) International Development Research Centre.

West and Central Africa Maize Collaborative Research Network (WECAMAN).

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(02157) U.S. Agency for International Development (USAID)/Semi-Arid Food Grain Research and Development (SAFGRAD).

West and Central Africa Sorghum Research Network (WCASRN).

(02075) U.S. Agency for International Development (USAID)/Semi-Arid Food Grain Research and Development (SAFGRAD).

Seychelles

African Center of Meteorological Applications for Development (ACMAD).

(01109) World Meteorological Organization (WMO).

Sierra Leone

(05849) West Africa Rice Development Association (WARDA).

(05850) West Africa Rice Development Association (WARDA).

(05851) West Africa Rice Development Association (WARDA).

(05852) West Africa Rice Development Association (WARDA).

Adaptive crop research and extension.

(01334) U.S. Agency for International Development.

African Center of Meteorological Applications for Development (ACMAD).

(01109) World Meteorological Organization (WMO).

African Research Network for Agricultural By-Products (ARNAB).

(02170) International Development Research Centre (IDRC); International Livestock Centre for Africa (ILCA).

Agricultural services (formerly Agriculture and natural resources management).

(05394) World Bank; Sierra Leone.

Agricultural services rehabilitation.

(01138) World Bank; Sierra Leone.

Agriculture sector.

(05402) World Bank; Sierra Leone.

Alley Farming Network for Tropical Africa.

(02088) Canadian International Development Agency (CIDA)/International Development Research Centre (IDRC).

An investigation into the anti-malarial properties of some wood and woody plants of Sierra Leone.

(03172) IFS.

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Antimicrobial properties of selected local plant species.
(03141) IFS.

Applied research programme: Network for Humid Lowlands of West Africa (HULWA-AFRENA).
(02618) International Council for Research in Agroforestry (ICRAF).

Biological nitrogen fixation studies in fast-growing tree legumes in Sierra Leone.
(03105) IFS.

Biological nitrogen fixation studies in fast-growing tree legumes in Sierra Leone.
(05143) International Foundation for Science.

Cassava and household food security in rural area of Makeni/Segbwema in Sierra Leone.
(01787) Overseas Development Administration (NRRD).

Development and current situation of land tenure in English-speaking West Africa: the case of Sierra Leone.
(01500) Universitaet Bonn.

Drying, dry-product processing and study of the nutritional status of the weaning feeds from *Artocarpus Communis*.
(05291) International Foundation for Science.

Economically optimum rate of phosphorus fertilization of upland-rice on gravelly, sandy-clay loam soils in Sierra Leone.
(03242) IFS.

International Rice Testing Program for Africa (IRTP).
(02160) United Nations Development Program (UNDP)/European Economic Commission (EEC)/Japan.

Mangrove Swamp Rice Network (MSRN).
(05848) West Africa Rice Development Association (WARDA).

Palm oil processing (Sierra Leone).
(02365) International Development Research Centre.

Pan-African Networks for Rural Social Science Research.
(02661) Winrock International; Ford Foundation.

Practical village technology for biological conversion of agricultural wastes.
(03143) IFS.

Regional Tropical Leafy Trees Improvement Program (Programme Regional d'Amelioration des Feuillus Tropicaux (PRAFT)).
(02169) European Economic Commission (EEC).

Rural organizations and participation (Sierra Leone).
(04259) International Development Research Centre.

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Secondary metabolites of useful plants of Sierra Leone. A compilation of a pharmacopoea of useful plants of Sierra Leone.
(03200) IFS.

Strengthening African agricultural research: 13 West Africa Rice Development Association (WARDA) - Mangrove and associated swamp rice research.
(01857) U.S. Agency for International Development.

Strengthening maize and cassava research in eleven countries of West and Central Africa: Plan of action.
(02665) Ministere de la Cooperation (France).

Studies on fungal contamination of ogiri (fermented sesame seed) and possible mycotoxin production.
(02935) IFS.

Sub-Saharan Africa hydrological assessment.
(01108) World Bank.

The characterization of rice growing agro-ecosystems in West Africa (initial phase).
(05601) WSC (Winand Staring Centre for Integrated Land, Soil and Water Research).

The West and Central Africa Cowpea Collaborative Research Network (RENACO).
(02078) U.S. Agency for International Development (USAID)/Semi-Arid Food Grain Research and Development (SAFGRAD).

West Africa Regional Cooperative for Research on Plantain (WARCORP).
(02167) International Institute of Tropical Agriculture.

West African Fertilizer Management and Evaluation Network (WAFMEN).
(02614) International Development Research Centre (IDRC): United Nations Development Program (UNDP).

West African Rice Information System (WARIS).
(04246) International Development Research Centre.

West and Central Africa Sorghum Research Network (WCASRN).
(02075) U.S. Agency for International Development (USAID)/Semi-Arid Food Grain Research and Development (SAFGRAD).

Somalia

African Center of Meteorological Applications for Development (ACMAD).
(01109) World Meteorological Organization (WMO).

African Research Network on Rural Poultry Development.
(02624) United Nations Food and Agriculture Organization.

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Cooperative Cereals Research Network (CCRN).

(02171) International Crops Research Institute for the Semi-Arid Tropics.

Cooperative Programme for the Improvement of Genetic Resources of Multipurpose Woody Species.

(02174) Food and Agriculture Organization of the United Nations.

East Africa Regional Cooperative for Research on Bananas (and Ensete) (EARCORBE).

(02168) International Network for the Improvement of Banana and Plantain.

Improving the Diagnosis and Control of Trypanosomiasis and other Vector-borne Diseases of African Livestock, using Immunoassay Methods.

(02627) Directorate General for International Cooperation (DGIS).

Reseau Developpement (R/D) [Development Network].

(02653) GRET.

Sero-surveillance of rinderpest and other diseases in Africa, using immunoassay techniques.

(02628) Swedish Agency for Rural Cooperation (SAREC).

Social Science Interface Research Unit (SSIRU).

(02779) The International Centre of Insect Physiology and Ecology.

Strategies Alimentaires (STRA) [Food Strategies Network].

(02655) ORSTOM/Institut Francais de Recherche Scientifique pour le Developpement en Cooperation.

Sub-Saharan Africa hydrological assessment.

(01108) World Bank.

Spain

International Soybean Program (INTSOY).

(05373) University of Illinois at Urbana-Champaign.

Sri Lanka

Development of rapid tests for identification and differentiation of yam viruses.

(04900) Overseas Development Administration (NRFD).

International Network on Soil Fertility and Sustainable Rice Farming (INSURF).

(05370) International Rice Research Institute.

International Rubber Research and Development Board (IRRDB).

(01212) International Rubber Research and Development Board.

International Soybean Program (INTSOY).

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(05373) University of Illinois at Urbana-Champaign.

Sudan

African Center of Meteorological Applications for Development (ACMAD).
(01109) World Meteorological Organization (WMO).

African Research Network on Rural Poultry Development.
(02624) United Nations Food and Agriculture Organization.

African Small Ruminant Collaborative Research Network.
(02620) International Fund for Agricultural Development.

An integrated research programme on the development of biological pesticides for locust and grasshopper control.
(01546) U.S. Agency for International Development.

Association Internationale pour l'Optimisation de la Nutrition des Plantes (ANIOP)
[International Association for the Optimization of Plant Nutrition].
(02641) Centre de Cooperation Internationale en Recherche Agronomique pour le Developpement (CIRAD).

Cooperative Cereals Research Network (CCRN).
(02171) International Crops Research Institute for the Semi-Arid Tropics.

Cooperative Programme for the Improvement of Genetic Resources of Multipurpose Woody Species.
(02174) Food and Agriculture Organization of the United Nations.

Development of equipment and methods for continuous production of bacterial antigens within a closed bioreactor system.
(03938) Institut fuer Pflanzenbau und Tierhygiene in den Tropen und Subtropen. Universitaet Goettingen.

Global 2000 - Sasakawa Africa initiative agriculture project.
(01291) Global 2000 Found.

Improving the Diagnosis and Control of Trypanosomiasis and other Vector-borne Diseases of African Livestock, using Immunoassay Methods.
(02627) Directorate General for International Cooperation (DGIS).

Improving the Productivity of Indigenous African Livestock using Radioimmunoassay and related Techniques.
(02621) Directorate General for International Cooperation (DGIS).

International Pearl Millet Adaptation Trial (IPMAT).
(05375) International Crops Research Institute for the Semi-Arid Tropics.

Management of vertisols under semi-arid conditions in Africa (MOVUSAC).

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(01022) International Board for Soil Research and Management.

National Soil Reference Collections (NASREC II).

(05624) ISRIC (International Soil Reference and Information Centre).

Pan-African Networks for Rural Social Science Research.

(02661) Winrock International; Ford Foundation.

Public works in Africa to improve food-security.

(04626) Deutsche Gesellschaft fuer technische Zusammenarbeit (GTZ).

Reconnaissance / preparation study on forestry biotechnology in the drought-prone Sub-Saharan African countries, with special reference to Sahelian and Sudanian zones (SSZ).

(02094) World Bank.

Sero-surveillance of rinderpest and other diseases in Africa, using immunoassay techniques.

(02628) Swedish Agency for Rural Cooperation (SAREC).

Small Ruminant and Camel Group Research Network.

(05381) International Livestock Center for Africa.

Small Ruminants and Camel Group.

(02632) Deutsche Gesellschaft fuer Technische Zusammenarbeit (GTZ) Gmb H.

Sub-Saharan Africa hydrological assessment.

(01108) World Bank.

The East and Southern Africa Root Crops Research Network (ESARRN).

(02080) U.S. Agency for International Development (USAID)/International Development Research Centre (IDRC)/International Institute of Tropical Agriculture (IITA).

Traditional Techniques of Micro Climate Improvement (TTM#), phase II.

(05658) WAU (Wageningen Agricultural University).

Swaziland

African Center of Meteorological Applications for Development (ACMAD).

(01109) World Meteorological Organization (WMO).

African Small Ruminant Collaborative Research Network (SRNET).

(05812) International Livestock Centre for Africa (ILCA).

Sub-Saharan Africa hydrological assessment.

(01108) World Bank.

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Sweden

International Soybean Program (INTSOY).
(05373) University of Illinois at Urbana-Champaign.

Taiwan, Province of China

International Network for the Improvement of Bananas and Plantains (INIBAP).
(05369) International Network for the Improvement of Bananas and Plantains.

United Republic of Tanzania

A Feasibility study on establishing an African Centre for Fertilizer Development.
(01684) GTZ (Deutsche Gesellschaft fuer Technische Zusammenarbeit).

African Center of Meteorological Applications for Development (ACMAD).
(01109) World Meteorological Organization (WMO).

African Research Network for Agricultural By-Products (ARNAB).
(02170) International Development Research Centre (IDRC); International Livestock Centre for Africa (ILCA).

African Small Ruminant Collaborative Research Network.
(02620) International Fund for Agricultural Development.

Agroeconomic study of cassava in Sub-Saharan Africa.
(01222) Rockefeller Foundation.

Agronomic Network for East and Southern Africa.
(02611) United Nations Development Program (UNDP); World Bank.

Alley Farming Network for Tropical Africa.
(02088) Canadian International Development Agency (CIDA)/International Development Research Centre (IDRC).

Association Internationale pour l'Optimisation de la Nutrition des Plantes (ANIOP)
[International Association for the Optimization of Plant Nutrition].
(02641) Centre de Cooperation Internationale en Recherche Agronomique pour le Developpement (CIRAD).

Biological integrated control of the larger grain borer, *Prostephanus truncatus* Horn.
(03907) Institut fuer Phytopathologie, Arbeitsgruppe Vorrat, Universitaet Kiel.

Characterisation of diversity for disease resistance of Phaseolus bean mixture in East Africa.
(01821) Overseas Development Administration (NFRD).

Co-ordinated Research Programme on the Application of Irradiation Technique for Food

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Processing in Africa.

(02629) United Nations Food and Agriculture Organization.

Collaborative Research Support Program (CRSP): Beans and cowpeas.

(01345) U.S. Agency International Development (USAID)/Michigan State University.

Cooperative Cereals Research Network (CCRN).

(02171) International Crops Research Institute for the Semi-Arid Tropics.

Cooperative Programme for the Improvement of Genetic Resources of Multipurpose Woody Species.

(02174) Food and Agriculture Organization of the United Nations.

Development and promotion of appropriate tools and implement for the 'agricultural and food processing sector' (interim phase) (ILO/89/INT/M03).

(05648) ILO (International Labour Office).

East Africa Regional Cooperative for Research on Bananas (and Ensete) (EARCORBE).

(02168) International Network for the Improvement of Banana and Plantain.

Fertilizer Marketing and Trade Information Program (FMTIP).

(02145) Directorate General for International Cooperation (DGIS); U.S. Agency for International Development (USAID).

Improving the Diagnosis and Control of Trypanosomiasis and other Vector-borne Diseases of African Livestock, using Immunoassay Methods.

(02627) Directorate General for International Cooperation (DGIS).

Improving the Productivity of Indigenous African Livestock using Radioimmunoassay and related Techniques.

(02621) Directorate General for International Cooperation (DGIS).

International Rice Testing Program for Africa (IRTP).

(02160) United Nations Development Program (UNDP)/European Economic Commission (EEC)/Japan.

International Soybean Program (INTSOY).

(05373) University of Illinois at Urbana-Champaign.

Management of vertisols under semi-arid conditions in Africa (MOVUSAC).

(01022) International Board for Soil Research and Management.

Methodology for agricultural marketing systems policy and practise, and its application to current reforms.

(01721) Overseas Development Administration (OPRD).

National Soil Reference Collections (NASREC II).

(05624) ISRIC (International Soil Reference and Information Centre).

Network on land development for sustainable agriculture in Africa (AFRICALAND - Land

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development).

(02109) International Board for Soil Research and Management.

Network on management of acid soils in humid Africa (AFRICALAND - Management of acid soils).

(01021) International Board for Soil Research and Management.

Pan-African Networks for Rural Social Science Research.

(02661) Winrock International; Ford Foundation.

Peri-urban vegetable production and consumption in Sub-saharan Africa.

(04905) The Asian Vegetable Research and Development Center (AVRDC).

Phytosanitary controls for African Cassava Mosaic Virus (ACMV).

(05778) Overseas Development Administration (NRRD).

Programme 2B: On-farm research - Analysis of interactions and impact of agroforestry practices.

(03700) International Council for Research in Agroforestry.

Programme 5: Training - Training for researchers and development planners.

(03710) International Council for Research in Agroforestry.

Public works in Africa to improve food-security.

(04626) Deutsche Gesellschaft fuer technische Zusammenarbeit (GTZ).

Rainfed rice development project.

(04356) African Development Bank.

Regional cooperation on cotton research and development.

(01116) World Bank.

Reseau Developpement (R/D) [Development Network].

(02653) GRET.

Sero-surveillance of rinderpest and other diseases in Africa, using immunoassay techniques.

(02628) Swedish Agency for Rural Cooperation (SAREC).

Sub-Saharan Africa hydrological assessment.

(01108) World Bank.

The East and Southern Africa Root Crops Research Network (ESARRN).

(02080) U.S. Agency for International Development (USAID)/International Development Research Centre (IDRC)/International Institute of Tropical Agriculture (IITA).

The Geological Network for Agrominerals in East and Southern Africa.

(02613) United Nations Development Program (UNDP); World Bank.

The Livestock Trypanotolerant Network.

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(02081) Overseas Development Administration.

Traditional Techniques of Micro Climate Improvement (TTMI), phase II.
(05658) WAU (Wageningen Agricultural University).

Universities and national agricultural research in Sub-Saharan Africa.
(03678) International Service for National Agricultural Research.

Thailand

International Network on Soil Fertility and Sustainable Rice Farming (INSURF).
(05370) International Rice Research Institute.

International Rubber Research and Development Board (IRRDB).
(01212) International Rubber Research and Development Board.

International Soybean Program (INTSOY).
(05373) University of Illinois at Urbana-Champaign.

Togo

A Feasibility study on establishing an African Centre for Fertilizer Development.
(01684) GTZ (Deutsche Gesellschaft fuer Technische Zusammenarbeit).

African Center of Meteorological Applications for Development (ACMAD).
(01109) World Meteorological Organization (WMO).

African Small Ruminant Collaborative Research Network.
(02620) International Fund for Agricultural Development.

African Small Ruminant Collaborative Research Network (SRNET).
(05812) International Livestock Centre for Africa (ILCA).

Agricultural extension.
(03549) World Bank; Togo.

Agricultural services rehabilitation.
(01207) World Bank; Togo.

Agronomic Fertilizer Research Program (AFRP).
(02147) International Fertilizer Development Center, Africa (IFDC-Africa).

Alley Farming Network for Tropical Africa.
(02088) Canadian International Development Agency (CIDA)/International Development Research Centre (IDRC).

Animal Traction Research Network.
(05813) International Livestock Centre for Africa (ILCA).

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Applied research programme: Network for Humid Lowlands of West Africa (HULWA-AFRENA).
(02618) International Council for Research in Agroforestry (ICRAF).

Association Internationale pour l'Optimisation de la Nutrition des Plantes (ANIOP)
[International Association for the Optimization of Plant Nutrition].
(02641) Centre de Coopération Internationale en Recherche Agronomique pour le Développement (CIRAD).

Biological integrated control of the larger grain borer, *Prostephanus truncatus* Horn.
(03907) Institut fuer Phytopathologie, Arbeitsgruppe Vorrat, Universitaet Kiel.

Cassava Network [Réseau Manioc].
(02084) Conférence des Responsables de Recherche Agronomique Africains et Français.

Cattle Research Network (CARNET) (formerly Cattle Milk and Meat Network).
(05358) International Livestock Center for Africa.

Central and West African Root Crops Collaborative Research Network (CEWARRN).
(02166) International Institute of Tropical Agriculture.

Characterization of semi-permanent water-bearing zones and association with culture during the dry season.
(05271) International Foundation for Science.

Comparison of the productivity of trypanotolerant ruminants.
(02848) Commission of the European Communities.

Cotton sector development.
(03550) World Bank; Togo.

Development of simple methods to identify potyvirus infecting yams (*Dioscorea alata* and *D. rotundata*) for the production of virus-free plantlets.
(03268) IFS.

Development of simple methods to identify potyvirus infecting yams (*Dioscorea alata* and *D. rotundata*) for the production of virus-free plantlets.
(05206) International Foundation for Science.

Drought Resistance Research Network (R3S) [Réseau de Recherche sur la Résistance à la Sécheresse].
(02610) Conférence des Responsables de Recherche Agronomique Africains et Français.

Economics of post harvest loss reducing measures.
(03772) University of Hohenheim.

Environmental action program.
(04423) World Bank; Togo.

Extraction of *Morinda lucida* and *Cassia siamea*. Chemical and pharmacological studies of

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extracts.

(03343) IFS.

Fertilizer Marketing and Trade Information Program (FMTIP).

(02145) Directorate General for International Cooperation (DGIS); U.S. Agency for International Development (USAID).

Forestry/Environment.

(02759) World Bank; Togo.

Identifying the constraints on livestock productivity and land use in Africa brought about by livestock including the tsetse transmitted Trypanosomiasis.

(05798) Overseas Development Administration (NRRD).

Immunity against trypanosomiasis and mechanisms of trypanotolerance in animals.

(03932) Institut fuer Parasitologie und Tropenveterinaermedizin, Freie Universitaet Berlin.

International Rice Testing Program for Africa (IRTP).

(02160) United Nations Development Program (UNDP)/European Economic Commission (EEC)/Japan.

Investigations and development of site adaptive agroforestry systems.

(04665) Universitaet Bayreuth.

Management of vertisols under semi-arid conditions in Africa (MOVUSAC).

(01022) International Board for Soil Research and Management.

Network for Improvement of Rice Cultivation [Réseau Riz].

(02161) Conférence des Responsables de Recherche Agronomique Africains et Français.

Productivity and profitability of cassava and maize intercropping systems.

(03182) IFS.

Productivity of autochtones cattle breeds in the humid and subhumid zone of West Africa.

(04628) Gesellschaft fuer technische Zusammenarbeit (GTZ).

Prospecting on root crops and plantains, collection maintenance.

(03730) International Network for the Improvement of Banana and Plantain.

Reconnaissance / preparation study on forestry biotechnology in the drought-prone Sub-Saharan African countries, with special reference to Sahelian and Sudanian zones (SSZ).

(02094) World Bank.

Relationships between tree growth, tree nutrition and site in *Tectona grandis* plantation in West Africa.

(04653) Universitaet Bayreuth.

Index of projects by country

Research on small ruminants in the humid and sub-humid zones of West Africa.
(02110) International Fund for Agricultural Development.

Research, coordination, and training for improved livestock production in Sub-Saharan Africa.
(02732) Commission of the European Communities.

Réseau Coton (COTON).
(02082) France; Conference des Responsables de Recherches Agronomique Africains et Français (CORAF).

Reseau Erosion (EROS) [Erosion Network].
(02638) ORSTOM/Institut Français de Recherche Scientifique pour le Développement en Coopération.

Reseau International de Traitement des Données Sols (RIDTS) [International Network for Soils Data Processing].
(02640) Agence de Coopération Culturelle et Technique (ACCT).

Reseau sur la Conservation Post-Recolte des Denrées Alimentaires (GRENIER) [Network for Post-Harvest Storage of Food Crops].
(02647) Association des Universités Partiellement ou Entièrement de Langue Française (AUPELF).

SADAOC (Sécurité Alimentaire durable en Afrique de l'Ouest Centrale).
(05662) ECDPM (European Centre for Development Policy Management).

Second rural development project in cotton areas.
(01007) World Bank; Togo.

Silviculture (Togo).
(04189) International Development Research Centre.

Soil Fertility Restoration Project (SFRP).
(02143) International Fertilizer Development Center, Africa (IFDC-Africa).

Stratégies Alimentaires (STRA) [Food Strategies Network].
(02655) ORSTOM/Institut Français de Recherche Scientifique pour le Développement en Coopération.

Strengthening maize and cassava research in eleven countries of West and Central Africa: Plan of action.
(02665) Ministère de la Coopération (France).

Study of antihypertensive and antimalarial effects in extracts from *Morinda lucida* and *Cassia siamea*.
(03344) IFS.

Sub-Saharan Africa hydrological assessment.
(01108) World Bank.

Index of projects by country

Technological change and transformation of land tenure systems in Subsaharan Africa.
(01510) Universitaet Goettingen.

The economic impact of biological control in smallholder grain storage: example from Togo.
(05723) Institut fuer Agrar- und Sozialoekonomie in den Tropen und Subtropen der Universitaet Hohenheim, Fachgebiet Landwirtschaftliche Betriebslehre in den Tropen und Subtropen.

The Livestock Trypanotolerant Network.
(02081) Overseas Development Administration.

The West and Central Africa Cowpea Collaborative Research Network (RENACO).
(02078) U.S. Agency for International Development (USAID)/Semi-Arid Food Grain Research and Development (SAFGRAD).

Third coffee and cocoa development project.
(01008) World Bank; Togo.

Urea injector test.
(04143) Research Institute for Agrobiolgy and Soil Fertility (AB).

West Africa Maize Collaborative Research Network [Réseau Maïs].
(02156) Conférence des Responsables de Recherche Agronomique Africains.

West Africa Regional Cooperative for Research on Plantain (WARCORP).
(02167) International Institute of Tropical Agriculture.

West Africa Regional Pearl Millet Improvement Program.
(02154) International Crops Research Institute for the Semi-Arid Tropics (ICRISAT Sahel Center).

West African Farming Systems Research Network (WAFSRN/RESAPO).
(02619) International Fund for Agricultural Development (IFAD)/Semi-Arid Food Grain Research and Development (SAFGRAD).

West African Fertilizer Management and Evaluation Network (WAFMEN).
(02614) International Development Research Centre (IDRC); United Nations Development Program (UNDP).

West African Forages Network (WAFNET).
(02103) Multilateral Cooperation Division, Economic Cooperation Bureau, MOFA, JAPAN.

West African program for agro-mineral research.
(02146) International Fertilizer Development Center, Africa (IFDC-Africa).

West and Central Africa Maize Collaborative Research Network (WECAMAN).
(02157) U.S. Agency for International Development (USAID)/Semi-Arid Food Grain Research and Development (SAFGRAD).

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West and Central Africa Sorghum Research Network (WCASRN).
(02075) U.S. Agency for International Development (USAID)/Semi-Arid Food Grain Research and Development (SAFGRAD).

[Soils and ecological studies of the Kazaboua agroforestry system in the Central Region of Togo] Etudes pédologiques et écologiques dans le système agroforestier de Kazaboua. Région Centrale Togo.
(03813) Universität Bayreuth.

Trinidad and Tobago

Strategies for the control of yam anthracnose.
(05797) Overseas Development Administration (NRFD).

Tunisia

African Center of Meteorological Applications for Development (ACMAD).
(01109) World Meteorological Organization (WMO).

Improving the Productivity of Indigenous African Livestock using Radioimmunoassay and related Techniques.
(02621) Directorate General for International Cooperation (DGIS).

National Soil Reference Collections (NASREC II).
(05624) ISRIC (International Soil Reference and Information Centre).

Reseau Erosion (EROS) [Erosion Network].
(02638) ORSTOM/Institut Français de Recherche Scientifique pour le Développement en Coopération.

Reseau International de Traitement des Données Sols (RIIDS) [International Network for Soils Data Processing].
(02640) Agence de Coopération Culturelle et Technique (ACCT).

Turkey

Weed problems and weed management in cropping systems.
(03897) Universität Hohenheim.

Uganda

African Center of Meteorological Applications for Development (ACMAD).
(01109) World Meteorological Organization (WMO).

Agroeconomic study of cassava in Sub-Saharan Africa.

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(01222) Rockefeller Foundation.

Agronomic Network for East and Southern Africa.

(02611) United Nations Development Program (UNDP); World Bank.

Alley Farming Network for Tropical Africa.

(02088) Canadian International Development Agency (CIDA)/International Development Research Centre (IDRC).

Applied research programme: Eastern and Central African Agroforestry Network for Africa (ECA-AFRENA) - The bimodal highlands.

(02615) International Council for Research in Agroforestry.

Characterisation of diversity for disease resistance of Phaseolus bean mixture in East Africa.

(01821) Overseas Development Administration (NRRD).

Co-ordinated Research Programme on the Application of Irradiation Technique for Food Processing in Africa.

(02629) United Nations Food and Agriculture Organization.

Cooking bananas and plantains.

(04773) Overseas Development Administration (NRRD).

Cooperative Cereals Research Network (CCRN).

(02171) International Crops Research Institute for the Semi-Arid Tropics.

East Africa Regional Cooperative for Research on Bananas (and Ensete) (EARCORBE).

(02168) International Network for the Improvement of Banana and Plantain.

Improving the Diagnosis and Control of Trypanosomiasis and other Vector-borne Diseases of African Livestock, using Immunoassay Methods.

(02627) Directorate General for International Cooperation (DGIS).

Improving the Productivity of Indigenous African Livestock using Radioimmunoassay and related Techniques.

(02621) Directorate General for International Cooperation (DGIS).

International Pearl Millet Adaptation Trial (IPMAT).

(05375) International Crops Research Institute for the Semi-Arid Tropics.

International Rice Testing Program for Africa (IRTP).

(02160) United Nations Development Program (UNDP)/European Economic Commission (EEC)/Japan.

International Soybean Program (INTSOY).

(05373) University of Illinois at Urbana-Champaign.

Network for land development for sustainable agriculture in Africa (AFRICALAND - Land development).

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(02109) International Board for Soil Research and Management.

Phytosanitary controls for African Cassava Mosaic Virus (ACMV).
(05778) Overseas Development Administration (NRRD).

Post-harvest assessment of root and tuber crop storage.
(04834) Overseas Development Administration (NRRD).

Programme for Improvement of Potatoes in Central Africa [Programme Regional pour l'Amelioration de la Culture de la Pomme de Terre en Afrique Centrale] (PRAPAC).
(02079) U.S. Agency for International Development.

Regional cooperation on cotton research and development.
(01116) World Bank.

Sero-surveillance of rinderpest and other diseases in Africa, using immunoassay techniques.
(02628) Swedish Agency for Rural Cooperation (SAREC).

Sub-Saharan Africa hydrological assessment.
(01108) World Bank.

The Development of Practices for Area-wide Tsetse Eradication with emphasis on the Sterile Insect Technique.
(02626) United Nations Food and Agriculture Organization.

The East and Southern Africa Root Crops Research Network (ESARRN).
(02080) U.S. Agency for International Development (USAID)/International Development Research Centre (IDRC)/International Institute of Tropical Agriculture (IITA).

The feeding behaviour of Cicadulina, vector of maize streak virus disease on resistant and susceptible maize genotypes.
(04858) Overseas Development Administration (NRED).

The Geological Network for Agrominerals in East and Southern Africa.
(02613) United Nations Development Program (UNDP); World Bank.

The role of the renewable natural resources sector in the generation of sustainable livelihoods in developing countries.
(05792) Overseas Development Administration (NRPAD).

United Kingdom

Adoption of agroforestry systems in developing countries.
(01791) Overseas Development Administration (NRPAD).

Africa Regional: A comparative study of the productivity of traditional tree crops and introduced multipurpose trees with special reference to the effects on associated crops - A case study.

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(04720) Overseas Development Administration (NRRD).

An examination of *Dioscorea* spp (yam) for nematode resistance.

(04782) Overseas Development Administration (NRRD).

Assessing operator exposure.

(04881) Overseas Development Administration.

Biodeterioration of west African rice.

(04777) Overseas Development Administration (NRRD).

Biology of yam anthracnose (*Colletotrichum*).

(04887) Overseas Development Administration (NRRD).

Cassava and household food security in rural area of Makeni/Segbwema in Sierra Leone.

(01787) Overseas Development Administration (NRRD).

Causes, effects and control of biodeterioration.

(04739) Overseas Development Administration (NRRD).

Characterisation of diversity for disease resistance of *Phaseolus* bean mixture in East Africa.

(01821) Overseas Development Administration (NRRD).

Control of soil acidity in agroforestry.

(04743) Overseas Development Administration (NRRD).

Control of yam anthracnose and other yam pests.

(05782) Overseas Development Administration (NRRD).

Cooking bananas and plantains.

(04773) Overseas Development Administration (NRRD).

Development of rapid tests for identification and differentiation of yam viruses.

(04900) Overseas Development Administration (NRRD).

Draught animals for production/feeding and working strategies for draught animals.

(04753) Overseas Development Administration (NRRD).

Effects of processing on distribution and destruction of mycotoxins.

(04737) Overseas Development Administration (NRRD).

Epidemiology and control of anthracnose disease of yam in Nigeria.

(05749) Overseas Development Administration (NRRD).

Evaluation of planting spaced trees in cultivated fields on vertisolic soils under low rainfall, with special reference to soil conditions and crop yield.

(04701) Overseas Development Administration (NRRD).

Factors influencing the occurrence of yam tuber rots in West Africa.

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(05739) Overseas Development Administration (NRRD).

Feeding and management strategies for draught animals.
(01820) Overseas Development Administration (NRRD).

Genomic variability of *Striga* and *Cynodon* species.
(04868) Overseas Development Administration (NRRD).

Ghana : Effect of climate and soil on distribution and regeneration of timber trees.
(04727) Overseas Development Administration (NRRD).

Ghana : Sustainability of economic activities based on non-timber forest products.
(04893) Overseas Development Administration (NRRD).

Identification and monitoring of African weather regimes - Phase I West Africa.
(04726) Overseas Development Administration (NRRD).

Identifying the constraints on livestock productivity and land use in Africa brought about by livestock including the tsetse transmitted Trypanosomiasis.
(05798) Overseas Development Administration (NRRD).

Improvements to rural oilseed processing in Africa.
(04699) Overseas Development Administration (NRRD).

Investigations on stackburn in sub-Saharan Africa.
(04688) Overseas Development Administration (NRRD).

Investment and survival strategies of women.
(04831) Overseas Development Administration (NRRD).

Labour investment in perennial crop production.
(04830) Overseas Development Administration (NRRD).

Local Application of Remote Sensing Techniques (LARST) for forestry management.
(04845) Overseas Development Administration (NRRD).

Low cost cassava root storage technology - adaptive transfer from Latin America and field testing in Sub-Saharan Africa.
(05767) Overseas Development Administration (NRRD).

Low-cost fruit and vegetable drying for small-scale rural enterprise development.
(05745) Overseas Development Administration (NRRD).

Methodologies for better technology transfer.
(04783) Overseas Development Administration (NRRD).

Methodology for agricultural marketing systems policy and practise, and its application to current reforms.
(01721) Overseas Development Administration (NRRD).

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Microbial control of root knot nematodes.

(04864) Overseas Development Administration (NRRD).

Microbial control of root-knot nematodes.

(01814) Overseas Development Administration (NRRD).

Nigeria: Access to urban waste markets by near-urban farmers.

(04896) Overseas Development Administration (NRRD).

Nitrogen and the control of Striga.

(05804) Overseas Development Administration (NRRD).

Nutrient budgets in relation to the sustainability of indigenous farming systems in Northern Nigeria.

(05755) Overseas Development Administration (NRRD).

Phase I: Resistance of cowpea to *Striga gesnerioides* and *Alectra vogelii* Phase II: Resistance of legumes and cereals to *Striga* species.

(01767) Overseas Development Administration (NRRD).

Phytopathological controls for African Cassava Mosaic Virus (ACMV).

(05778) Overseas Development Administration (NRRD).

Post-harvest assessment of root and tuber crop storage.

(04834) Overseas Development Administration (NRRD).

Resistance mechanisms to Anthracnose in yams.

(04804) Overseas Development Administration (NRRD).

Root architecture of sorghum in relation to avoidance of a *Striga harmonthica* infection.

(05805) Overseas Development Administration (NRRD).

Socio-economic assessment of biotechnologies for small farmers.

(04707) Overseas Development Administration (NRRD).

Striga of cereals by pastoralists.

(04761) Overseas Development Administration (NRRD).

Strategies for the control of yam anthracnose.

(05797) Overseas Development Administration (NRRD).

Striga resistance in rice.

(04805) Overseas Development Administration (NRRD).

Striga resistance in rice.

(05748) Overseas Development Administration (NRRD).

The epidemiology and control of the sorghum foliar pathogens in the semi-arid tropics.

(01813) Overseas Development Administration (NRRD).

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The feeding behaviour of *Cicadulina*, vector of maize streak virus disease on resistant and susceptible maize genotypes.

(04858) Overseas Development Administration (NRD).

The impact of weed management on regulation of rice insect pests by natural enemies in West Africa.

(04696) Overseas Development Administration (NRD).

The production and marketing requirements of solar dried meat for the humid tropics.

(05789) Overseas Development Administration (NRD).

The role of the renewable natural resources sector in the generation of sustainable livelihoods in developing countries.

(05792) Overseas Development Administration (NRD).

The utilisation of sweet potato and cassava root meal in poultry diets.

(05757) Overseas Development Administration (NRD).

Weed management in upland rice in West Africa.

(04866) Overseas Development Administration (NRD).

West Africa : Post harvest losses of rice.

(04675) Overseas Development Administration (NRD).

United States

International Soybean Program (INTSOY).

(05373) University of Illinois at Urbana-Champaign.

USSR

International Soybean Program (INTSOY).

(05373) University of Illinois at Urbana-Champaign.

Venezuela

International Soybean Program (INTSOY).

(05373) University of Illinois at Urbana-Champaign.

Viet Nam

International Network on Soil Fertility and Sustainable Rice Farming (INSURF).

(05370) International Rice Research Institute.

International Rubber Research and Development Board (IRRDB).

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(01212) International Rubber Research and Development Board.

International Soybean Program (INTSOY).

(05373) University of Illinois at Urbana-Champaign.

Yemen

Weed problems and weed management in cropping systems.

(03897) Universitaet Hohenheim.

Zaire

Africa-wide biological control programme for cassava pests.

(01828) International Fund for Agricultural Development.

African Center of Meteorological Applications for Development (ACMAD).

(01109) World Meteorological Organization (WMO).

Agricultural policy and planning.

(03668) U.S. Agency for International Development.

Agroeconomic study of cassava in Sub-Saharan Africa.

(01222) Rockefeller Foundation.

Alley Farming Network for Tropical Africa.

(02088) Canadian International Development Agency (CIDA)/International Development Research Centre (IDRC).

Animal health.

(04409) World Bank; Zaire.

Applied agricultural research II.

(03669) U.S. Agency for International Development.

Applied research and extension.

(01888) U.S. Agency for International Development.

Applied research programme: Eastern and Central African Agroforestry Network for Africa (ECA-AFRENA) - The bimodal highlands.

(02615) International Council for Research in Agroforestry.

Ascochyta blight research.

(03629) Centro Internacional de Agricultura Tropical (CIAT)/National Agricultural Research Institutes.

Association Internationale pour l'Optimisation de la Nutrition des Plantes (ANICP)

[International Association for the Optimization of Plant Nutrition].

(02641) Centre de Cooperation Internationale en Recherche Agronomique pour le

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Developpement (CIRAD).

Banana clonal characterization in Yangambi.

(03735) International Network for the Improvement of Banana and Plantain.

Breeding of giant rat (*Cricetomys emini*): a way to develop meat production and to solve protein deficiency for rural populations in Zaire.

(03263) IFS.

Cattle breeding in the Ituri province in Northeast Zaire.

(03092) IFS.

Cattle breeding in the Ituri province in Northeast Zaire.

(05134) International Foundation for Science.

Central and West African Root Crops Collaborative Research Network (CEWARRN).

(02166) International Institute of Tropical Agriculture.

Central Shaba agricultural development.

(03667) U.S. Agency for International Development.

Characterisation of diversity for disease resistance of *Phaseolus* bean mixture in East Africa.

(01821) Overseas Development Administration (NRRD).

Co-ordinated Research Programme on the Application of Irradiation Technique for Food Processing in Africa.

(02629) United Nations Food and Agriculture Organization.

Collection and evaluation of *Vigna vexillata*.

(03135) IFS.

Control of the banana borer weevil using the local insecticide plants.

(03739) International Network for the Improvement of Banana and Plantain.

East Africa Regional Cooperative for Research on Bananas (and Ensete) (EARCORBE).

(02168) International Network for the Improvement of Banana and Plantain.

Environment project (formerly Pilot forest and environment project).

(02787) World Bank; Zaire.

Fish culture expansion.

(01887) U.S. Agency for International Development.

Forest management project.

(04402) World Bank; Zaire.

Induced reproduction of *Ciaras gariepinus* using artificial hormones: nutritional study of local by-products in pond culture of fingerlings.

(03362) IFS.

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Industrial crops.
(01208) World Bank; Zaire.

INIBAP/Taxonomic Linguistic Study of Plantain Cultivars in Africa.
(05649) INIBAP.

International Rice Testing Program for Africa (IRTP).
(02160) United Nations Development Program (UNDP)/European Economic Commission (EEC)/Japan.

International Soybean Program (INTSOY).
(05373) University of Illinois at Urbana-Champaign.

Investigation, isolation, and characterization of lectins from local plants.
(05295) International Foundation for Science.

Investigations on the diversity of rain and cloud forests in Rwanda and Zaire.
(05688) Botanisches Institut der Universitaet Bonn, Abt. Systematik und Morphologie.

Maize II/Lulua agricultural development project.
(01162) World Bank; Zaire.

National agricultural research project.
(01211) World Bank; Zaire.

National extension project.
(03435) World Bank; Zaire.

NE R.D/turi II.
(03555) World Bank; Zaire.

Phytosanitary controls for African Cassava Mosaic Virus (ACMV).
(05778) Overseas Development Administration (NRD).

Pilot extension.
(02761) World Bank; Zaire.

Programme for Improvement of Potatoes in Central Africa [Programme Regional pour l'Amelioration de la Culture de la Pomme de Terre en Afrique Centrale] (PRAPAC).
(02079) U.S. Agency for International Development.

Reseau Coton (COTON).
(02082) France; Conference des Responsables de Recherches Agronomique Africains et Francais (CORAF).

Reseau Erosion (EROS) [Erosion Network].
(02638) ORSTOM/Institut Francais de Recherche Scientifique pour le Developpement en Cooperation.

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Reseau sur la Conservation Post-Recolte des Danrees Alimentaires (GRENIER) [Network for Post-Harvest Storage of Food Crops].

(02647) Association des Universites Partiellement ou Entierement de Langue Francaise (AUPELF).

Screening cassava (*Manihot esculenta*) for low cyanide (HCN) in tuberous roots and leaves.

(03138) IFS.

Seeds II.

(03434) World Bank; Zaire.

Seeds project.

(01163) World Bank; Zaire.

Self sufficiency.

(03729) International Network for the Improvement of Banana and Plantain.

Smallholder maize.

(03554) World Bank; Zaire.

South Shaba agricultural development project.

(03556) World Bank; Zaire; NGOs; BUNASEM; RAV; BCA; VCPD; OR.

Strategies Alimentaires (STRA) [Food Strategies Network].

(02655) ORSTOM/Institut Francais de Recherche Scientifique pour le Developpement en Cooperation.

Strengthening African agricultural research: 01 CIAT bean research in East Africa (CDA).

(01872) U.S. Agency for International Development.

Study of factors to improve the reproduction of the rodent *Cricetomys* in captivity.

(03265) IFS.

Study on the development of several oil plants of Zaire.

(03218) IFS.

Study on the development of several oil plants of Zaire.

(05185) International Foundation for Science.

Study on the immunological value of colostrum from tropical cattle.

(03177) IFS.

Sub-Saharan Africa hydrological assessment.

(01108) World Bank.

The East and Southern Africa Root Crops Research Network (ESARRIN).

(02080) U.S. Agency for International Development (USAID)/International Development Research Centre (IDRC)/International Institute of Tropical Agriculture (IITA).

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The Livestock Trypanotolerant Network.
(02081) Overseas Development Administration.

The West and Central Africa Cowpea Collaborative Research Network (RENACO).
(02078) U.S. Agency for International Development (USAID)/Semi-Arid Food Grain Research and Development (SAFGRAD).

Urban agriculture in Africa.
(05684) Institut fuer Sozialoekonomie der Agrarentwicklung der Technischen Universitaet Berlin.

West Africa Maize Collaborative Research Network [Réseau Maïs].
(02156) Conference des Responsables de Recherche Agronomique Africains.

West Africa Regional Cooperative for Research on Plantain (WARCORP).
(02167) International Institute of Tropical Agriculture.

Zambia

A Feasibility study on establishing an African Centre for Fertilizer Development.
(01684) GTZ (Deutsche Gesellschaft fuer Technische Zusammenarbeit).

Africa-wide biological control programme for cassava pests.
(01828) International Fund for Agricultural Development.

African Center of Meteorological Applications for Development (ACMAD).
(01109) World Meteorological Organization (WMO).

Agricultural research and extension project.
(01114) African Development Bank.

Agronomic Network for East and Southern Africa.
(02611) United Nations Development Program (UNDP); World Bank.

Alley Farming Network for Tropical Africa.
(02088) Canadian International Development Agency (CIDA)/International Development Research Centre (IDRC).

Case studies on raising agricultural productivity of women in Africa for increased food production.
(02151) World Bank.

Co-ordinated Research Programme on the Application of Irradiation Technique for Food Processing in Africa.
(02629) United Nations Food and Agriculture Organization.

Control of soil acidity in agroforestry.
(04743) Overseas Development Administration (NFRD).

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Cooperative Cereals Research Network (CCRN).

(02171) International Crops Research Institute for the Semi-Arid Tropics.

Improving the Diagnosis and Control of Trypanosomiasis and other Vector-borne Diseases of African Livestock, using Immunoassay Methods.

(02627) Directorate General for International Cooperation (DGIS).

International Benchmark Soils Network for Agro-technology Transfer (IBSNAT).

(02635) U.S. Agency for International Development.

International Pearl Millet Adaptation Trial (IPMAT).

(05375) International Crops Research Institute for the Semi-Arid Tropics.

International Rice Testing Program for Africa (IRTP).

(02160) United Nations Development Program (UNDP)/European Economic Commission (EEC)/Japan.

International Soybean Program (INTSOY).

(05373) University of Illinois at Urbana-Champaign.

Investment and survival strategies of women.

(04831) Overseas Development Administration (NRRD).

Methodologies for better technology transfer.

(04783) Overseas Development Administration (NRRD).

National Soil Reference Collections (NASREC II).

(05624) ISRIC (International Soil Reference and Information Centre).

Network on management of acid soils in humid Africa (AFRICALAND - Management of acid soils).

(01021) International Board for Soil Research and Management.

No dumping here: Control of pesticides in developing countries.

(05422) International Development Research Centre.

Pan-African Networks for Rural Social Science Research.

(02661) Winrock International; Ford Foundation.

Peri-urban vegetable production and consumption in Sub-saharan Africa.

(04905) The Asian Vegetable Research and Development Center (AVRDC).

Réseau Coton (COTON).

(02082) France; Conférence des Responsables de Recherches Agronomique Africains et Français (CORAF).

Sero-surveillance of rinderpest and other diseases in Africa, using immunoassay techniques.

(02628) Swedish Agency for Rural Cooperation (SAREC).

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Social Science Interface Research Unit (SSIRU).
(02779) The International Centre of Insect Physiology and Ecology.

Sub-Saharan Africa hydrological assessment.
(01108) World Bank.

The East and Southern Africa Root Crops Research Network (ESARRN).
(02080) U.S. Agency for International Development (USAID)/International Development Research Centre (IDRC)/International Institute of Tropical Agriculture (IITA).

The Geological Network for Agrominerals in East and Southern Africa.
(02613) United Nations Development Program (UNDP); World Bank.

Zimbabwe

A Feasibility study on establishing an African Centre for Fertilizer Development.
(01684) GTZ (Deutsche Gesellschaft fuer Technische Zusammenarbeit).

African Center of Meteorological Applications for Development (ACMAD).
(01109) World Meteorological Organization (WMO).

African Research Network on Rural Poultry Development.
(02624) United Nations Food and Agriculture Organization.

African Small Ruminant Collaborative Research Network (SRNET).
(05812) International Livestock Centre for Africa (ILCA).

Agronomic Network for East and Southern Africa.
(02611) United Nations Development Program (UNDP); World Bank.

Cooperative Cereals Research Network (CCRN).
(02171) International Crops Research Institute for the Semi-Arid Tropics.

Improving the Diagnosis and Control of Trypanosomiasis and other Vector-borne Diseases of African Livestock, using Immunoassay Methods.
(02627) Directorate General for International Cooperation (DGIS).

Improving the Productivity of Indigenous African Livestock using Radioimmunoassay and related Techniques.
(02621) Directorate General for International Cooperation (DGIS).

International Flice Testing Program for Africa (IRTP).
(02160) United Nations Development Program (UNDP)/European Economic Commission (EEC)/Japan.

International Soybean Program (INTSOY).
(05373) University of Illinois at Urbana-Champaign.

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- Investigations on staddourn in sub-Saharan Africa.
(04688) Overseas Development Administration (NRFD).
- Management of verticils under semi-arid conditions in Africa (MOVUSAC).
(01022) International Board for Soil Research and Management.
- Microbial control of root-knot nematodes.
(04864) Overseas Development Administration (NRFD).
- Microbial control of root-knot nematodes.
(01814) Overseas Development Administration (NRFD).
- Pan-African Networks for Rural Social Science Research.
(02661) Winrock International; Ford Foundation.
- Public works in Africa to improve food-security.
(04626) Deutsche Gesellschaft fuer technische Zusammenarbeit (GTZ).
- Regional cooperation on cotton research and development.
(01116) World Bank.
- Research, coordination, and training for improved livestock production in Sub-Saharan Africa.
(02732) Commission of the European Communities.
- Small Ruminant and Camel Group Research Network
(05381) International Livestock Center for Africa.
- Small Ruminants and Camel Group.
(02632) Deutsche Gesellschaft fuer Technische Zusammenarbeit (GTZ) GmbH.
- Strategies Alimentaires (STRA) (Food Strategies Network).
(02655) ORSTOM/Institut Français de Recherche Scientifique pour le Développement en Coopération.
- Sub-Saharan Africa hydrological assessment.
(01108) World Bank.
- The Development of Practices for Area-wide Tsetse Eradication with emphasis on the Sterile Insect Technique.
(02626) United Nations Food and Agriculture Organization.
- The epidemiology and control of the sorghum foliar pathogens in the semi-arid tropics.
(01813) Overseas Development Administration (NRFD).
- The Geological Network for Agromineals in East and Southern Africa.
(02613) United Nations Development Program (UNDP); World Bank.

SPAAR Information System

Record number (MFN): 01001

Official project title: ZOU PROVINCE RURAL DEVELOPMENT PROJECT.

Implementing agency: World Bank; Benin.

Start date: 1983-09-14. End date: 1991-12-31.

Country/countries: Benin;

Statement of objectives/abstract:

The principal objectives are to improve the level of rural incomes and to increase the production of export and food crops (cotton, maize, groundnuts, cowpeas, paddy, and tobacco), livestock products through strengthening and support of institutions integrated with applied research, seed production, extension, cooperative training and social services. Project would establish a firm basis for adaptive food crop and cotton research, and for seed production.

Record number (MFN): 01002

Official project title: NATIONAL ENVIRONMENT PROGRAM.

Implementing agency: World Bank; Cote d'Ivoire.

Country/countries: Côte d'Ivoire;

Statement of objectives/abstract:

Support of a program of action to protect the natural environment. Actions would be determined as part of an environmental action plan to be developed.

Contact in research organization:

Ministry of Agriculture and Animal Resources; Cote d'Ivoire

Record number (MFN): 01003

Official project title: FOURTH RUBBER PROJECT.

Implementing agency: World Bank; Cote d'Ivoire.

Start date: 1984-06-15. End date: 1990-09-30.

Country/countries: Côte d'Ivoire;

Statement of objectives/abstract:

The project is designed to more than double the production of rubber in Cote d'Ivoire by bringing into production 16 000 ha of rubber planted earlier and establishing 7 400 ha of new plantings. The project will develop a new 2 000 ha nucleus estate at Guiglo, and a new 1500 ha estate at Go, of which 500 ha will be for experimental research purposes. The estate will be run by RRA. Also studies on further development and processing of the Ivorian rubber will be conducted.

SPAAR Information System

Record number (MFN): 01004

Official project title: CENTER WEST AGRICULTURAL DEVELOPMENT PROJECT.

Implementing agency: World Bank: Cote d'Ivoire.
Start date: 1983-04-06. End date: 1990-12-31.
Country/countries: Côte d'Ivoire;

Statement of objectives/abstract:

Project activities involve: (a) crop development programs managed by SATMACI involving a set of technical packages for coffee regeneration, cocoa rehabilitation, and increased production of rice, maize, yams, groundnuts and coconuts; (b) agricultural services and institutional support—improved systems of extension services, training programs, village cooperatives, applied research, monitoring and evaluation programs, and improved management to SATMACI's center-west regional office.

Record number (MFN): 01006

Official project title: FIFTH OIL PALM DEVELOPMENT PROJECT.

Implementing agency: World Bank: Cote d'Ivoire.
Start date: 1986-07-07. End date: 1994-06-30.
Country/countries: Côte d'Ivoire;

Statement of objectives/abstract:

To help meet increasing domestic demand for fats and oils through both replacements of existing aging oil palm plantations and development of new PALMINDUSTRIE industrial oil palm plantations in selected areas. To further diversify and strengthen the national agricultural sector through investment in oil palm and assist in maintenance of tree crop cover in areas where the forest cover is being depleted rapidly. Project components include support of accompanying research and technical assistance to PALMINDUSTRIE.

Record number (MFN): 01007

Official project title: SECOND RURAL DEVELOPMENT PROJECT IN COTTON AREAS.

Implementing agency: World Bank; Togo.
Start date: 1986-10-27. End date: 1991-03-31.
Country/countries: Togo;

Statement of objectives/abstract:

The project is a follow-up of the First Rural Development Project in Cotton Areas.

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The project aims to expand the production of food crops and cotton grown by smallholders through (a) strengthening SOTOCC's extension and animal traction services; (b) applied research, seed multiplication and seed quality control; (c) supply to farmers of incremental fertilizers, pesticides and equipment; (d) reconstruction and upgrading of feeder roads, and tubewells; (e) a project monitoring and evaluation unit; and (f) technical assistance support.

Record number (MFN): 01008

Official project title: THIRD COFFEE AND COCOA DEVELOPMENT PROJECT.

Implementing agency: World Bank; Togo.

Start date: 1987-07-15. End date: 1992-12-31.

Country/countries: Togo;

Statement of objectives/abstract:

The project aims to increase coffee and cocoa production through improving the productivity of investments under the first and second cocoa-coffee development projects and by plantings in new areas. Project components include: (a) provision of inputs and technical advice to farmers of cocoa, coffee and food crops; (b) implementation of annual plant protection programs against cocoa pests (miria and blackpod); (c) applied research in coffee, cocoa and food crops; (d) construction and maintenance of feeder roads; (e) establishment of farmer groups for marketing and input distribution; (f) support to the National Cocoa and Coffee Development Company (SRCC); (g) studies of land tenure problems in the project area and future strategy for cocoa-coffee development in Togo.

Record number (MFN): 01010

Official project title: COCOA REHABILITATION PROJECT.

Implementing agency: World Bank; Ghana.

Start date: 1988-11-15. End date: 1994-06-30.

Country/countries: Ghana;

Statement of objectives/abstract:

The objectives of the project are to: (i) support the policy reforms in the cocoa sector agreed under the first Structural Adjustment Credit; and (ii) increase cocoa production and yield to stabilize output at an annual level of about 300 000 t by the turn of the century. This would be achieved by: (a) maintaining producer price incentives; (b) improving the institutional efficiency of COCOBOD particularly its extension, seed production, disease control, functions and by gradual privatization of input supply; (c) improving cocoa evacuation and quality control; (d) implementing a road rehabilitation program in cocoa areas; and (e) strengthening cocoa research.

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especially the breeding program for drought and disease resistance and improved yields. The project would include four main components: (1) research: (i) streamlining of the Cocoa Research Institute of Ghana (CRIG) to promote its activities in plant breeding and Cocoa Swollen Shoot Virus Disease (CSSVD) control, and strengthening of its capacity to deliver the necessary scientific and technical support in restoring the cocoa industry to its former position in the international cocoa trade, (ii) establishment of a Farming Systems Research Unit to conduct on-farm research, and (iii) staff development at senior management level; (2) strengthening of the technical services of COCOBOD for cocoa production; (3) internal marketing to provide limited support to critically needed storage and transport investments to evacuate cocoa, from remote villages in areas with poor infrastructure; and (4) road upgrading program to facilitate the evacuation of cocoa and the participation of private haulers.

Contact in research organization:

Cocoa Research Institute of Ghana; Ghana

Record number (MFN): 01014

Official project title: KADUNA/KATSINA AGRICULTURAL DEVELOPMENT PROJECT (FORMERLY KADUNA STATE INTEGRATED AGRICULTURAL DEVELOPMENT PROJECT).

Implementing agency: World Bank; Nigeria.

Start date: 1985-07-17. End date: 1993-12-31.

Country/countries: Nigeria;

Statement of objectives/abstract:

The project will attempt to apply the successful experience of the Funtua Agricultural Development Project (1092-UNI). Initially, the project consisted of a package of farm support services and physical infrastructure. Support services included extension advice, improved seeds, farm input supply and crop protection measures. Physical infrastructures included the construction of feeder roads and small dams for watering cattle. The project would continue and amend the assistance provided to the erstwhile Kaduna State in the new Kaduna and Katsina States with the following core activities: (i) intensified and unified extension services, adaptive research and contract seed production; (ii) small-scale irrigation development; (iii) veterinary services; (iv) input supplies, including encouraging the role of private retailers; (v) strengthening cooperative rural credit institutions; (vi) essential rural infrastructure; and (vii) strengthening the capacity of the state ministries of agriculture and natural resources (MANR) for policy formulation, planning, and expenditure implementation.

Contact in research organization:

Ministry of Agriculture; New Federal Secretariat Bldgs; Bedwell Road; Ikoyi; Lagos; Tel: 68 18 96; Telex: 22605

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Record number (MFN): 01015

Official project title: MULTI-STATE AGRICULTURAL DEVELOPMENT PROJECT.

Implementing agency: World Bank; Nigeria.

Start date: 1987-06-15. End date: 1992-06-30.

Country/countries: Nigeria;

Statement of objectives/abstract:

The project will help support implementation of the first phase of statewide agricultural development projects in six states and a modified program in Ogun state, with the objective of increasing food crop production and the income of small farmers. The project will help fund: (1) farm inputs and multiplication of improved planting material; (2) the reorganization of rainfed crop extension services; (3) on-farm adaptive research; (4) strengthening and commercialization of an input distribution system; (5) feeder road maintenance and rehabilitation; (6) rural water supplies; and (7) project management, monitoring/evaluation and planning, and manpower developing and training.

Record number (MFN): 01017

Official project title: NATIONAL AGRICULTURAL EXPORT PROMOTION PROJECT (EXPORT CROP, FORMERLY AGRICULTURAL EXPORT PROMOTION, FORMERLY EXPORT CROPS).

Implementing agency: World Bank; Guinea.

Start date: 1993-06-25.

Country/countries: Guinea;

Statement of objectives/abstract:

The overall objective of the project is to strengthen the incentives framework and remove the obstacles to supply response in the agricultural export sector. The project would support the first phase of a long-term strategy offering broad support to the private sector across agricultural export industries. To meet the objectives, the project would include the following components: (a) institutional building to provide technical support and training, primarily to professional organizations; (b) support to private investments in export agri-business by: (i) providing specialized extension and adaptive research services (through existing national projects), (ii) developing smallholder credit, (iii) establishing a private investment corporation, and (iv) providing assistance for design and management of business operations; and (c) studies and special programs, i.e., studies of a general nature required as background to improve knowledge of the export sector, and pilot operations designed to test and develop new methods of production, storage, packaging and shipping of export products.

Contact in research organization:

Ministry of Agriculture and Animal Resources (MARA); Guinea
Ministry of Planning and Finance; Guinea

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Record number (MFN): 01021

Official project title: NETWORK ON MANAGEMENT OF ACID SOILS IN HUMID AFRICA (AFRICALAND - MANAGEMENT OF ACID SOILS).

Implementing agency: International Board for Soil Research and Management.

Start date: 1986-12-00. End date: 1990-12-00.

Country/countries: Africa; Burundi; Cameroon; Congo; Ghana; Côte d'Ivoire; Kenya; Mozambique; Madagascar; Nigeria; Rwanda; Zambia; United Republic of Tanzania.

Statement of objectives/abstract:

Project would: (1) strengthen agricultural research on the management of acid soils of humid Africa, for the purposes of: (a) validating and or developing principles of soil characterization and their linkages to fertility evaluation; (b) validating and/or developing soil-management components of farming systems for the efficient management of soil acidity for sustained production; (c) validating and transferring soil-management technologies developed for efficient use of phosphorus fertilizers; (d) developing improved management of the soil surface by physical or biological means; (e) validating and or developing technologies that reduce degradation of soils through use and which, when necessary, rehabilitate the soil for sustained production; (f) developing and testing research methodologies for evaluating the dynamics of nutrients, toxic elements, physical and biological soil properties; (2) exchange information on validated technologies by: (a) conducting training programs for research and extension staff of national institutions; (b) publications, newsletters, and audiovisuals; (c) computerized interactive systems; (d) workshops and seminars on specialized subject-matter areas; (3) strengthen national institutions by providing technical support services for problem solving, including experimental design, statistical and soil analyses, and data base design and development.

Contact in research organization:

Dr. O. Spaargaren; IBSRAM; B.P. 769 CIDEX 1; Abidjan 06; Cote d'Ivoire

Record number (MFN): 01022

Official project title: MANAGEMENT OF VERTISOLS UNDER SEMI-ARID CONDITIONS IN AFRICA (MOVUSAC).

Implementing agency: International Board for Soil Research and Management.

Start date: 1986-12-00. End date: 1990-12-00.

Country/countries: Africa; Burkina Faso; Botswana; Ethiopia; Ghana; Kenya; Mali; Sudan; United Republic of Tanzania; Zimbabwe; Benin; Togo; Nigeria; Cameroon; Malawi.

Statement of objectives/abstract:

Countries in semi-arid regions of Africa and South West Asia face large food shortage

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due to drought and poor soil and water management. Vertisols represent a very high potential for agricultural production in these regions but are often underexploited. IBSRAM, created in 1983 in Bangkok, Thailand, is establishing a soil management network to address this question internationally: "Management of Vertisols for Improved Agricultural Production. This proposal concerns the implementation of a regional programme to coordinate and support work on this network in Africa and South West Asia (Middle East-India). Thirteen countries: Burkina Faso, Botswana, Burundi, Egypt, Ethiopia, Ghana, Kenya, Mali, Sudan, Tanzania, Uganda, Zambia and Zimbabwe were invited to discuss their projects on this matter in a first regional seminar in Nairobi, December 1-6, 1986. The coordination and support activities proposed will concentrate on: (a) promoting agricultural research on the management of vertisols; (b) exchanging information on validated technologies; (c) strengthening national research institutions; (d) backstopping some projects with equipment and its maintenance and with consultancies. This project proposal concerns the coordination and support of the African and South West Asian programme and describes the goal and objectives, the rationale, the intended activities, the organization, the request for coordination support, a proposed sequence of events, the proposed project outputs and a budget of 1 590 000 USD for four years. This program will link with the work of international centers (ICRISAT, ASCAD, ICARDA, ILCA) and other research organizations and universities.

Contact in research organization:

Dr. P. Ahn; International Board for Soil Research and Management (IBSRAM); P.O. Box 9-109; Bangkok; Bangkok 10900; Thailand; Tel: 579-7590; 579-4012; 579-7753; 580-5958; Telex: 21505 IBSRAM TH; Cable: IBSRAM; Fax: 66-2-5611230; E-Mail: CGI134

Record number (MFN): 01085

Official project title: CENTRAL AGRICULTURAL RESEARCH INSTITUTE.

Implementing agency: Food and Agriculture Organization of the United Nations (FAO).

Start date: 1987-01-01. End date: 1990-00-00.

Country/countries: Liberia;

Statement of objectives/abstract:

To strengthen CARI research programs in vegetables and tree crops production, plant protection; post-harvest technology; research and extension; and related divisions. Training of research scientists in these fields will also be strengthened.

Contact in research organization:

Director, Central Agricultural Research Institute (CARI); Suakoko; Liberia

Record number (MFN): 01104

Official project title: AGRICULTURAL RESTRUCTURING AND DIVERSIFICATION (FORMERLY EXPORT

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PROMOTION/DIVERSIFICATION, FORMERLY PRIVATE EXPORT CROPS).

Implementing agency: World Bank; Cameroon.

Start date: 1993-00-00.

Country/countries: Cameroon;

Statement of objectives/abstract:

To promote export diversification crops, and promote new export crops by private sector, and improve the regulatory environment for new investments.

Contact in research organization:

Ministere de l'Agriculture; Yaounde; Cameroon; Tel: (237) 22-37-35; Telex: 8503

Record number (MFN): 01105

Official project title: AGRICULTURAL SERVICES REHABILITATION PROJECT.

Implementing agency: World Bank; Ghana.

Start date: 1987-12-18. End date: 1993-06-30.

Country/countries: Ghana;

Statement of objectives/abstract:

The objectives of the project are to: (i) strengthen Ministry of Agriculture's (MOA) institutional capacity to formulate and implement agricultural policies and programs; and (ii) rationalize and improve efficiency in the delivery of public sector services to agriculture. The project would help prepare and implement action plans and investment programs to strengthen agricultural support services in the field of research, extension, input supply, veterinary, irrigation and credit. The project includes six main components: (a) the reorganization and strengthening of MOA's work in policy formulation, planning, monitoring and evaluation; (b) the preparation of a national master plan for research and funding of research on cotton and rice (irrigated and valley bottom). The project would provide for cotton research at the Crops Research Institute's Nyankpala Station (Northern Region) and research on irrigated rice at the University of Ghana's Kpong Station (Eastern Region); (c) the reorganization of MOA's agricultural extension services in 3 regions on a pilot basis, as a forerunner to a national extension project, related training and logistical support to the maize-cowpea program assisted by the Canadian International Development Agency (CIDA); (d) the strengthening of the Ghana Irrigation Development Authority through a twinning arrangement, the introduction of improved agronomic practices on existing schemes and investment in six small scale pilot irrigation schemes; (e) logistical support for veterinary services; and (f) studies of the agricultural credit system and of food security.

Contact in research organization:

Ministry of Agriculture; Accra; Ghana

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Record number (MFN): 01108

Official project title: SUB-SAHARAN AFRICA HYDROLOGICAL ASSESSMENT.

Implementing agency: World Bank.

Start date: 1987-06-23. End date: 1991-12-00.

Country/countries: Africa; Djibouti; Somalia; Sudan; Uganda; Angola; Botswana; Lesotho; Malawi; Mozambique; Swaziland; United Republic of Tanzania; Zambia; Zimbabwe; Benin; Burkina Faso; Cape Verde; Cameroon; Central African Republic; Chad; Congo; Côte d'Ivoire; Equatorial Guinea; Gabon; Gambia; Ghana; Guinea; Guinea-Bissau; Liberia; Mali; Mauritania; Niger; Nigeria; Sao Tome and Principe; Senegal; Sierra Leone; Togo; Burundi; Madagascar; Rwanda; Zaire;

Statement of objectives/abstract:

The project will evaluate the status of existing hydrological data (precipitation, surface and groundwater), networks and collection systems and make recommendations for the filling of important gaps, upgrading of quality of data collection and enhancement of the capability to measure, retrieve, process and publish hydrological data and information in Sub-saharan countries. Recently, Algeria was added to the countries specified in the original project under a separate UNDP funded project (ALG/88/021). The ultimate aim is to assist countries in the improvement of hydrometric work for planning and evaluating water resource development programs and projects.

Record number (MFN): 01109

Official project title: AFRICAN CENTER OF METEOROLOGICAL APPLICATIONS FOR DEVELOPMENT (ACMAD).

Implementing agency: World Meteorological Organization (WMO).

Country/countries: Africa; Algeria; Angola; Benin; Botswana; Burkina Faso; Burundi; Cameroon; Cape Verde; Central African Republic; Chad; Comoros; Congo; Côte d'Ivoire; Djibouti; Egypt; Equatorial Guinea; Ethiopia; Gabon; Gambia; Guinea; Guinea-Bissau; Kenya; Lesotho; Liberia; Libyan Arab Jamahiriya; Madagascar; Mali; Malawi; Mauritania; Mauritius; Morocco; Mozambique; Niger; Nigeria; Rwanda; Sao Tome and Principe; Senegal; Seychelles; Sierra Leone; Somalia; Sudan; Swaziland; Togo; Tunisia; Uganda; United Republic of Tanzania; Zaire; Zambia; Zimbabwe;

Statement of objectives/abstract:

In Phase I, the project will establish an African Center of Meteorological Applications for Development (ACMAD) in order to: (1) produce adequate and reliable meteorological and climatological data forecasts and information through improved networks and data collection and analysis; (2) strengthen the capabilities of national institutions and develop manpower skills in the use of meteorological and climatological data, by providing appropriate methodologies and techniques and training of personnel; (3) promote applied meteorological research for a better

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understanding of the atmospheric conditions which affect critical human activities in Africa and to use the knowledge gained from this research in agriculture, water resources, building construction, transport, wildlife, etc.; (4) provide early warning systems (crops/livestock/forests), and assess and alleviate the effects of drought, desertification, floods, tropical cyclones, and other natural hazards; (5) improve and contribute to the use and the applications of meteorological information and data so as to: (i) reduce risks and losses in agricultural production, costs and of energy inputs in agricultural production, and of life and property damage caused by flooding; (ii) increase food production in quality and quantity; (iii) more efficiently use water resources, particularly in the drought-prone and drought-stricken areas of Africa; (iv) promote the use of renewable energy sources, as well as the conservation of the environment; (v) improve human settlements, public health, etc.; (6) promote the exchange of experience between the member countries.

Record number (MFN): 01113

Official project title: SIDAMO/GAMO GOFA PEASANT AGRICULTURAL DEVELOPMENT PROJECT.

Implementing agency: African Development Bank.

Start date: 1985-00-00. End date: 1990-00-00.

Country/countries: Ethiopia;

Statement of objectives/abstract:

To support production of crops and livestock through strengthening crop and livestock farming systems research and extension.

Record number (MFN): 01114

Official project title: AGRICULTURAL RESEARCH AND EXTENSION PROJECT.

Implementing agency: African Development Bank.

Start date: 1986-00-00. End date: 1990-00-00.

Country/countries: Zambia;

Statement of objectives/abstract:

The main objectives are: (a) assist in strengthening the technical capability and efficiency of agricultural research and extension services; (b) increase the productivity and utilization of resources in agricultural research and extension (c) sharpen the focus on agricultural research and extension services and strengthen critical linkages between the two services; (d) support institution building in agricultural research and extension sub-sectors.

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Record number (MFN): 01115

Official project title: WEST KENYA RAINFED RICE DEVELOPMENT PROJECT.

Implementing agency: African Development Bank.

Start date: 1986-00-00. End date: 1991-00-00.

Country/countries: Kenya;

Statement of objectives/abstract:

The main aims are to assist in building facilities and services in West Kenya to increase rice production. Project components include credit, research and extension support, seed multiplication, rural roads, rice mills. To complement the work on basic research, a program of adaptive rice research will be initiated. Trials will be conducted throughout the project area. Research station findings will be adapted to local agro-ecological conditions.

Record number (MFN): 01116

Official project title: REGIONAL COOPERATION ON COTTON RESEARCH AND DEVELOPMENT.

Implementing agency: World Bank.

Country/countries: Africa; Zimbabwe; Kenya; Uganda; United Republic of Tanzania; Botswana; Nigeria;

Statement of objectives/abstract:

In the countries visited, the consultant mission was instructed to ascertain (a) the current state of cotton research and development, including funding from national sources; (b) future funding intentions by national governments and the likelihood that they will expand research activities in line with the findings of the Nairobi workshop; (c) additional external resource needs to expand and improve activities in cotton research and development, especially management improvements needed to improve R&D; (d) specific research targets within the range of technical options.

Record number (MFN): 01117

Official project title: AGRICULTURAL SERVICES RESTRUCTURING PROJECT.

Implementing agency: World Bank; Benin.

Start date: 1992-07-31. End date: 1996-00-00.

Country/countries: Benin;

Statement of objectives/abstract:

The fundamental objective of the project is to give the Government of Benin better

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control over rural development activities. More specifically, the project would define rural service programs from the bottom up; and improve the quality and suitability of the services provided to farmers and herders by restructuring the country's agricultural institutions, including the central services of *Ministere du Developpement Rural et de l'Action Cooperative (MDRAC)*, research and development (R-D) and seed production stations, and six *Centre d'Action Regionale pour le Developpement Rural/Regional Action and Rural Development Centers (CARDER)*. It would lead the agricultural services to pay more attention to food crops and livestock, and to training staff to meet the specific technology needs of women and the most disadvantaged rural communities. The project would reorganize research to prevent duplication and link applied research with R-D more efficiently. The Research and Development would be performed through a collaboration between applied researchers, extension agents and farmers, and would be organized to ensure that farmers' problems are heard and their knowledge utilized to adjust the topics of applied research. The project would increase the proportion of current research activities taking into account climatic and ecological changes, and adjust the research programs in each Department to the principal local constraints, such as the risk of desertification and shortage of labor in the north and low soil fertility in the south. The Government of Benin intends to have applied agricultural research performed through an autonomous institute, whose restructuring and research programs would be funded from other sources. The institute would plan the strategy and supervise the implementation of all agricultural research in Benin beside conducting research on its own. The project would finance this applied research reorganization study.

Contact in research organization:

Ministere du Developpement Rural et de l'Action Cooperative (MDRAC); Cotonou; Benin

Record number (MFN): 01119

Official project title: AGRICULTURE SERVICES.

Implementing agency: World Bank; Central African Republic.

Start date: 1991-08-31.

Country/countries: Central African Republic;

Statement of objectives/abstract:

The objectives of the project are to: (i) develop an institutional framework for strengthening the country's capacity for agricultural policy formulation and investment planning, for improving the delivery of agricultural research and extension services and for harmonizing various donor approaches; (ii) adopt a public expenditure program in agriculture that reflects national priorities and institutional strategies; and (iii) provide adequate funding in support of this public expenditure program.

Contact in research organization:

Ministry of Rural Development; Bangui; Central African Republic

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Record number (MFN): 01131

Official project title: NATIONAL LIVESTOCK PROJECT.

Implementing agency: World Bank; Central African Republic.

Start date: 1986-08-12. End date: 1992-06-30.

Country/countries: Central African Republic;

Statement of objectives/abstract:

The main objective of the project is to develop a viable institutional framework for the country's livestock subsector to ensure the efficient delivery of necessary inputs and extension to livestock producers, thus reducing diseases and pasture degradation, increasing livestock production and exports and improving the standard of living of herders. The project would: (a) strengthen the National Federation of Central African Livestock Producers (FNEC) to further develop input delivery and pastoral organization and to increase the number of herder associations; (b) assist the Livestock Service (LS) in its vaccination campaigns against the main epidemic diseases, in the reorganization and strengthening of its extension, research and pastoral settlement activities; and (c) reinforce management capabilities during project implementation

Record number (MFN): 01132

Official project title: COTTON AREA RURAL DEVELOPMENT PROJECT.

Implementing agency: World Bank; Central African Republic.

Start date: 1984-01-31. End date: 1990-02-02.

Country/countries: Central African Republic;

Statement of objectives/abstract:

The project plans to rehabilitate cotton production and increase food crop production and will assist SOCADA, the country's major rural development institution to become more effective and financially sound. To achieve this, the project aims to (i) strengthen agricultural extension service; (ii) provide production inputs (fertilizer, insecticides) and agricultural implements; (iii) support applied research and seed multiplication programs; (iv) promote animal traction; (v) improve the country's five cotton ginneries; (vi) provide workshops and equipment to improve the maintenance capacity for SOCADA's agricultural transport fleet; and (viii) establish a project monitoring unit.

Contact in research organization:

SOCADA

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Record number (MFN): 01134

Official project title: NATIONAL AGRICULTURAL RESEARCH.

Implementing agency: World Bank; Cameroon.

Start date: 1988-03-18. End date: 1993-06-30.

Country/countries: Cameroon;

Statement of objectives/abstract:

The project aims at reorienting agricultural research towards solving problems of food crops and livestock production to enhance its effectiveness and relevance to needs of small farmers. The main objectives of the project would be to: (a) construct and upgrade the physical infrastructure and strengthen technical, operational and managerial capabilities of the Institute of Agronomic Research (IRA) and the Institute of Animal Research (IRZ); (b) create central documentation and analytic unit to support the research system; and (c) introduce systematic procedures for the review and programming of research and for ensuring dissemination to the extension system.

Record number (MFN): 01135

Official project title: SECOND WESTERN PROVINCE RURAL DEVELOPMENT.

Implementing agency: World Bank; Cameroon.

Start date: 1985-09-09. End date: 1991-12-31.

Country/countries: Cameroon;

Statement of objectives/abstract:

This five-year project would extend and consolidate operations on-going under the Western Highlands Rural Development Project (0784-CM) to the whole Western Province, while improving the relevance of the technical package to farmers' needs. The focus would be on increased food crop production and improvements in coffee yields and quality. The objectives include: (a) expansion and streamlining of UCCAO's services, strengthening of cooperatives, modernization of coffee processing and marketing facilities; (b) provision of incremental inputs; and (c) supporting activities, including applied research, village water supply, feeder roads, soil conservation, reforestation, bottomlands development, monitoring and evaluation. The project would also assist the Government of Cameroon to raise smallholder productivity and improve rural living conditions, attain national food self-sufficiency, and decentralize and strengthen regional institutions.

Contact in research organization:

UCCAO

Record number (MFN): 01136

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Official project title: GUECKEDOU AGRICULTURAL DEVELOPMENT PROJECT.

Implementing agency: World Bank; Guinea.

Start date: 1986-10-27. End date: 1992-06-30.

Country/countries: Guinea;

Statement of objectives/abstract:

This project is a continuation of the pilot component of the IDA- and AFDF-financed Rice Development Project (952-GUI). The objectives are geared towards increasing the productivity of smallholders in food and cash crop production by expanding the scope and area of the first phase and introducing technical packages for coffee, groundnuts and cassava, and by strengthening the Gueckedou Prefectoral Directorate of Rural Development. These objectives would be achieved through: (a) providing extension services for farm families involved in cultivation of swamp and upland rice as well as other rainfed and perennial crops; (b) providing training for Guinean staff and supporting agricultural research to test and introduce new technical packages; (c) strengthening the management and administration of the prefectoral service; (d) seed processing and distribution to farmers; (e) development of swamp land through low cost irrigation works, and upgrading and maintenance of rural roads; (f) providing agricultural inputs to farmers through credit; (g) short and medium term fellowships for project staff.

Record number (MFN): 01137

Official project title: FIRST AGRICULTURAL SERVICES PROJECT.

Implementing agency: World Bank; Guinea.

Start date: 1986-07-31. End date: 1992-06-30.

Country/countries: Guinea;

Statement of objectives/abstract:

The project will help improve the capabilities of the Ministry of Rural development (MRD) in agricultural planning, strategy and policy formulation and project analysis. This objective will be achieved through the establishment of a Strategy and Development Office (BSD) to be staffed with qualified Guinean and internationally recruited personnel. BSD will focus on (i) defining agricultural strategy and policy; (ii) elaboration and review of investment plans; (iii) monitoring and evaluation of projects; (d) project identification, preparation and analysis; and (v) data collection and analysis. BSD will also support start-up activities of new rural development projects and elaboration of long term plan for agricultural research and irrigation development in the country.

Record number (MFN): 01138

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Official project title: AGRICULTURAL SERVICES REHABILITATION.

Implementing agency: World Bank; Sierra Leone.

Country/countries: Sierra Leone;

Statement of objectives/abstract:

Rehabilitation of general agricultural support services, including input, supply, seed production, applied research and cooperative development.

Record number (MFN): 01139

Official project title: NATIONAL RESEARCH AND EXTENSION PROJECT.

Implementing agency: World Bank; Guinea.

Start date: 1989-05-28. End date: 1994-12-31.

Country/countries: Guinea;

Statement of objectives/abstract:

The main objective of the project is to assist farmers who operate at a very low level of technology in improving the productivity of their farming systems through:

- (a) provision of necessary support to plan, manage, monitor and evaluate a National Research and Extension Program;
- (b) funding and expanding commodity research consistent with sector development objectives;
- (c) rapid testing of locally and regionally available crop varieties and production technologies;
- (d) adequate transfer and diffusion of these through a system of mass extension sustainable in the long run by the Government;
- (e) creation and consolidation of links among research, extension and farmers;
- (f) development of an institutional framework for promoting farmer organizations;
- and (g) support to the above actions through a major training program so as to develop the Guinean capacity for designing, managing and implementing research and extension operations.

The project would be national in scope, and include the following research components:

- (1) applied research to support six research centers located in the main agro-ecological regions (Koba for rice and other food crops; Foutaya for fruit trees and root/tuber crops; Kilissi, Bareng and Bordo for annual food crops; Seredou for both food and perennial crops), to facilitate the identification, selection, and testing of local and introduced plant materials and production technologies;
- (2) adaptive research to establish Research and Development (R&D) teams for survey and analysis of farmers' constraints; and of an off-station and on-farm research network to carry out trials to test adaptability and acceptability of crop varieties, production technologies and different farming systems for smallholders in the different agro-ecological regions of Guinea;
- (3) training to provide local (in Gueckedou, Tindo, Banban and Pita) and overseas task-oriented training in commodity and cropping systems research, research and extension methodologies and management;
- (4) extension services to strengthen and reorganize the extension services of the *Ministere de l'Agriculture et des Ressources Animales (MARA)* to ensure proper assessment of farmers' needs and adequate delivery of messages; and
- (5) institutional strengthening of the capacity of the research and

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extension structures for the planning and management of research and extension activities.

Contact in research organization:

Ministere de l'Agriculture et des Ressources Animales (MARA); Guinea

Record number (MFN): 01162

Official project title: MAIZE IN LULUA AGRICULTURAL DEVELOPMENT PROJECT.

Implementing agency: World Bank; Zaire.

Start date: 1986-02-04. End date: 1992-06-30.

Country/countries: Zaire;

Statement of objectives/abstract:

The project will increase food crop production in the Lulua and Kananga sub-regions of Kasai Occidental Province. Project activities include: (i) strengthening extension services; (ii) training; (iii) field trials; (iv) providing inputs including improved seeds, tools, fertilizers and insecticides; (v) support marketing activities of private traders; and (vi) selective maintenance of transport infrastructure.

Record number (MFN): 01163

Official project title: SEEDS PROJECT.

Implementing agency: World Bank; Zaire.

Start date: 1986-04-30. End date: 1992-06-30.

Country/countries: Zaire;

Statement of objectives/abstract:

The project would be the initial time-slice of a long term effort to assist Government of Zaire (GOZ) in developing a self-sustaining and commercially viable seed industry. It responds to the Government of Zaire's request in 1982 for assistance to increase improve seed production in Zaire. The project deals with the production of seeds for the major foodcrops (maize, rice, groundnuts and other edible legumes) and cassava cuttings in Bas-Zaire, Bandundu, Kasai Oriental, Shaba, and Haut Zaire, in accordance with the Government's strategy to achieve food self-sufficiency. It focuses on technical, managerial and institutional aspects of seed production and aims to maintain the necessary flexibility to adjust its policies to experiences gained during implementation and to adapt to local conditions. It is designed to deal not only with seed multiplication and quality control issues, but also to address the upstream problems of the supply of base seeds, and the downstream questions of seed production and distribution. The project will be implemented by the recently constituted National Seed Bureau (BUNASEM) which would play an active

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role during this first phase of the national seed program. The project components are:
(i) support for the operation of a National Seed Bureau; (ii) development and operational support for five central seed farms including development of seed marketing and support to extension service in the area of influence of each seed farm; (iii) development of seed quality control capacity, including establishment and operation of seed testing laboratories; (iv) assistance to secondary seed farms; (v) improvement of the production capacity of base seeds at major agricultural research stations; (vi) a training program, both overseas and in Zaire; (vii) special studies and pilot projects related to the development of the seed industry; and (viii) technical assistance to support the management of the National Seed Bureau and of the seed farms, and to develop the training program.

Contact in research organization:
Bureau National de Semences (BUNASEM); Zaire

Record number (MFN): 01178

Official project title: ECOLOGICAL PROTECTION (FORMERLY FORESTRY AND ENVIRONMENT).

Implementing agency: World Bank; Cameroon.
Start date: 1992-00-00.
Country/countries: Cameroon;

Statement of objectives/abstract:

To improve institutions in charge of forest management, conservation and environmental protection for biodiversity parks and reserves: (a) reforms of policies regarding (i) land use planning, (ii) regeneration of forest resources, and (iii) forestry fiscal system; (b) development of a system of protected areas for wildlife and biodiversity conservation; (c) development of sustained management of forest reserves in the dense forest zone; and (d) institutional support for (a), (b), and (c) and research in forestry and biodiversity conservation.

Contact in research organization:
Ministry of Agriculture; Yaounde; Cameroon; Tel: 23-40-85; Telex: 8325

Record number (MFN): 01180

Official project title: NATIONAL AGRICULTURAL EXTENSION AND TRAINING.

Implementing agency: World Bank; Cameroon.
Start date: 1991-01-22. End date: 1995-12-31.
Country/countries: Cameroon;

Statement of objectives/abstract:

The priority objective is to increase farmer productivity by strengthening operational institutions and establishing systems for managing the extension services

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and by providing training to facilitate improved delivery of the services. Special attention would be given to meeting the needs of women farmers under the project. By integrating extension services to incorporate food crops as well as cash crops, women farmers would be more likely to receive extension advice. The project's aims would be achieved through: (a) enhancing the implementing agencies capacity to plan, manage, monitor, and evaluate a national extension training program; (b) ensuring adequate transfer and diffusion of production techniques through the expansion of a time-bound management and training system for front-line extension agents; (c) supporting the above actions through a major training program to develop local capacity for designing, managing, and implementing extension operations; (d) improving the relevance of production techniques through increased verification trials and improved research-extension linkages—adaptive research; and (e) increasing the availability of improved seed—see multiplication.

Contact in research organization:

Ministere de l'Agriculture; Yaounde; Cameroun; Tel: 23-40-85; Telex: 8325

Record number (MFN): 01184

Official project title: PRIVATE RURAL ENTERPRISE AND DIVERSIFICATION (FORMERLY EXPORT CROP DEVELOPMENT).

Implementing agency: World Bank; Central African Republic.

Start date: 1993-00-00.

Country/countries: Central African Republic;

Statement of objectives/abstract:

To establish medium size coffee plantations, and to promote diversification of export crops.

Contact in research organization:

Ministry of Rural Development; Bangui, Central African Republic

Record number (MFN): 01185

Official project title: NATIONAL RESOURCES/MANAGEMENT SUPPORT.

Implementing agency: U.S. Agency for International Development.

Start date: 1987-00-00. End date: 1992-00-00.

Country/countries: Africa; Côte d'Ivoire;

Statement of objectives/abstract:

The project is designed as the Africa Bureau's vehicle for systematic support to A.I.D. Missions and PVOs to help them strengthen their Natural Resources Management (NRM) programs and projects. Natural Resources/Management Support (NRMS) is a service project and will finance a broad range of support activities including

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selected biological diversity activities and remote sensing equipment to Cote d'Ivoire for NRM-related purposes. NRMS will function as both catalyst and response agent and will: (1) respond to service requests; (2) help coordinate the response of S&T service projects to Missions needs; (3) foster awareness and training programs in NRMS; (4) strengthen PVOs through technical assistance and training; and (5) sponsor studies and research to enhance the design and impact of field projects.

Record number (MFN): 01186

Official project title: NATURAL RESOURCE MANAGEMENT PROJECT.

Implementing agency: World Bank; Central African Republic.

Start date: 1990-08-20. End date: 1997-06-30.

Country/countries: Central African Republic;

Statement of objectives/abstract:

The main objective of the project is to reinforce the capabilities of the Central African Republic (CAR) to protect and manage its forest and wildlife resources on a sustainable basis through: (a) support to further improvement in the legislative framework and fiscal/incentive system for the forestry and wildlife sector; (b) restructuring of the sector's institutions and strengthening of their capacity to effectively implement field controls and promote environmental protection; (c) development of an improved knowledge of existing forest resources, as a basis for sound planning; and (d) development of improved agro-forestry systems in the forest zone, and support to the protection and management of a dense forest reserve. The credit would support a hybrid operation consisting in a quick disbursing sector adjustment program and an investment project. Under the investment project: (1) a national forest inventory would be carried out. This inventory would cover all species and include wildlife data collection to determine areas of abundance and vegetation types particularly important to wildlife species. The size distribution of the various forest types in different parts of the forest zone would be determined. A master plan of the forest would be prepared following the inventory so as to delineate areas to be maintained and added as protected forests and wildlife reserves, and areas which can continue to be used by the industry or for firewood supply to urban areas. Spot satellite imagery would also be used on a regular basis after completion of the inventory for monitoring the evolution of CAR's dense forest; and (2) a pilot agro-forestry and land management component would be implemented in Bangui, to define and test the most appropriate technical packages and intervention methods for fostering improved forest management and the adoption of sustainable land use systems by rural populations. A program of research and development actions would be defined based on agro-socio-economic surveys and implemented in subsequent years; it would include the testing of techniques and organizational measures to promote: (i) improved management of the remaining natural forest through rational exploitation of existing trees, techniques to foster regrowth of the most valuable species, establishment of firebreaks, extension of improved carbonization techniques for charcoal production, etc.; (ii) planting of trees on agricultural land for various uses (maintenance of soil fertility, erosion control, sustainable production

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of fire and construction wood, fruit production, etc.); and (iii) development and extension of improved cultivation systems less destructive to the forest and soils.

Contact in research organization:

Ministry of Forests, Bangui; Central African Republic

Record number (MFN): 01191

Official project title: NATIONAL AGRICULTURAL EXTENSION AND ADAPTIVE RESEARCH PROJECT.

Implementing agency: World Bank; Congo.

Start date: 1991-12-31. End date: 1996-06-30.

Country/countries: Congo;

Statement of objectives/abstract:

The primary objective of the project is to support the Government's efforts to increase the production efficiency and incomes of small farmers by facilitating the development and dissemination of relevant technology. This would be achieved through the establishment and subsequent strengthening of an appropriate national system of extension and adaptive research. The specific objectives are to: (a) promote coordination at field level of all technical services that interface with the farmer, with a view to addressing in an integrated fashion all relevant aspects of smallholder farming operations; (b) ensure close liaison with upstream research and other technical services, so that extension and research activities can build fully on all existing technical support; (c) establish an extension and research system responsive to farmers' needs, predominantly those of the two target groups of women and youths that play a critical role in agricultural production; and (d) strengthen planning capabilities in the agricultural sector, so that project operations and those of other agricultural projects are consistent with policies and actions set forth under the national Public Investment Program (PIP). The adaptive research would be performed both on farmers' fields and using a network of Technical Support Centers (Centres d'Appui Technique-CATs). The research activities in the CATs would focus on the testing of: (a) a collection of varieties of the main crops; and (b) fertility management techniques with a view to lengthening cropping cycles under smallholder farming conditions, e.g., cover crops and legume fallow included in rotations, application of minimal amounts of critical inputs such as lime or phosphate, mulching techniques from cover crops or perennials, and alley cropping techniques.

Contact in research organization:

Ministere de la Jeunesse et du Developpement Rural; Brazzaville; Congo
Research-Development, Training and Extension Directorate; Congo

Record number (MFN): 01192

Official project title: FORESTRY SECTOR PROJECT.

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Implementing agency: World Bank; Cote d'Ivoire.

Start date: 1991-03-01. End date: 1995-06-30.

Country/countries: Côte d'Ivoire;

Statement of objectives/abstract:

The project will basically undertake all activities included in the Government's Emergency Action Program to: (a) stop the destruction of the rain forest; (b) ensure a sustainable production of industrial timber through the improved management of national forests, and the development and better husbandry of industrial plantations; (c) improve the efficiency of the domestic wood processing industry; (d) protect the country's national parks; and (e) promote a better management of the interface between agriculture and forestry. The project will include components on forestry training schools; research and studies; institutional strengthening; and monitoring and evaluation.

Contact in research organization:

Ministry of Agriculture, Water and Forestry Resources; B.P. V82; Abidjan; Cote d'Ivoire; Telex: 23612

Record number (MFN): 01193

Official project title: CROP DIVERSIFICATION AND AGRICULTURAL SERVICES PROJECT.

Implementing agency: World Bank; Equatorial Guinea.

Start date: 1991-07-10. End date: 1996-12-31.

Country/countries: Equatorial Guinea;

Statement of objectives/abstract:

The main objectives of the project are to alleviate rural poverty, improve family nutrition and food security, increase food production, promote local food marketing and raise foreign exchange earnings by import substitution and by promoting the export of traditional and non-traditional crops, including food crops. The project would increase the agricultural productivity of rural women and improve land use and soil conservation practices. These will be achieved through a combination of policy reforms and investments. The policy reforms would involve: (i) improving price incentives through reforms of cocoa pricing and the taxation system; (ii) restructuring marketing and input supply systems of the traditional export sub-sector; and (iii) preparing and implementing programs aimed at removing technical constraints on higher cocoa output, including uncertainties over land tenure. The investments components are: (a) marketing, which will depend primarily on private initiative, will consolidate and increase the profitability of traditional export crops, expand markets for food crops exports, and promote non-traditional exports to new markets; (b) agricultural extension and applied research will furnish Training & Visit (T&V) based extension service to farmers supported by demand-driven applied research, with the immediate objective of increasing the availability of diversified food crops for domestic consumption and export. The component will promote better linkages between extension and research and develop mechanisms to promote a two-way flow of information between extension, research and farmers; and (c) institutional

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development will help sustain project accomplishments by creating incentives for private sector investment, building national research and extension management and training capabilities, and ensuring that project activities support farmer and trader organizations and address the needs of women farmers.

Contact in research organization:

Ministry of Agriculture, Livestock, Fisheries and Forestry (MALFF); Rio Muni;
Equatorial Guinea

Record number (MFN): 01195

Official project title: FOREST RESOURCE MANAGEMENT PROJECT.

Implementing agency: World Bank; Ghana.

Start date: 1989-11-30. End date: 1995-06-30.

Country/countries: Ghana;

Statement of objectives/abstract:

The objective of the project is to sharpen the focus of policy programs through: (a) managing industrial forestry production and export earnings in accordance with sustained yield policy; (b) promoting conservation and tree planting on farms to counteract fuelwood shortage and ecological deterioration; and (c) strengthening the structural base of the sector and its institutions to enable them to carry out the necessary policy reforms, increase revenue generation, improve protection and management of the forest and wildlife resources, and lay the foundations for developing a methodology to quantify environmental and ecological benefits. The adaptive research component would include the rehabilitation of the Forest Products Research Institute (FPRI) in order to strengthen its capacity to determine priorities and implement a research program relevant to Ghana's forestry research needs. FPRI would carry out research focussing on: (1) management of the natural forest resources; (2) forestry for rural development with special emphasis on priority areas in the savanna zones including Upper East, Upper West, Northern, Greater Accra, Eastern and Volta Regions; and (3) utilization of forest products including the use of secondary species. Research would be directed towards regeneration techniques, with particular emphasis on: (i) silviculture and regeneration of Tropical High Forest (THF) including enrichment planting techniques which are less expensive and ensure that preferred species are planted and tended; (ii) rural forestry including appropriate agroforestry technical packages for local farming communities, and research to ensure that soils are enriched by planting of soil improvement species like Acacia, other leguminous species and Casuarina; and (iii) afforestation species trials to ensure the growing of specific plants for specific end-uses, nursery techniques, fertilization, and protection from fungi and insects. Investigations would be carried out on gums, resins, tannin, dyes, oils, and other minor forest products with a view to raise the income of the rural people. The forestry education and training component would build up the capacities and capabilities of the main forestry education and training institutions, the Institute of Renewable Natural Resources (IRNR) and the Sumyani Forestry School (SFS).

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Contact in research organization:
Ministry of Land and Natural Resources; Accra; Ghana

Record number (MFN): 01196

Official project title: FORESTRY AND FISHERY MANAGEMENT.

Implementing agency: World Bank; Guinea.
Start date: 1990-02-02. End date: 1994-06-30.
Country/countries: Guinea;

Statement of objectives/abstract:
Launching of protection and improved management of forestry and marine fisheries resources, and environmental protection measures through institutional rehabilitation, and finances from operations.

Contact in research organization:
State Secretariat for Fisheries (SEP), Ministry of Agriculture and Animal Resources; Conakry; Guinea

Record number (MFN): 01197

Official project title: AGRICULTURAL SERVICES (FORMERLY SECOND AGRICULTURAL SERVICES PROJECT).

Implementing agency: World Bank; Guinea.
Start date: 1994-00-00.
Country/countries: Guinea;

Statement of objectives/abstract:
The objective of the project is to continue supporting the Government's efforts to facilitate the development and dissemination of appropriate agricultural technology. This would be achieved by continuing to improve the efficiency of the national system of extension and adaptive research. Areas of focus would be to: (a) promote coordination at field level of all services that interface with the farmer, with a view to addressing all relevant aspects of smallholders farming operations (bas-fonds development, livestock activities, transformation of products, agro-forestry, etc.); (b) establish specialized services that would provide "a la carte" services to commercial agriculture, especially export agriculture; (c) provide technical support to cooperatives and private contractors, to build their capacity to serve farmers and gradually replace government services; and (d) support activities targetted to women and youth who play a critical role in food crops. To meet the objective, the project would implement the following components: (1) expansion of the extension service nationwide along the basic principles of the Training and Visit (T&V) management system, including provision of training and logistics to cover incremental needs; (2) strengthening of the National Research Institute (IRAG), so that it can respond

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flexibly to specific needs and produce the genetic material required for the multiplication by the private sector; and (3) special actions for the development by the private sector and the cooperatives of service-oriented activities in the rural areas.

Contact in research organization:

Ministry of Agriculture and Animal Resources (MARA); Conakry; Guinea

Record number (MFN): 01206

Official project title: AGRICULTURAL RESEARCH II.

Implementing agency: World Bank; Cameroon.

Start date: 1994-00-00.

Country/countries: Cameroon;

Statement of objectives/abstract:

Follow up effort emphasizing support to implementation of an agreed national agricultural research program, and institutional reform. Restructuring of national agricultural research.

Contact in research organization:

Ministry of Agriculture; Yaounde; Cameroon; Tel: (237) 22-37-35; Telex: 8503

Ministry of Technical and Scientific Research; Yaounde; Cameroun

Record number (MFN): 01207

Official project title: AGRICULTURAL SERVICES REHABILITATION.

Implementing agency: World Bank; Togo.

Start date: 1995-00-00.

Country/countries: Togo;

Statement of objectives/abstract:

Reorganization of General Agricultural Support Services including input supply, seed production, applied research and cooperative development.

Contact in research organization:

Ministry of Rural Development; ave de Sarakawa; Lome; Togo; Tel: 21-56-71

Record number (MFN): 01208

Official project title: INDUSTRIAL CROPS.

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Implementing agency: World Bank; Zaire.

Country/countries: Zaire;

Statement of objectives/abstract:

Financing to tree-crops estate companies to support their rehabilitation and assistance in developing small-holder production of tree-crops. Investment support component will provide assistance in training estate managers and technicians; in dealing with estate management problems; and possibly in redeveloping research on tree-crops.

Contact in research organization:

Ministry of Agriculture; Kinshasa; Zaire

Record number (MFN): 01211

Official project title: NATIONAL AGRICULTURAL RESEARCH PROJECT.

Implementing agency: World Bank; Zaire.

Start date: 1992-09-09. End date: 1997-06-30.

Country/countries: Zaire;

Statement of objectives/abstract:

The National Agricultural Research Project constitutes the first five-year phase of implementation of the Agricultural Research Master Plan. It would provide a means to integrate all ongoing research activities, and support Government's policy of food security and increased cash crop production. It would focus primarily on adaptive and applied research, and give priority to small farmers' needs. The specific objectives of the project are to: (a) develop multi-disciplinary research programs capable of delivering early returns; (b) develop and disseminate technologies that contribute to increased farmer income and respond to real farmer constraints; (c) develop sustainable agricultural production systems, supported by on-farm research and effective interaction with extension and farmers; (d) increase research efficiency through quality improvement, strengthening of Institut National pour l'Etude et la Recherche Agronomiques (INERA), rationalization of the station network and its operations, improvement of the research information system, and human resources development through training, scholarships and improvement of conditions of service; and (e) ensure continued action of research funding, through the establishment of interministerial concertation and donor coordination mechanisms. The project's main target would be to get the following twelve research programs fully operational while fulfilling the above objectives: (a) five food crop research programs: cassava, maize, grain legumes, rice and potato; (b) one industrial crop research program: cotton; (c) two perennial crop research programs: oil palm and coffee; (d) a livestock research program, including cattle and small ruminants; and (e) three thematic research programs: a natural resources program, including the sub-programs of soil management, erosion control, agroforestry and integrated pest management; farming systems research program and germplasm conservation program.

Contact in research organization:

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Dr. Masimango Ngyanabo: PDG; Institut National pour l'Etude et la Recherche
Agronomiques (INERA); P.O. Box 2037; Kinshasa I; Zaïre; 31294: 32332

Record number (MFN): 01212

Official project title: INTERNATIONAL RUBBER RESEARCH AND DEVELOPMENT BOARD (IRRDB).

Implementing agency: International Rubber Research and Development Board.

Country/countries: Global; Nigeria; Côte d'Ivoire; Cameroon; Brazil; China; France; India;
Indonesia; Malaysia; Mexico; Philippines; Sri Lanka; Thailand; Viet Nam;

Statement of objectives/abstract:

The IRRDB is an association of national institutes concerned with research and development on natural rubber (NR). Its aims are to foster co-operation between the member institutes in respect of technical activities relevant to the production, processing and usage of NR, to provide a forum for concerted action on matters of mutual interest, and to arrange for funding, supervision and co-ordination of activities carried out on a cooperative basis. The policies of the IRRDB are determined by a Board comprising representatives of the member institutes, and the Board receives advice and suggestions from the Committee of Directors and Chief Executives of the member institutes. Membership of the IRRDB includes the rubber research institutes in: Brazil, Cameroon, Cote d'Ivoire, China, France, India, Indonesia, Malaysia, Mexico, Nigeria, Philippines, Sri Lanka, Thailand, Vietnam.

Record number (MFN): 01222

Official project title: AGROECONOMIC STUDY OF CASSAVA IN SUB-SAHARAN AFRICA.

Implementing agency: Rockefeller Foundation.

Start date: 1988-01-01. End date: 1990-12-31.

Country/countries: Africa; Côte d'Ivoire; Nigeria; United Republic of Tanzania; Zaïre;
Uganda; Ghana;

Statement of objectives/abstract:

To assist researchers in six African countries to study production, consumption, and marketing systems for cassava and thus build a solid analytical basis for research and development to improve the well-being of farmers and consumers who depend on cassava.

Contact in research organization:

Dr. Laurence D. Sifel, Director General or Dr. Felix I. Nweke; Agricultural
Economist; IITA; Oyo Road; PMB 5320; Ibadan; Nigeria; Tel: 400300; 400313;
Telex: TDS IBA 20311 (Box 015); Cable: TROPFOUND, IKEJA

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Record number (MFN): 01223

Official project title: SOCIOECONOMIC AND ENVIRONMENTAL FACTORS RELATED TO DEVELOPMENT
AND
APPLICATION OF VACCINES FOR ANIMAL DISEASES IN AFRICA.

Implementing agency: Rockefeller Foundation.
Start date: 1986-07-01. End date: 1989-12-31.
Country/countries: Nigeria;

Statement of objectives/abstract:

To identify and develop the methodology for predicting the possible effects of such vaccines on livestock productivity under different management conditions, on the socioeconomic status of segments of the population, and on the environment.

Contact in research organization:

Dr. A.R. Gray, Director General; Internal Laboratory for Research on Animal Diseases (ILRAD); P.O. Box 30709; Nairobi; Kenya; Tel: Nairobi 592311; Telex: 22040 ILRAD; Cable: ILRAD Nairobi, Kenya

Record number (MFN): 01289

Official project title: AGROSILVICULTURE EN ZONE HUMIDE - CONGO [HUMID ZONE
AGROSILVOPASTORAL SYSTEMS - CONGO].

Implementing agency: International Development Research Centre.
Start date: 1988-00-00.
Country/countries: Congo;

Statement of objectives/abstract:

Project would: (i) develop silvicultural techniques for the production of building poles from woody nitrogen-fixing species; (ii) test the effect on soil fertility of growing nitrogen-fixing species in alley cropping systems; (iii) identify species suited for use in live hedging for protection of food crops and the production of forage.

Contact in research organization:

Responsible Programme Espèces Fixation d'Azote; CIFT; Pointe Noire; Congo

Record number (MFN): 01291

Official project title: GLOBAL 2000 - SASAKAWA AFRICA INITIATIVE AGRICULTURE PROJECT.

Implementing agency: Global 2000 Found.
Start date: 1986-00-00.

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Country/countries: Africa; Sudan; Ghana:

Statement of objectives/abstract:

To establish action programs in agricultural production focused primarily on the major African food crops: maize, sorghum and millet. Project staff will (i) organize and conduct on-farm trials to identify the adaptation zones within which improved varieties are clearly superior to the ones presently in use; ii) determine as quickly as possible farmer constraints and needs, such as fertilizer supply, animal traction, seeds, practical training, credit, market availability and prices; iii) develop seed production organizations capable of producing and distributing superior varieties; iv) improve seed and grain storage facilities at the farm-level and v) train national extension workers in technology transfer procedures. The on-farm and extension approach followed in two Global 2000 projects, one in Ghana and the other in Sudan, offers the potential for researchers, extension agents and producers to work together from the start.

Contact in research organization:

Mr. C.W. Hong; Global 2000 - Sasakawa Africa Initiative; Accra; Ghana

Record number (MFN): 01332

Official project title: NATIONAL AGRICULTURAL RESEARCH PROJECT.

Implementing agency: World Bank; Ghana.

Start date: 1991-10-10. End date: 1997-03-31.

Country/countries: Ghana;

Statement of objectives/abstract:

The project would initiate a long-term process to strengthen Ghana's agricultural research system, in order to generate improved technologies, thus contributing to national development objectives and growth in the agricultural sector. Emphasis would be given to the development of processes and institutional arrangements to ensure that research priorities accord with national development priorities, the needs of farmers and the sustainable use of Ghana's natural resource base. Important objectives of the project include the formulation of a long-term National Agricultural Research Plan (NARP), support for its implementation and the improvement of the research management system and research-extension linkages. The project would include five main components: (i) research management development—the establishment of a National Agricultural Research Committee to set research priorities, and of its Technical Secretariat; the development of a National Agricultural Research Plan; and the improvement of management systems at national, institute and program levels; (ii) human resource management—in-country and foreign post-graduate and technical training, with an emphasis on twinning arrangements with foreign institutions to ensure relevance to Ghanaian conditions; (iii) rehabilitation of research facilities through rehabilitation of existing buildings, and the supply of vehicles and equipment to provide institutes with a core capability to undertake research; (iv) improvement of library and information systems—the establishment of the Ghana Agricultural Information System in research institute, university and Ministry of

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Agriculture libraries; and (v) research program support for national research programs identified as part of the National Agricultural Research Plan through provision of adequate research facilities and operational funding. Additional funding would be provided for five field-oriented research programs: pineapple (on-field research programs to improve both yield and quality of fruit), plantain (selection of appropriate cultivars, and the development of technology for propagation, husbandry, pest control and land management for different production areas), soya beans (development, through testing and selection, of varieties adapted to the different agro-ecological zones and husbandry recommendations suited to various farming systems), cotton and rice (recurrent funding for on-going programs). The establishment of a Research Grants Scheme, for use by the universities and other competent public and private sector agencies; and the development of research/extension linkages through on-farm adaptive research programs. The improvements envisaged would, with the assistance of the Special Program for African Agricultural Research (SPAAR), enable future support from donors and the International Agricultural Research Centers (IARCs) to be focused in an effective way.

Contact in research organization:

Ministry of Agriculture; Accra; Ghana Council for Scientific and Industrial Research; Ghana

Record number (MFN): 01334

Official project title: ADAPTIVE CROP RESEARCH AND EXTENSION.

Implementing agency: U.S. Agency for International Development.

Start date: 1979-00-00. End date: 1990-00-00.

Country/countries: Sierra Leone;

Statement of objectives/abstract:

Develop institutional capacity to conduct adaptive crop research on appropriate agricultural technology, develop extension service to be responsive to small farmers, and train research extension personnel in-country and abroad.

Contact in research organization:

Ministry of Agriculture and Natural Resources; Freetown; Sierra Leone Njala University College; PMS: Njala; Sierra Leone; Tel: 08

Record number (MFN): 01341

Official project title: COLLABORATIVE RESEARCH SUPPORT PROGRAM (CRSP): PEANUTS.

Implementing agency: U.S. Agency for International Development (USAID) University of Georgia.

Start date: 1982-07-01.

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Country/countries: Global; Senegal; Burkina Faso; Niger; Nigeria; Mali;

Statement of objectives/abstract:

To enhance and coordinate the resources of U.S. and less-developed country institutions in a long-term research program to resolve common constraints on the production and utilization of the peanut in an environmentally sound system. The Peanut CRSP research focuses specifically on developing alternatives to low-yield cultivars that lack stress tolerance, ameliorating yield losses due to pests, reducing mycotoxin hazards, overcoming inadequate food supplies, and improving resource management schemes that prevent efficient production and utilization.

Contact in research organization:

Dr. David Cummins; Peanut CRSP Management Office; Georgia Station; Griffin; GA 30212-1797; USA; Tel: (404) 228-7312; Fax: (404) 228-7270; BINET: CRSP-GRF; CGNET: 157:AGS634

Record number (MFN): 01345

Official project title: COLLABORATIVE RESEARCH SUPPORT PROGRAM (CRSP): BEANS AND COWPEAS.

Implementing agency: U.S. Agency International Development (USAID)/Michigan State University.

Start date: 1980-10-01.

Country/countries: Global; Malawi; United Republic of Tanzania; Cameroon; Nigeria; Senegal;

Statement of objectives/abstract:

To overcome constraints to the production, distribution, storage, utilization, and marketing of bean and cowpeas, important sources of dietary protein. Research will address limitations caused by insects and diseases, and plant response to stress such as environmental extremes, e.g., heat and drought. Specifically, it will seek to increase and/or improve: (1) generalized disease and pest resistance and/or biological control in field and in storage; (2) yield and yield stability; (3) plant adaptation and resistance to environmental stress; (4) nitrogen fixation; (5) seed softness; (6) understanding of traditional farming systems; (7) legume protein digestibility; (8) processing and preserving methods; (9) data on the comparative economic values of new technology versus traditional practices; and (10) indigenous professional capacities (small-scale farmers, especially women).

Contact in research organization:

Dr. Pat Barnes McConnell; 200 International Center; Michigan State University; East Lansing, Michigan; 48824; USA; Tel: (517) 355-4693; Telex: 263 359 CRSP UR; Fax: (517) 336-1073

Record number (MFN): 01346

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Official project title: COLLABORATIVE RESEARCH SUPPORT PROGRAM (CRSP): SOILS MANAGEMENT (TROPISOILS).

Implementing agency: U.S. Agency for International Development (USAID)/North Carolina State University.

Start date: 1981-09-26.

Country/countries: Global; Niger; Mali; Cameroon;

Statement of objectives/abstract:

To develop and adapt improved soil-management technologies that are agronomically, ecologically, and economically sound for tropical developing countries. Identify and develop economically viable soil management systems for sustained agriculture, especially in humid tropics, semi-arid tropics, and tropical arid savanna. Research activities will include investigation of acid soils, plant nutrient supply and management, a non-structural approach to erosion control, use of indigenous materials in soil management, physical conditions, and soil moisture management.

Contact in research organization:

Dr. Roger G. Hanson; P.O. Box 7113; Raleigh; NC 27695-7113; Tel: (919) 737-3922; Fax: (919) 737-7422

Record number (MFN): 01377

Official project title: INVESTIGATIONS IN DIFFERENT FORMS OF SOIL EROSION UNDER DIFFERENT CROPPING SYSTEMS IN NIGERIA.

Implementing agency: Gesellschaft fuer Technische Zusammenarbeit (GTZ).

Start date: 1985-04-01. End date: 1991-08-30.

Country/countries: Africa; Nigeria; Cameroon;

Statement of objectives/abstract:

Project will: (1) conduct in-field research in Nigeria and Cameroon at sites varying in soil type; (2) carry out on-farm measurements; and (3) recommend cropping patterns to reduce leaching by erosion.

Contact in research organization:

Prof. Dr. U. Schwerdtmann; Institut fuer Bodenkunde; Lehrstuhl fuer Bodenkunde; Technische Universitaet; Muenchen; Hohenbachernstr.; D-8050 Freising-Weiherstephan; Federal Republic of Germany; Mr. Marc Bernard; IITA; Oyo Road; P.O. Box 5320; Ibadan; Nigeria; Tel: 400300; 400313; Telex: TDS IBA NG 20311 (Box 015); Cable: TROPFOUND, IKEJA; Dieter Nilt; IITA; Yaounde; Cameroon

Record number (MFN): 01405

Official project title: NUTRITIVE VALUE AND ANIMAL HEALTH.

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Implementing agency: Universitaet Hohenheim.
Start date: 1987-00-00.
Country/countries: Benin;

Statement of objectives/abstract:
Laboratory trials.

Contact in research organization:
Institut fuer Tiermedizin; Universitaet Hohenheim; Fruwirthstr. 35; D-7000
Stuttgart 70; Federal Republic of Germany

Record number (MFN): 01412

Official project title: AGRICULTURAL PRICE POLITICS OF THE BENIN AND THE EFFECT ON
PRODUCTION, DISSEMINATION OF INCOME, BUDGET AND BALANCE OF
PAYMENTS.

Implementing agency: Universitaet Hohenheim.
Start date: 1986-00-00. End date: 1991-00-00.
Country/countries: Benin;

Contact in research organization:
Tropenzentrum der Universitaet Hohenheim; Postfach 70 05 62; D-7000 Stuttgart
70; Federal Republic of Germany

Record number (MFN): 01425

Official project title: NYANKPALA AGRICULTURAL EXPERIMENT STATION. TAMALE.

Implementing agency: Gesellschaft fuer Technische Zusammenarbeit (GTZ).
Start date: 1977-02-15. End date: 1991-12-31.
Country/countries: Ghana;

Statement of objectives/abstract:
Improvement of the production technologies (seeds, cropping systems) which are
ecologically and socio-economically sound. Collection of information providing a
basis for planning and extension institutions. Phase 1: 1977-1979, investments,
infrastructure. Phase 2: 1980-1982, equipment and vehicles, evaluation of the
socio-economic environment, pilot experiments on agronomic issues. Phase 3:
1983-1989, main phase, conduction of all relevant research and development activities
including on-farm experiments. An education and training program is associated.

Contact in research organization:
Nyankpala Agricultural Experiment Station; P.O. Box 483; Tamale; Ghana

SPAAR Information System

Record number (MFN): 01426

Official project title: SUPPORT OF ZOOTECHNICAL RESEARCH INSTITUTE (IRC).

Implementing agency: Gesellschaft fuer Technische Zusammenarbeit (GTZ).

Start date: 1977-02-15. End date: 1990-02-28.

Country/countries: Cameroon:

Statement of objectives/abstract:

To investigate production systems in order to identify the research needs in animal production in Cameroon.

Contact in research organization:

Ministère de l'Enseignement Supérieur et de la Recherche Scientifique; Yaoundé;
Cameroun Institut de Recherche Zootechnique: Cameroun

Record number (MFN): 01443

Official project title: INVESTIGATIONS IN PRODUCTION AND REPRODUCTION RECORDS AND THEIR INTERRELATIONSHIP WITH ENVIRONMENTAL FACTORS IN DIALLONKE SHEEP IN GHANA.

Implementing agency: Deutsche Forschungsgemeinschaft (DFG).

Start date: 1987-08-01. End date: 1990-08-31.

Country/countries: Ghana:

Statement of objectives/abstract:

The purpose of the project is to intensify sheep production under limiting environmental conditions constraints. The project will take account of the interrelationships between socio-economic, biological and climatological factors. The research results are expected to contribute to the improvement of sheep production and farm income. Methodological approach: Field research at village level.

Contact in research organization:

Institut fuer Tierproduktion; TU Berlin; Lentzallee 75; D-1000 Berlin 33;
Federal Republic of Germany; Tel: (0)30/314 71 100 Department of Animal Science;
Faculty of Agriculture; University of Science and Technology; Private Mail Bag;
Kumasi, Ghana

Record number (MFN): 01464

Official project title: OPTIMAL MANAGEMENT OF AQUACULTURE OF POND SYSTEMS IN DEVELOPING COUNTRIES.

SPAAR Information System

Implementing agency: Universitaet Kiel.

Start date: 1986-11-01. End date: 1990-00-00.

Country/countries: Global; Philippines; Israel; Malawi; Ghana; Côte d'Ivoire;

Statement of objectives/abstract:

Appropriate aquaculture technologies can contribute to the animal protein supply in developing countries. The purpose of the project therefore is to increase the understanding of processes in organically manured fishpond ecosystems and to identify major variables governing fish and quantify their effects. The result will be a robust flexible production model for location-specific design of aquaculture systems in developing countries.

Contact in research organization:

Institut fuer Meereskunde; Abt. Fischereibiologie; Universitaet Kiel;
Duestembrooker Weg 20 D-2300 Kiel 1; Federal Republic of Germany; Tel:
(0)431/597 3910

Record number (MFN): 01472

Official project title: TECHNOLOGY OF MICROCATCHMENT WATER HARVESTING FOR IRRIGATION IN SEMI-ARID ZONES.

Implementing agency: Universitaet Goettingen.

Start date: 1987-08-01. End date: 1990-00-00.

Country/countries: Cameroon;

Statement of objectives/abstract:

Under West African conditions rainfed agriculture in regions with 300-600 mm annual precipitation is subject to a high crop risk. In areas with less than 300 mm rainfed agriculture is not feasible in general. The project tests water concentration techniques. The project will result in microcatchment designs suitable for the various local conditions in Northern Cameroon to sustain and secure agricultural rainfed production.

Contact in research organization:

Institut fuer Pflanzenbau und Tierhygiene in den Tropen und Subtropen;
Universitaet Goettingen; Grisebachstr. 6; D-3400 Goettingen; Federal Republic of
Germany; Tel:(0)551/ 39 37

Record number (MFN): 01500

Official project title: DEVELOPMENT AND CURRENT SITUATION OF LAND TENURE IN ENGLISH-SPEAKING WEST AFRICA: THE CASE OF SIERRA LEONE.

Implementing agency: Universitaet Bonn.

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Start date: 1984-01-00. End date: 1987-12-00.

Country/countries: Sierra Leone;

Statement of objectives/abstract:

The project analyses customary law and its constraints with regard overall rural development and works out recommendations for changes in customary law.

Contact in research organization:

Institut fuer Agrarpolitik, Marktforschung und Wirtschaftssoziologie;
Universitaet Bonn; Nussallee 21; D-5300 Bonn 1; Federal Republic of Germany;
Tel: (0)228/73 2333Dr. Agr. Claudia Nippold

Record number (MFN): 01510

Official project title: TECHNOLOGICAL CHANGE AND TRANSFORMATION OF LAND TENURE SYSTEMS IN
SUBSAHARAN AFRICA.

Implementing agency: Universitaet Goettingen.

Start date: 1986-00-00. End date: 1990-00-00.

Country/countries: Africa; Togo; Cameroon;

Statement of objectives/abstract:

The project assesses relations of productivity, increasing innovations and land tenure in order to find land tenure arrangements suitable for sustainable agricultural production increase under ecologically suitable conditions.

Contact in research organization:

Institut fuer Rurale Entwicklung; Universitaet Goettingen; Buesgenweg 2; D-3400
Goettingen; Federal Republic of Germany; Tel: (0)551/39 3902

Record number (MFN): 01526

Official project title: SURVEY, BIOLOGY AND CONTROL OF GRASSHOPPERS.

Implementing agency: Institute for Agricultural Research.

Start date: 1987-00-00.

Country/countries: Nigeria;

Statement of objectives/abstract:

The project will: (a) investigate the outbreaks of economically important species and determine the most effective chemicals for controlling them; (b) to study the life-cycle of *Phymateus cinctus* fas; (c) to study the life-cycle of the dry season race of *Zonocerus variegatus* L.

SPAAR information System

Record number (MFN): 01527

Official project title: COORDINATION OF LOCUST AND GRASSHOPPER CONTROL.

Implementing agency: Food and Agriculture Organization of the United Nations.

Start date: 1986-10-00. End date: 1987-01-00.

Country/countries: Cameroon;

Record number (MFN): 01546

Official project title: AN INTEGRATED RESEARCH PROGRAMME ON THE DEVELOPMENT OF BIOLOGICAL PESTICIDES FOR LOCUST AND GRASSHOPPER CONTROL.

Implementing agency: U.S. Agency for International Development.

Start date: 1989-00-00. End date: 1992-00-00.

Country/countries: Global; Niger; Mali; Chad; Algeria; Sudan; Pakistan; Benin;

Statement of objectives/abstract:

A survey will be conducted in the permanent breeding grounds of the desert Locust for pathogens suitable for development as biological pesticides. Emphasis will be placed on fungi (*Metharizium*, *Beauveria* and other genera) which can be produced readily in simple growth media. A search will also be made for pathogenic strains of spore-forming bacteria. The collection will be processed at CIBC UK and suitable candidate pathogens will be stored by lyophilisation. The most promising will be screened IN VITRO and also using live insects. Formulations will be developed and tested under controlled conditions in collaboration with IPARC. Separate formulations will be developed for low volume (water-based) and ultra-low volume (oil-based) application. Field tests on these formulations will be carried out in collaboration with IITA. IITA will also assist in studies on mass production of the material. Investigations will also be made on the ecological impact of field applications, in comparison with the currently approved chemical insecticides. The projects proposal is currently under consideration by funding agencies.

Contact in research organization:

Dr. C. Prior, CIBC; Silwood Park; Buckhurst Road; Ascot, Berks SL5 7TA; United Kingdom
Dr. H.R. Herren; Entomologist/Team Leader, Africa-wide Biological Control Program; IITA; Oyo Road; PMB 5320; Ibadan; Nigeria; Tel: 400300; 400313; Telex: TDS IBA NG 20311 (Box 015); Cable: TROPFOUND, IKEJADr. G. Matthews; IPARC

Record number (MFN): 01673

Official project title: NATIONAL AGRICULTURAL RESEARCH PROJECT.

Implementing agency: World Bank; Nigeria.

SPAAR Information System

Start date: 1992-06-03. End date: 1998-00-00.

Country/countries: Nigeria;

Statement of objectives/abstract:

The project would have two major thrusts: (1) Research Systems Development Thrust which would include: (a) operating the National Advisory Committee for Agricultural Research (NACAR) as an independent advisory body to the Federal Ministry of Science and Technology (FMST); (b) strengthening of the Agricultural Sciences Department of FMST, to provide a Secretariat supporting NACAR and to improve research information, coordination, planning and management systems; (c) preparation of a National Research Strategy Plan (NRSP); (d) establishment of a Research Grant Scheme to fund priority research and support regional and international collaborative research with institutes under the Consultative Group for International Agricultural Research (CGIAR) system and programs initiated by Special Program for African Agricultural Research (SPAAR); (e) establishment of a systematic human resource development program; and (f) provision of technical assistance to upgrade research and financial management systems and to develop the NRSP; and (2) Strengthening the National Agricultural Institutes Thrust which would include: (a) rehabilitation of infrastructure and repair or purchase of equipment and machinery considered essential for implementing agreed priority programs; (b) funding for priority research programs (food and fiber crops, tree crops, livestock, fisheries, forestry and environment, stored products, and agro-processing); and (c) research-extension linkage program.

Contact in research organization:

Director, Agricultural Sciences Department, Federal Ministry of Science and Technology, 9, Kofo Abayomi Street, Victoria Island, Lagos, Nigeria; Tel: 61 14 67

Record number (MFN): 01678

Official project title: NATIONAL SEEDS PROJECT.

Implementing agency: World Bank; Guinea.

Start date: 1988-06-29. End date: 1994-06-30.

Country/countries: Guinea;

Statement of objectives/abstract:

The objectives of the project are to: (a) provide financing, assistance, and organization necessary to establish a reliable national seed production system which could be privatized; and (b) increase productivity through the production of improved seed. The project would support the identification of suitable rice, maize and groundnuts varieties and the establishment of a production system for good quality improved seed. The three crops have been chosen because of the demonstrated demand for seed, the ready availability of adapted varieties, and the projected impact on crop yields. The project would be national in scope and include five components: (1) base seed production—selected research stations will identify suitable local and imported varieties and produce base seed (research would aim at ensuring continuous process of varietal selection to provide new materials with better characteristics

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than those pertaining to seed currently used); (2) improved seed production--base seed will be multiplied by contract outgrowers. Six Seed Conditioning Centers (SCCs) would be established in different ecological zones of the country (Gueckedou, Bordo, Tindo, Bareng, Koba, and Kilissi) to condition and store improved seed, and to ensure coordination of outgrower production at the regional level; (3) quality control--seed quality will be controlled at the SCC level and in a central quality control laboratory at Foulayah, as well as at farmer level through the monitoring of field results and acceptability; (4) training--local staff of all services involved in the project would be trained abroad and in situ; and (5) project administration--a management unit and a consultative body will be responsible for administering the project and for coordinating seed production at the national level.

Contact in research organization:

Ministry of Rural Development, Guinea

Record number (MFN): 01684

Official project title: A FEASIBILITY STUDY ON ESTABLISHING AN AFRICAN CENTRE FOR FERTILIZER DEVELOPMENT.

Implementing agency: GTZ (Deutsche Gesellschaft fuer Technische Zusammenarbeit).
Country/countries: Africa; Zimbabwe; Togo; Egypt; United Republic of Tanzania; Zambia;

Statement of objectives/abstract:

Taking account of all recent developments, the study should consider the proper role of the proposed centre in relation to ongoing research and development in Africa. Special attention will be given to: (a) IFDC's West Africa branch in Togo; (b) the proposed Egyptian Fertilizer Development Centre; (c) Zambia's facilities to evaluate ores, in particular phosphatic ores; (d) possible training facilities in Tanzania; (e) other national or international entities that could service national programmes; (f) how these regional and national facilities could be coordinated to the advantage of Africa as a whole. The study should advise on the relationships between the proposed ACFD and other African centres concerned with agriculture or agroforestry. It should also identify economic constraints encountered in the use of fertilizers, including transportation and marketing costs; the use of indigenous raw materials; and the potential role to be played by the ACFD. A review should also be made of the role played by the private sector in fertilizer research, demonstration and training. Possible relationships between these activities and training needs should be identified, and a strategy for the development of human resources specialized in fertilizer use and soil fertility issues developed.

Record number (MFN): 01721

Official project title: METHODOLOGY FOR AGRICULTURAL MARKETING SYSTEMS POLICY AND PRACTISE, AND ITS APPLICATION TO CURRENT REFORMS.

SPAAR Information System

Implementing agency: Overseas Development Administration (NRRD).

Start date: 1987-10-01. End date: 1991-03-31.

Country/countries: United Kingdom; Africa; Malawi; United Republic of Tanzania; Cameroon;

Statement of objectives/abstract:

The objectives of the project are: To carry out research on methodology for policy assessment and advice, operational programmes, and monitoring and evaluation in agricultural marketing. To improve the performance of less developed countries' agricultural marketing systems in meeting producer and consumer needs.

Contact in research organization:

Dr. M.J. Hebblethwaite; Natural Resources Institute; Central Avenue; Chatham Maritime; Chatham; Kent; ME4 4TB; United Kingdom; Tel 0634 880088; Fax 0634 880066/77; Telex 263907/8 LDN GDr. J.G. Kydd; Department of Agricultural Economics; Wye College; University of London; Ashford; Kent; TN25 5AH; United Kingdom

Record number (MFN): 01767

Official project title: PHASE I: RESISTANCE OF COWPEA TO STRIGA GESNERIODES AND ALECTRA YOGELII PHASE II: RESISTANCE OF LEGUMES AND CEREALS TO STRIGA SPECIES.

Implementing agency: Overseas Development Administration (NRRD).

Start date: 1986-04-01. End date: 1994-03-31.

Country/countries: United Kingdom; Africa; Mali; Nigeria; Burkina Faso;

Statement of objectives/abstract:

The wider objectives of this project are: To improve the economy and nutrition of rural farming communities in Africa through the eradication of losses due to Striga in maize, millet, sorghum, rice and cowpea. To provide the Plant Breeding units of tropical agricultural research institutes (CIMMYT, IITA and ICRISAT) and Africa national institutes with data on Striga resistance. To improve the use of Striga resistant crops at farm level through knowledge of the geographic distribution of virulence types of Striga. The immediate objectives are: Cowpea - Striga gesnerioides. To map the variation in pathogenicity of strains of *S. gesnerioides* from Burkina Faso, Mali, Benin, Niger and Nigeria in order to establish the applicability of existing forms of resistance for different regions of W. Africa. To distribute new Striga resistant cowpeas discovered by LARS to W Africa for evaluation. Cereals - *S. hemonthica*, *S. asiatica*. Determine the morphological and cytological basis of partial resistance of sorghum lines currently used in Africa and India to Striga spp. Characterise the nature and expression of the specificity shown Striga spp to range of cereal host and non-host plants. Determine whether cellular resistance to Striga spp. exists in cereals. Evaluate the geographic utility of current sources of resistance in sorghum and new sources of resistance in other cereals.

Contact in research organization:

SPAAR Information System

Dr. D.E. Padgham; Natural Resources Institute; Central Avenue; Chatham Maritime;
Chatham; Kent; ME4 4TB; United Kingdom.; Tel 0634 880088; Fax 0634 880066/77;
Telex 263907/8 LDN GDr. J.A. Lane, Dr. J.A. Bailey, Mr. J. Terry and Mr. C.
Parker; AFRC Institute of Arable Crops Research; Long Ashton Research Station;
Long Ashton; Bristol; BS18 9AF; United Kingdom

Record number (MFN): 01787

Official project title: CASSAVA AND HOUSEHOLD FOOD SECURITY IN RURAL AREA OF
MAKEN/SEGBAKEMA IN SIERRA LEONE.

Implementing agency: Overseas Development Administration (NPRD).
Start date: 1990-10-01. End date: 1994-03-31.
Country/countries: United Kingdom; Africa: Sierra Leone;

Statement of objectives/abstract:

The wider objectives of this project are: To improve the focus and direction of research and development programmes on root and tuber crops. To reduce qualitative and quantitative post-harvest losses of fresh and processed roots and tubers. To improve the welfare of farmers and the rural poor including root crop processors and consumers. To enhance the health status of rural poor through increased quantity and quality of root foods. To expand market outlets for fresh roots. The immediate objectives are: Review of the status of cassava production, processing and marketing and GoSL policies towards root crops and rice. To characterise the urban markets for cassava foods and to develop a sampling plan for survey. To evaluate the nutritional and quality attributes of marketed cassava foods. To determine the conditions necessary to maintain the food qualities of cassava foods during distribution and marketing.

Contact in research organization:

Dr. N.H. Poulter; Natural Resources Institute; Central Avenue; Chatham Maritime;
Chatham; Kent; ME4 4TB; United Kingdom; Tel 0634 880088; Fax 0634 880066/77;
Telex 263907/8 Dr. M. Dahniya; Institute of Agricultural Research; Ministry of
Agriculture, Natural Resources and Forestry; PMB 540 Freetown; Sierra Leone;
West Africa Dr. A. Taylor; Department of Food Science; University of Nottingham;
Sutton Bonington; Loughborough; Leicestershire; LE12 5RD; United Kingdom

Record number (MFN): 01791

Official project title: ADOPTION OF AGROFORESTRY SYSTEMS IN DEVELOPING COUNTRIES.

Implementing agency: Overseas Development Administration (NPRD).
Start date: 1990-12-01. End date: 1993-11-30.
Country/countries: United Kingdom; Africa; Nigeria; Cameroon; Benin;

Statement of objectives/abstract:

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The project aims to establish from field data what ecological, social and economic conditions encourage or hinder the adoption of alley cropping as a sustainable agroforestry technique in West Africa. This assessment will be based on a thorough review of farmer experience to date, and an analysis of future intentions to promote the technology on the part of the various relevant institutions. The data from this review will be used to construct two databases for (1) alley cropping projects, and (2) farmers involved in alley cropping projects in Nigeria, Benin and Cameroon. The project is aiming to describe, and if possible to explain, the circumstances in which alley farming is adopted by small farmers, and the circumstances in which it is rejected. The recommendation domain(s) will be defined according to bio-physical and socio-economic parameters, based on (1) the above mentioned review; (2) a detailed study of a project in a 'high adoption potential' area; and (3) cumulative experience from on-station trials.

Contact in research organization:

Mr. D. Jackson; Natural Resources Institute; Central Avenue; Chatham Maritime; Chatham; Kent; ME4 4TB; United Kingdom; Tel 0634 880088; Fax 0634 880066/77; Telex 263907/8 Dr T. Bayliss-Smith; Department of Geography; University of Cambridge; Downing Place; Cambridge; CB2 3EN; United Kingdom

Record number (MFN): 01813

Official project title: THE EPIDEMIOLOGY AND CONTROL OF THE SORGHUM FOLIAR PATHOGENS IN THE SEMI-ARID TROPICS.

Implementing agency: Overseas Development Administration (NRRD).

Start date: 1992-04-01. End date: 1995-03-31.

Country/countries: United Kingdom; Africa; Zimbabwe; Nigeria; Mali;

Statement of objectives/abstract:

The wider objective of this project is to improve control of foliar pathogens of sorghum. The immediate objectives are: To test the effects of intercropping on incidence of fungal pathogens of sorghum. To test effects of crop morphology on incidence of *E.turcicum* and *C.graminicola*. To identify mechanisms of resistance to foliar pathogens of sorghum.

Contact in research organization:

Dr. R.W. Gibson; Natural Resources Institute; Central Avenue; Chatham Maritime; Chatham; Kent; ME4 4TB; United Kingdom; Tel 0634 880088; Fax 0634 880066/77; Telex 263907/8 LDN GDr Angela M Julian; Department of Agriculture; University of Reading; Earley Gate; PO Box 236; Reading; Berkshire; RG6 2AT; United Kingdom

Record number (MFN): 01814

Official project title: MICROBIAL CONTROL OF ROOT-KNOT NEMATODES.

SPAAR Information System

Implementing agency: Overseas Development Administration (NRRD).

Start date: 1992-04-01. End date: 1995-03-31.

Country/countries: United Kingdom; Africa; Malawi; Zimbabwe; Côte d'Ivoire; Global; Costa Rica;

Statement of objectives/abstract:

The wider objectives of the project are to reduce damage to vegetable crops in developing countries caused by root-knot nematodes below economic thresholds by environmentally acceptable, appropriate technologies based on combination of biological control agents (BCAs) with improved cultural practices. The immediate objectives of the project are: To assess potential of *Verticillium chlamydosporium* (Vc) and *Pasteuria penetrans* (Pp) applied together as BCAs for root-knot nematodes in laboratory and field. To determine correct timing for BCAs in typical crop rotations and assess effects of host crop and organic soil amendments on these. To devise management systems for root-knot nematodes in vegetable crops suited to subsistence farmers.

Contact in research organization:

Dr. S.R. Gowen; Natural Resources Institute; Central Avenue; Chatham Maritime; Chatham; Kent; ME4 4TB; United Kingdom; Tel 0634 880088; Fax 0643 880066/77; Telex 263907/8 LDN GDR. B.R. Kerry; AFRC Institute of Arable Crops Research; Rothamsted Experimental Station; Harpenden; Herts; AL5 2JQ; United Kingdom; Tele 0582 763133; Fax 0582 760981; Telex 825726 REXPST G 1 Department of Agriculture; University of Reading; 2 Earley Gate; Reading; United Kingdom

Record number (MFN): 01820

Official project title: FEEDING AND MANAGEMENT STRATEGIES FOR DRAUGHT ANIMALS.

Implementing agency: Overseas Development Administration (NRRD).

Start date: 1992-04-01. End date: 1995-03-31.

Country/countries: United Kingdom; Africa; Niger; Morocco; Nigeria; Global; Indonesia;

Statement of objectives/abstract:

The wider objective of this project is to provide information requested by scientists and extension officers in developing countries to raise the standards of management and health and increase the effective use of draught animals in rural areas where the availability of power is an effective constraint to crop production. The immediate objectives are: To provide practical recommendations on: The feeding management and use of donkeys in semi-arid areas. The management of draught animals in difficult, low input circumstances. (Where feed is of poor quality and/or in short supply, animals are small, or environmental temperatures restrict the working day.) The management of draught animals to meet the requirements for work in favourable, high input circumstances (where supplementary feed and/or health care are affordable.)

Contact in research organization:

Dr. M. Gill; Natural Resources Institute; Central Avenue; Chatham Maritime; Chatham; Kent; ME4 4TB; United Kingdom; Tel 0634 880088; Fax 0634 880066/77;

SPAAR Information System

Telex 263907/8 LDN GDr. R. Anne Pearson: Centre for Tropical Veterinary Medicine (CTVM); University of Edinburgh; Easter Bush; Roslin; Midlothian; EH25 9RG; Scotland; Tel 031 445 2001; Fax 031 445 5099Dr P R Lawrence: ILCA: ICRISAT Sahelian Centre: BP 12404: Niamey: Niger

Record number (MFN): 01821

Official project title: CHARACTERISATION OF DIVERSITY FOR DISEASE RESISTANCE OF PHASEOLUS BEAN MIXTURE IN EAST AFRICA.

Implementing agency: Overseas Development Administration (NRRD).

Start date: 1992-04-01. End date: 1995-03-31.

Country/countries: United Kingdom; Africa: United Republic of Tanzania; Uganda; Kenya; Zaire;

Statement of objectives/abstract:

The wider objectives of the project are: To increase bean production of resource-poor farmers in traditional Phaseolus bean mixture farming systems in East Africa through the development of improved strategies for management of diseases while maintaining varietal diversity. The immediate objectives are: to generate basic knowledge of inherent levels of disease reaction to important pathogens at the component and sub-component level in Phaseolus bean mixture in traditional production systems in East Africa; To develop improved methodology for characterisation of pathogens under glasshouse conditions where this is lacking.

Contact in research organization:

Dr. J. Lenne; Natural Resources Institute; Central Avenue; Chatham Maritime; Chatham; Kent; ME4 4TB; United Kingdom; Tel 0634 880088; Fax 0634 880066/77; Telex 263907/8 LDN GDr. J. Taylor; Horticultural Research International; Wellesbourne; Warwick; CV35 9EF; United Kingdom; Tele (0789) 470382; Fax (0789) 470552

Record number (MFN): 01828

Official project title: AFRICA-WIDE BIOLOGICAL CONTROL PROGRAMME FOR CASSAVA PESTS.

Implementing agency: International Fund for Agricultural Development.

Start date: 1980-00-00. End date: 1991-00-00.

Country/countries: Global; Central African Republic; Congo; Ghana; Nigeria; Zaire; Zambia;

Statement of objectives/abstract:

To search for and study natural enemies of the cassava mealybug (CM) and green spider mites (CGM) in Latin America, mass produce them in insectaries situated in Africa and provide training in biological control techniques for technical and research personnel.

SPAAR Information System

Contact in research organization:

International Institute of Tropical Agriculture (IITA); Oyo Road; PMB 5320;
Ibadan; Nigeria; Tel: 400300; 400313; Telex: TDS IBA NG 20311 (Box 015); Cable:
TROPFOUND, IKEJA International Centre for Insect Physiology and Ecology (ICIPE);
P.O. Box 30772; Nairobi; Kenya

Record number (MFN): 01849

Official project title: AGRICULTURAL RESEARCH AND EXTENSION II.

Implementing agency: U.S. Agency for International Development.

Start date: 1984-00-00. End date: 1992-00-00.

Country/countries: Liberia.

Statement of objectives/abstract:

Strengthen institutional capability to conduct research and develop appropriate
production technology for farms. Train technical staff in 12 disciplines.

Contact in research organization:

Agricultural Research Institute - Extension Service

Record number (MFN): 01850

Official project title: SMALLHOLDER PRODUCTION.

Implementing agency: U.S. Agency for International Development.

Start date: 1983-00-00. End date: 1990-00-00.

Country/countries: Guinea.

Statement of objectives/abstract:

Undertake farming systems research at Tindo Center and on small farms. Prepare
agricultural strategy. Train agriculture students in-country and overseas, maintain
training facilities. Strengthen the research capacity of the National Agricultural
Research Institute at Foulaya (INRAF). The agroforestry research involves effects of
windbreaks, bunding, alley cropping; activities will extend beyond PACD through local
currency funding.

Contact in research organization:

Fararah Agriculture College/Ministry of Education/Mr. B. Scare; Directeur,
Institut des Sciences Agro-Zootecniques; Secretariat d'Etat a l'Enseignement
Superieur; Foulaya; B.P. 161; Kindia; Guinea; Tel: 61.01.49/Institut
Agrozootecanique Valery Giscard d'Estaing; Fararah; Guinea; Tel: 81.02.29

Record number (MFN): 01857

SPAAR Information System

Official project title: STRENGTHENING AFRICAN AGRICULTURAL RESEARCH: 13 WEST AFRICA RICE DEVELOPMENT ASSOCIATION (WARDA) - MANGROVE AND ASSOCIATED SWAMP RICE RESEARCH.

Implementing agency: U.S. Agency for International Development.

Start date: 1987-09-28. End date: 1991-00-00.

Country/countries: Africa, Sierra Leone.

Statement of objectives/abstract:

Strengthen capacity of WARDA to conduct rice research and disseminate research results and production packages. Train technical staff in rice research, extension and production. Assist the mangrove and associated swamp rice research work being carried out at the Rokupr Research Station in Sierra Leone during WARDA's transition to a full membership in CGIAR. Rokupr's mangrove rice research program has demonstrated successes in varietal improvement as well as developing appropriate packages of cultural practices. WARDA has linkages with the national rice research programs in Sierra Leone and other West African countries where mangrove rice ecologies exist.

Contact in research organization:

Mr. Eugene Terry; Directeur General; Association pour le Developpement de la Riziculture en Afrique de l'Ouest/West Africa Rice Development Association (ADRAO/WARDA); 01 B.P. 2551; Bouake 01; Cote d'Ivoire; Tel: 63 45 14; 63 32 41; 63 23 96; Telex: 69138 ADRAFO CI

Record number (MFN): 01872

Official project title: STRENGTHENING AFRICAN AGRICULTURAL RESEARCH: 01 CIAT BEAN RESEARCH IN EAST AFRICA (CDA).

Implementing agency: U.S. Agency for International Development.

Start date: 1984-07-27. End date: 1991-00-00.

Country/countries: Africa; Zaire.

Statement of objectives/abstract:

Develop components of new bean production technology for traditional and improved cropping systems in collaboration with national programs. Strengthen national research capability through training and provide workshops for networking bean researchers in East Africa.

Contact in research organization:

Mr. Pene-Mbutu; President Delegeue General; Institut National pour l'Etude et la Recherche Agronomique (INERA); Ministere du Developpement Rural; B.P. 2037; Kinshasa I; Zaire; Tel: 32332

SPAAR Information System

Record number (MFN): 01877

Official project title: NATIONAL CEREALS RESEARCH AND EXTENSION II.

Implementing agency: U.S. Agency for International Development.

Start date: 1985-00-00. End date: 1993-00-00.

Country/countries: Cameroon;

Statement of objectives/abstract:

Develop institutional capabilities to conduct applied research for small farmers and extend research results to farmers. Train research and extension staff (U.S., in-country, and IARCs). Conduct research on maize, rice, sorghum, and millet and transmit results to farmers. Includes agroforestry research.

Contact in research organization:

Mr. Ayuk-Takem; Directeur, Agricultural Research Institute (IRA); B.P. 2123; Yaounde; Cameroun; Tel: 23-35-38; Telex: 1140 KN; 8512 KNNational Office of Science and Technology

Record number (MFN): 01878

Official project title: ROOT AND TUBER CROPS RESEARCH.

Implementing agency: U.S. Agency for International Development.

Start date: 1986-00-00. End date: 1991-00-00.

Country/countries: Cameroon;

Statement of objectives/abstract:

Develop new varieties yam, cassava, and cocoyam and new methods of postharvest handling. Train 6 participants for advanced degrees in USA and 6 short term programs.

Contact in research organization:

Mr. Ayuk-Takem; Director, Agricultural Research Institute (IRA); B.P. 2123; Yaounde; Cameroun; Tel: 23-35-38; Telex: 1140 KN; 8512 KN

Record number (MFN): 01886

Official project title: RICE PRODUCTION II.

Implementing agency: U.S. Agency for International Development.

Start date: 1980-00-00. End date: 1990-00-00.

Country/countries: Guinea-Bissau;

Statement of objectives/abstract:

Reclaim 400 ha of land for irrigated production of rice in the Geba River Basin.

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Upgrade training program for extension agents including women. Increase food production and farm income of 1 200 farm families.

Contact in research organization:

Ministere du Developpement Rural; B.P. 71; Bissau; Guinee Biasau; Tel: 212617
Department of Agricultural Research and Experiment

Record number (MFN): 01887

Official project title: FISH CULTURE EXPANSION.

Implementing agency: U.S. Agency for International Development.

Start date: 1978-00-00. End date: 1990-00-00.

Country/countries: Zaire;

Statement of objectives/abstract:

Provide fish production technology.

Contact in research organization:

Mr. Pene-Mbutu; President Delegee General; Institut National pour l'Etude et la Recherche Agronomique (INERA); Ministere du Developpement Rural; B.P. 2037; Kinshasa I; Zaire; Tel: 32332

Record number (MFN): 01888

Official project title: APPLIED RESEARCH AND EXTENSION.

Implementing agency: U.S. Agency for International Development.

Start date: 1983-00-00. End date: 1990-00-00.

Country/countries: Zaire;

Statement of objectives/abstract:

Develop production technology on field testing on farms. Strengthen capacity to extend technical production packages to farmers. Train technical personnel in agricultural research and extension disciplines.

Contact in research organization:

Mr. Pene-Mbutu; President Delegee General; Institut National pour l'Etude et la Recherche Agronomique (INERA); Ministere du Developpement Rural; B.P. 2037; Kinshasa I; Zaire; Tel: 32332

Record number (MFN): 01894

Official project title: CAR - RURAL DEVELOPMENT.

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Implementing agency: U.S. Agency for International Development.
Start date: 1982-00-00. End date: 1990-00-00.
Country/countries: Central African Republic;

Statement of objectives/abstract:

Expand inland fisheries program of intensive production in 6 regions and establish honey and beeswax program to increase market in 3 regions. Extend rice cultivation at the Bozoum Rice Center.

Contact in research organization:

Ministere du Developpement Rural; B.P. 997 Bangui; Republique Centrafricaine;
Tel: 236'61.30.33; 61.49.22; Telex: (0971) 5201 RC

Record number (MFN): 01896

Official project title: SMALL HOLDER PRODUCTIVITY.

Implementing agency: U.S. Agency for International Development.
Start date: 1986-00-00. End date: 1990-00-00.
Country/countries: Guinea;

Statement of objectives/abstract:

Support farming systems research to develop technical packages for small farmers. Explore alternative methods for establishing effective extension system for small farmers. Train agriculture students in-country and abroad.

Contact in research organization:

Institut Agrozooteknique Valery Giscard d'Estaing; Faranah; Guinee; Tel: 81.02.29
Ministere du Developpement Rural; Conakry; Guinee

Record number (MFN): 01918

Official project title: AGRICULTURAL EDUCATION.

Implementing agency: U.S. Agency for International Development.
Start date: 1982-00-00. End date: 1991-00-00.
Country/countries: Cameroon;

Statement of objectives/abstract:

Multi-donor project to enable the University Center at Dschang (UCD), a Cameroon agricultural university, to train sufficient managers, planners, and teachers to staff agricultural support institutions. The project, which will provide UCD with a modern curriculum, trained faculty and staff, and improved facilities and research and extension linkages, will be implemented by UCD with the assistance of Florida State University (FSU). UCD curricula will be expanded and revised, with more

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emphasis placed on practical, field-oriented instruction and a Department of Rural Technology will be created. With FSU assistance, the faculty and staff will also develop an interdisciplinary research and development (R&D) program, closely linked to the instructional program. To support UCD's instructional and R&D programs, three demonstration farms, including a 100 ha farm at the campus containing student practice plots and livestock production units, will be established.

Contact in research organization:

Mr. Ayuk-Takem; Directeur General; IRA; B.P. 2123; Yaounde; Cameroun; Tel: 23-35-38; Telex: 1140 KN; 8512 KN University Center at Dschang; Cameroon Ministry of Education; Cameroon

Record number (MFN): 01919

Official project title: COMMUNITY REFORESTATION (CARE).

Implementing agency: U.S. Agency for International Development.

Start date: 1986-07-00. End date: 1990-06-00.

Country/countries: Cameroon;

Statement of objectives/abstract:

This 39 month project aims to build on the success achieved in CARE's current community reforestation project to improve natural resource management practices in 100 or more villages located in the Mayo Tsanaga and Mayo-Sava districts of the extreme north province. The project will focus on the dissemination of agroforestry techniques to 4 000 small farmers and their families as the most viable means to preserve and protect the fragile Sahelian environment from which they derive their subsistence. Emphasis will be on intercropping, live fencing, windbreaks and fruit tree cultivation.

Contact in research organization:

Mr. Ayuk-Takem; Directeur General; IRA; B.P. 2123; Yaounde; Cameroun; Tel: 23-35-38; Telex: 1140 KN; 8512 KN

Record number (MFN): 01920

Official project title: AGRICULTURAL EDUCATION II.

Implementing agency: U.S. Agency for International Development.

Start date: 1989-00-00. End date: 1992-07-00.

Country/countries: Cameroon;

Statement of objectives/abstract:

To continue developing the University Center at Dschang (UCD) into a regional university, modeled on the U.S. land grant system, for training agricultural planners, managers, teachers, researchers, and extensionists in both the public and

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private sectors. In Phase I, the Agricultural Education project, USAID provided technical assistance, infrastructure, training in the U.S. on the Ph.D. and Masters levels, and limited commodities. In the second phase, USAID will provide additional technical assistance to complete curriculum reform and administrative restructuring, the infrastructure items required to support those changes, training of administrative and teaching personnel, and some commodities. Particular attention will be paid to the land grant tenants of research and extension.

Contact in research organization:

Mr. Ayuk-Takem; Directeur General; IRA; B.P. 2123; Yaounde; Cameroun; Tel: 23-35-38; Telex: 1140 KN; 8512 KNU; University Center at Dschang; Cameroon; Ministry of Education; Cameroon

Record number (MFN): 01947

Official project title: APPLYING SCIENCE AND TECHNOLOGY TO DEVELOPMENT.

Implementing agency: U.S. Agency for International Development.

Start date: 1981-10-19. End date: 1990-03-15.

Country/countries: Global; Congo; Malawi; Kenya;

Statement of objectives/abstract:

The project is stimulating and supporting research and development on specific Less Developed Country (LDC) development problems to strengthen LDC scientific and technological institutions. It is implemented by the National Research Council's Board on Science and Technology for International Development (BOSTID). The project has funded 110 research subprojects which average just over 100 000 USD each. A cluster of these deals with grain amaranth, a second with fast-growing trees, and a third with biological nitrogen fixation. Several in each cluster are located in African institutions. Current forestry research includes several grants researching nitrogen fixing trees in the Congo, Malawi, and Kenya. Project also funds A.I.D. participation in the International Foundation for Science grants program.

Contact in research organization:

Mr. John Hurley; Director; Board on Science and Technology for International Development (BOSTID); National Research Council; 2101 Constitution Ave., N.W.; Washington, D.C.; 20418; USA

Record number (MFN): 01949

Official project title: U.S./ISRAEL PROGRAM FOR COOPERATIVE DEVELOPMENT RESEARCH.

Implementing agency: U.S. Agency for International Development.

Start date: 1984-10-01.

Country/countries: Africa; Kenya; Ghana; Botswana; Malawi; Guinea; Mauritius;

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Statement of objectives/abstract:

This initiative seeks to increase access of Less Developed Country's to Israeli scientific, technical and development expertise. Program has totally open competition, but stresses areas of Israeli expertise, including: arid lands agriculture; biological pest control; human health; engineering/food science; plant sciences/biotechnology; veterinary and animal science; and aquaculture/hydrology. Approximately 100 subprojects have been funded to date, averaging approximately 150 000 USD. Almost all are still active: these in Africa are in: Kenya; Botswana; Ghana; Malawi; Guinea; and Mauritius. Forestry projects include: Deciduous fruit trees in Kenya; rainwater harvesting system in Kenya; and biological control of plant diseases in Ghana.

Contact in research organization:

Various Grantees Forest Products Research Institute; University of Science and Technology; P.O. Box 63; U.S.T.; Kumasi; Ghana; Tel: 5873 International Centre of Insect Physiology and Ecology (ICIPE); P.O. Box 30772; Nairobi; Kenya

Record number (MFN): 01967

Official project title: INTERNATIONAL AGRICULTURAL RESEARCH CENTERS: 09 INTERNATIONAL LIVESTOCK CENTER FOR AFRICA (ILCA).

Implementing agency: U.S. Agency for international Development.

Start date: 1968-00-00.

Country/countries: Africa; Mali; Ethiopia; Kenya; Nigeria;

Statement of objectives/abstract:

International Livestock Center for Africa (ILCA) is mandated to assist national efforts to improve livestock production and marketing systems in tropical Africa. Priority is given to the collection and evaluation of information about existing livestock systems before the development of new systems. Cooperative research projects are implemented in Mali, Ethiopia, Kenya, and Nigeria.

Contact in research organization:

Director General; International Livestock Center for Africa (ILCA); P.O. Box 5689; Addis-Ababa, Ethiopia; Tel: 183 215; 183 222; 182 455; Telex: 976-21207 ILCA ADDIS; Cable: ILCAF

Record number (MFN): 02026

Official project title: AGRICULTURAL DIVERSIFICATION PROJECT.

Implementing agency: World Bank; Ghana.

Start date: 1991-03-06. End date: 1998-12-31.

Country/countries: Ghana;

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Statement of objectives/abstract:

The major objective of the project would be to revitalize and expand the cultivation of non-cocoa tree crops and horticultural crops, which can be efficiently and competitively cultivated in Ghana for export and import substitution, within the framework of an agricultural diversification strategy aimed at diluting the importance of cocoa in the agricultural sector, and therefore, the economy. The project would expand the area of high-yielding private small-scale oil palm farms and increase the number of improved technology artisanal small-scale privately owned mills. In coffee the goal would be to rehabilitate existing private smallholdings and replace, to only a limited extent, small private coffee farms destroyed during the bush fires of 1983 in order to sustain exports at pre-1980 levels through higher yields which would provide a buffer against future low export prices. High-yielding small-scale outgrower farming of rubber would be introduced to initiate a longer term response in improved private smallholder cultivation largely aimed at export. In horticulture the project targets at increased production and exports by improving technical support and marketing and export facilities for pineapples, in particular, but generically relevant to most horticultural exports. Specific components are: (a) oil palm development—provide extension and inputs for 3 500 ha of outgrower oil palm planting; (b) coffee development—strengthen and research for the rehabilitation of 1 500 ha and the planting of 3 000 ha of coffee; (c) rubber development—develop extension and provide inputs for 1 200 ha of outgrower rubber planting; (d) horticultural development—provide technical, marketing and infrastructure support for the export of horticultural produce, especially pineapples; and (e) support activities—provide technical assistance, training, and studies.

Contact in research organization:

Mr. Ibrahim Adam; Secretariat for Agriculture (Ministry of Agriculture); P.O.B. MS7; Accra; Ghana; Tel: 665 421 Project Implementation Committee; Ghana Export Promotion Council; Accra; Ghana Director, Cocoa Research Institute of Ghana (CRIG); Ghana

Record number (MFN): 02030

Official project title: AGRICULTURAL SECTOR DEVELOPMENT.

Implementing agency: World Bank; Guinea-Bissau.

Start date: 1996-00-00.

Country/countries: Guinea-Bissau;

Statement of objectives/abstract:

To support credit, fisheries, food production and export, and livestock to establish public agricultural services such as extension, research and marketing.

Contact in research organization:

Ministry of Rural Development and Fisheries; B.P. 71; Bissau; Guinea Bissau;
Tel: 212 617

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Record number (MFN): 02041

Official project title: DEVELOPING GRADUATE TRAINING IN AGRICULTURAL ECONOMICS.

Implementing agency: Winrock International.

Start date: 1984-00-00. End date: 1988-00-00.

Country/countries: Côte d'Ivoire:

Statement of objectives/abstract:

Project will: (1) strengthen the training and research of agricultural economics in West Africa by developing a doctoral-degree program at the Centre Ivoirien de Recherches Economiques (CIRES); (2) secure funds for fellowships for students in the graduate program, for endowment of professorial chairs in agricultural economics at CIRES, and for grants for postdoctoral studies in other countries; (3) conduct economics research for planning units of West African governments, notably ministries responsible for agriculture, rural development, and planning.

Contact in research organization:

Dr. Paul T. Perrault; Centre Ivoirien de Recherches Economiques (CIRES);
Universite Nationale de Cote d'Ivoire; 08 BP 1603; Abidjan 08; Cote d'Ivoire;
Tel: 44 09 53; 44 28 47; Telex: 26138 RECTU CI

Record number (MFN): 02071

Official project title: NIPSSSET: AFRICAN AGRICULTURE - YEAR 2000 PROGRAM.

Implementing agency: Nigeria Institute of Plant Science and Solar Energy/Technology.

Start date: 1984-00-00. End date: 2000-00-00.

Country/countries: Nigeria:

Statement of objectives/abstract:

Program would contribute to theoretical and practical advancements in agriculture, bioscience, biomedicine, pollution (ecosystems), biotechnics, and energy; and would disseminate information on these through education and extension. Research activities would involve: (1) bio-industry—utilization of biological raw materials and/or biological processing methods, including monitoring of environmental impacts of these activities; (2) biotechnics, computer applications, and measurement and control technics—applied to feed and forage distribution systems, climate control in stalls, storage areas and greenhouses, site based analyses of optical fertilizer dosages, sow depth, precision sowing and soil cultivation depth, management of storage facilities and irrigation intensity; (3) biotechnical research on cost effective, energy efficient, and environmentally safe alternatives to current production methods in the agriculture sector—aimed to develop functionally and economically competitive small energy resources for agriculture, rural energy supply and rural development, particularly on new and renewable sources of energy; (4) improvement of animal health through development of new vaccines and improved genetic resource base—conduct interdisciplinary research in animal health and epidemiology

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with specific reference to udder inflammation (mastitis) in cattle, and build a competent base in biological engineering of plant and animal cells; (5) environmental protection—focusing on the problems of acidification and its long-term effects on soil and water; (6) holistic food research in consumer demand for higher quality food products, nutrition, and dietetics; and (7) marketing research, processing, drying, transportation, and packaging of raw materials.

Contact in research organization:

University of Science & Technology (Rivers State); PMB 5323; Port Harcourt;
Nigeria; Tel: 33 52 18

Record number (MFN): 02075

Official project title: WEST AND CENTRAL AFRICA SORGHUM RESEARCH NETWORK (WCASRN).

Implementing agency: U.S. Agency for International Development (USAID)/Semi-Arid Food
Grain Research and Development (SAFGRAD).

Start date: 1984-00-00. End date: 1996-00-00.

Country/countries: Africa: Benin; Burkina Faso; Cameroon; Central African Republic; Côte
d'Ivoire; Gambia; Ghana; Guinea; Guinea-Bissau; Mali; Mauritania; Niger;
Nigeria; Senegal; Sierra Leone; Chad; Togo;

Statement of objectives/abstract:

Research on sorghum improvement with initial emphasis on varietal improvement and
agronomy.

Contact in research organization:

Mr. C.M. Pattanayak; ICRISAT/SAFGRAD; B.P. 4881; Ouagadougou; Burkina Faso; Tel:
5251 UV

Record number (MFN): 02078

Official project title: THE WEST AND CENTRAL AFRICA COWPEA COLLABORATIVE RESEARCH NETWORK
(RENACO).

Implementing agency: U.S. Agency for International Development (USAID)/Semi-Arid Food
Grain Research and Development (SAFGRAD).

Start date: 1976-00-00. End date: 1996-00-00.

Country/countries: Africa: Burkina Faso; Benin; Côte d'Ivoire; Central African Republic;
Cameroon; Cape Verde; Gambia; Ghana; Guinea; Guinea-Bissau; Mali; Mauritania;
Niger; Nigeria; Sierra Leone; Senegal; Chad; Togo; Zaire;

Statement of objectives/abstract:

Project objective is: (1) cowpea variety improvement for earliness, dual purpose
use, insect and disease resistance, striga resistance, and agronomy; (2) soybean
variety improvement for tree nodulation and seed longevity and agronomy.

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Contact in research organization:

Director General: International Institute of Tropical Agriculture (IITA); Oyo
Road: PMB 5320; Ibadan; Nigeria; Tel: 400300; 400313; Telex: TDS IBA NG 20311
(Box 015); Cable: TROPFOUND; IKEJADr. J.B. Suh: Project Leader: IITA/SAFGRAD;
B.P. 1783; Ouagadougou; Burkina Faso; Tel: 306071; 306072; Telex: 5381 BF

Record number (MFN): 02079

Official project title: PROGRAMME FOR IMPROVEMENT OF POTATOES IN CENTRAL AFRICA (PROGRAMME
REGIONAL POUR L'AMELIORATION DE LA CULTURE DE LA POMME DE TERRE EN
AFRIQUE CENTRALE) (PRAPAC).

Implementing agency: U.S. Agency for International Development.

Start date: 1986-00-00.

Country/countries: Africa: Burundi: Rwanda: Zaire: Uganda:

Statement of objectives/abstract:

Research on potato improvement.

Contact in research organization:

Centro Internacional de la Papa (CIP); Apartado Postal 5969; Lima; Peru; Tel:
354354; 366920; Telex: 25672 PE; Cables: CIPAPA-LIMA

Record number (MFN): 02080

Official project title: THE EAST AND SOUTHERN AFRICA ROOT CROPS RESEARCH NETWORK (ESARRN).

Implementing agency: U.S. Agency for International Development (USAID); International
Development Research Centre (IDRC); International Institute of
Tropical Agriculture (IITA).

Start date: 1983-00-00. End date: 1990-00-00.

Country/countries: Africa: Sudan; Ethiopia; Kenya; Uganda; Rwanda; Burundi; United
Republic of Tanzania; Malawi; Zambia; Mozambique; Madagascar; Nigeria; Zaire;

Statement of objectives/abstract:

Evaluate root crop germplasm resources of various agro-ecological zones within the
Region. Improve variety of cassava and sweet potato for high stable yields, disease
and insect resistance, quality, and improvement of other agronomic practices.
Develop, evaluate, demonstrate, and where applicable introduce household production
and processing technologies for root crops. The network's specific objectives are
to: (1) encourage rigorous collaborative planning and evaluation of root crops
research in the region. Root crops researchers in the region contribute to planning
related to specific research problems and become involved in setting research
priorities; (2) increase the genetic base of the principal root crops and enhance
their use in regional improvement programmes; (3) facilitate improvement of root

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crops-based cropping systems through surveys and methodology development; (4) develop improved techniques for drying, processing, and utilizing cassava; (5) foster the establishment of effective systems to exchange information and to deliver improved technology to farmers; and offer training at Ph.D and M.Sc level.

Contact in research organization:

Dr. M.N. Alvarez; Plant Breeder; IITA/ESARRN; PMB 5320; Ibadan; Nigeria; Tel: 400300; 400313; Telex: TDS IBA NG 20311 (Box 015); Cable: TROPFOUND. IKEJA

Record number (MFN): 02081

Official project title: THE LIVESTOCK TRYPANOTOLERANT NETWORK.

Implementing agency: Overseas Development Administration.

Start date: 1983-00-00.

Country/countries: Africa: Côte d'Ivoire; Togo; Benin; Gabon; Zaire; Gambia; Senegal; Ethiopia; United Republic of Tanzania; Kenya;

Statement of objectives/abstract:

Conduct research on trypanotolerance in cattle. Improve livestock production in tsetse infested areas of Africa by achieving a better understanding of genetic resistance, acquired resistance, the environmental factors which affect susceptibility and the efficacy of present control measures, and by ensuring optimal application of both existing knowledge and recent research findings.

Contact in research organization:

Mr. Richard Stewart; Assistant to Director General; International Livestock Center for Africa (ILCA); P.O. Box 5689; Addis Ababa; Ethiopia; Tel: 183 215; 183 222; 182 455; 613 222; Telex: 976-21207 ILCA ADDIS; Cable: ILCAF

Record number (MFN): 02082

Official project title: RESEAU COTON (COTON).

Implementing agency: France: Conference des Responsables de Recherches Agronomique Africains et Français (CORAF).

Start date: 1946-00-00.

Country/countries: Global: Burkina Faso; Benin; Côte d'Ivoire; Cameroon; Madagascar; Mali; Senegal; Chad; Zambia; Togo; Zaire; Central African Republic; Burundi; France;

Statement of objectives/abstract:

The goals of the Network are: (a) exchanging information on the national cotton research programmes; (b) exchanging vegetative materials for experimentation, as well as scientific tools and documents; (c) organizing of meetings (workshops, conferences, etc.) and training of researchers; (d) planning and implementation of common research projects; and (e) facilitating contacts between scientists and

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researchers from participating countries. To achieve these goals, the Network would promote research on: (i) improving traditional cotton varieties with technological qualities and high yields, and varieties without gossypol for use in food preparation; (ii) agricultural techniques; adapting technical methods to ecological and social-economic situation; (iii) cotton plant protection; leaf diagnosis for evaluating mineral nutrition conditions of the cotton plant; and study of integrated weed control; (iv) phyto-sanitary problems; information on entomofauna including control methods and study of biology of cotton ravagers; (v) fiber, thread, and seed technology; analytical laboratory services to improve crop varieties and research, establishment of a bank of fiber samples, and laboratory apparatus and equipment; and (vi) information services and surveying; computer software, data-processing, economic study of cotton professions; remote sensing services to aid cotton growing; and documentation and publication services.

Contact in research organization:

Mr. Ehou Koto, Secretary-General of the Institute of the Savannas (IDESSA):
Coordinator: 01 B.P. 633, Bouake 01, Côte d'Ivoire; Tel: (225) 63.33.26;
63.31.29; Telex: 691100 MoryMr. Michel Braud, Directeur, CIRAD (IRCT): 2 rue
Louis Davyd, 75116 Paris, France; Tel: 45 05 14 07Mr. Jean-Claude Folin,
Assistant to IRCT Director, In Charge of Scientific and Technical Affairs: B.P.
5035, Montpellier Cedex, France; Tel: 67.61.58.76; Telex: 480762

Record number (MFN): 02084

Official project title: CASSAVA NETWORK (RESEAU MANIOC).

Implementing agency: Conférence des Responsables de Recherche Agronomique Africains et Français.

Start date: 1986-00-00.

Country/countries: Gambia; Benin; Burkina Faso; Cameroon; Central African Republic; Chad; Congo; Côte d'Ivoire; France; Gabon; Guinea; Madagascar; Mali; Niger; Senegal; Togo;

Statement of objectives/abstract:

The goals of the Network are: (a) exchange of scientific information; (b) coordination of research at regional level; and (c) promotion of collaborative research. Its activities would include: (i) inventory, characterization, and evaluation of planting materials in national collections for use in selection of better varieties; (ii) preservation, transformation, post-harvest technologies, and nutrition; (iii) management of cassava-based cropping systems to increase their productivity and improve methods for their replication; (iv) crop diseases and pests control methods; and (v) training in research methods.

Record number (MFN): 02087

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Official project title: GROUNDNUT NETWORK (RESEAU ARACHIDE).

Implementing agency: Conférence des Responsables Agronomiques Africains et Français.

Start date: 1986-00-00.

Country/countries: Global; Burkina Faso; Cameroon; Chad; Congo; Côte d'Ivoire; France; Guinea; Madagascar; Mali; Niger; Senegal.

Statement of objectives/abstract:

To develop relations between researchers and national agronomic research institutions devoted to groundnut research in member countries. The aim is to strengthen and coordinate national programmes and set up collaborative research projects in fields of common interest. The Network activities would include: (i) variety improvement for drought resistance; (ii) adaptation of mineral nutrition and fertilization to peasant cultural practices through trials; (iii) crop protection through improvement of varieties resistant to viral and fungal diseases, as well as prevention of aflatoxin (*Aspergillus flavus*); (iv) post-harvest technology for crop utilization, seed technology/industrial processing of groundnuts as food; (v) study of irrigation techniques (comparison of physiological parameters and water uptake evaluation); and (vi) training in selection, physiology, leaf diseases, and nematology and entomology.

Record number (MFN): 02088

Official project title: ALLEY FARMING NETWORK FOR TROPICAL AFRICA.

Implementing agency: Canadian International Development Agency (CIDA)/International Development Research Centre (IDRC).

Start date: 1981-00-00.

Country/countries: Africa; Benin; Cameroon; Ghana; Guinea-Bissau; Côte d'Ivoire; Malawi; Nigeria; Senegal; Sierra Leone; Rwanda; United Republic of Tanzania; Togo; Uganda; Zaire; Zambia; Burkina Faso; Liberia; Ethiopia; Kenya.

Statement of objectives/abstract:

Conduct research on alley cropping. Discipline is oriented to develop more productive, stable, low input and environmentally sound farming systems using alley farming.

Contact in research organization:

Dr. L.D. Stifel; Director General; International Institute of Tropical Agriculture (IITA); Oyo Road; PMB Box 5320; Ibadan; Nigeria; Tel: 400300; 400313; Telex: TDS IBA NG 20311 (Box 015); Cable: TROPFOUND, IKEJA

Record number (MFN): 02090

Official project title: PROPOSAL FOR A RESEARCH PROJECT ON THE DEVELOPMENT OF NEW METHODS IN LOCUST CONTROL.

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Implementing agency: Gesellschaft fuer Technische Zusammenarbeit (GTZ).

Start date: 1988-03-00.

Country/countries: Africa; Cape Verde; Benin; Madagascar:

Statement of objectives/abstract:

Project activities which have started partly involve the following components of applied research on locust control: (1) field testing with Teflubenzuron (a growth regulator); (2) bio-monitoring of ecotoxicological effect of various insecticides used in locust control; (3) insecticide trials - laboratory screening of selected insecticides to investigate their efficacy on desert locusts and/or other locust species, and determine potential synergistic effects of mixtures of different compounds; (4) field testing of pathogenic microorganisms (*Nosema locustae*) on *Oedaleus senegalensis* or *Schistocerca gregaria* larvae in Cape Verde Islands; (5) in-field investigations on Alkaloid-Derivates (Alkaloid-baiting material) on *Zonocerus* sp. in Benin; (6) improvement of prospection/remote sensing techniques (photography, video-technique) on locust population development in prospective breeding areas; (7) investigation on desert locust population dynamics in order to elucidate the mechanisms of upsurges and plagues, and define indicators for host preferences in recession areas.

Contact in research organization:

Mr. Mohamed Zehni; Director, Research & Technology Development Division; Food and Agriculture Organization (FAO); Via delle Terme di Caracalla; 00100 Rome; Italy; Tel: 5797 5004; Telex: 610181 FAOProf. Muller

Record number (MFN): 02094

Official project title: RECONNAISSANCE / PREPARATION STUDY ON FORESTRY BIOTECHNOLOGY IN THE DROUGHT-PRONE SUB-SAHARAN AFRICAN COUNTRIES. WITH SPECIAL REFERENCE TO SAHELIAN AND SUDANIAN ZONES (SSZ).

Implementing agency: World Bank.

Country/countries: Africa; Burkina Faso; Mauntania; Mali; Niger; Senegal; Sudan; Benin; Cameroon; Ghana; Nigeria; Togo;

Statement of objectives/abstract:

The project will assess the relevance and determine the feasibility of a Forestry Biotechnology Program (FBP) that will strengthen and complement the ongoing forestry research programs in the Sahelian and Sudanian zones (SSZ) in Burkina Faso, Mauritania, Mali, Niger, Senegal, Sudan, Benin, Cameroon, Ghana, Nigeria and Togo which have similar ecological conditions and a similar vegetation resource base. The objectives of FBP would be: in research: to develop clonal selection and vegetative multiplication, control symbiotic systems in the lab and in the field, and utilize improved plant material in agroforestry and forestry systems; in training: to create a cadre of African scientists competent in relevant research areas, and upgrade rural development agents; in technology transfer: to transfer results from advanced research institutions to national research institutions, and develop procedures to

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produce improved plant material for the users' needs. To attain these objectives, possible avenues for FBP would be: (i) strengthen the capacity of National Research Institutions in the scientific fields relevant to the FBP; (ii) link national institutions with International Research Institutions in Africa (i.e., ICRAF, ICRISAT, ILCA) and with more Advanced Research Institutions in Europe, North America, Australia, etc., through networking; (iii) establish a new Regional Research Capacity for the SSZ with a critical scientific mass and adequate funding.

Contact in research organization:

Mr. Bruce Scott; Director, International Council for Research in Agroforestry (ICRAF); P.O. Box 30677; Tel: 52 14 50; Telex: 22048

Record number (MFN): 02095

Official project title: NATIONAL AGRICULTURAL SERVICES.

Implementing agency: World Bank; Cote d'Ivoire.

Start date: 1994-00-00.

Country/countries: Côte d'Ivoire:

Statement of objectives/abstract:

The National Agricultural Services Project, would build upon the achievements of the recently completed Agricultural Research Project (Ln 2765-IVC) and focus on (i) establishing streamlined extension services through the merger of several existing extension services into one decentralized and cost-effective national institution; (ii) strengthening research-extension linkages and promoting the systematic use of the farming system approach to take into account all the facets of the farm economy and environment; (iii) supporting the development of farmers' associations to promote farmers' effective participation in the definition, delivery and financing of support services; and (iv) streamlining the services of the Ministry of Agriculture while strengthening its capacities in key areas (policy making, monitoring, statistics). The project would include the following components: (a) Establishment of a National Agricultural Services Agency (NASA) through the merger of the four existing extension agencies (mostly organized along crop-specific lines) into a single, decentralized institution with management autonomy; (b) Institutional strengthening at Ministry level through a support to (i) the Ministry of Agriculture and Animal Resources (MINAGRA) for strengthening its capabilities in policy making and planning, monitoring and evaluation, human resources and financial management (a major effort would be made to streamline MINAGRA's Regional Directorates and improve their effectiveness in key areas such as the planning and coordination of regional programs, animal health, land-related issues, agricultural statistics, etc.); and (ii) the Ministry of Higher Education and Scientific Research (MESRS) in the field of adaptive agricultural research through support to its applied research department and to the Savannah and Forest Research Institutes for implementing a national adaptive research program focussing on the development, with full farmers' participation, of environmentally sound technologies for the promotion of agricultural stabilization and intensification; and (c) support to the restructuring process.

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Contact in research organization:

Ministry of Agriculture and Animal Resources: Abidjan; Cote d'Ivoire
Ministere de la Recherche Scientifique et de l'Enseignement Technique et Professionnel: B.P. V151; Abidjan; Cote d'Ivoire; Tel: 320688

Record number (MFN): 02096

Official project title: RURAL ENVIRONMENT MANAGEMENT (FORMERLY ENVIRONMENTAL PROTECTION PROGRAM, FORMERLY NATURAL RESOURCES MANAGEMENT).

Implementing agency: World Bank; Guinea.

Start date: 1995-00-00.

Country/countries: Guinea;

Statement of objectives/abstract:

Program to protect the natural environment, especially in the fields of forestry, agriculture and soil conservation.

Contact in research organization:

Ministry of Agriculture and Animal Resources (MARA) Conakry; Guinea
Seredou Forestry Center; Guinea
Tindo Training Center; Guinea

Record number (MFN): 02098

Official project title: ASSESSMENT OF CONDITIONS FOR REPLICATING PRODUCTION SYSTEMS IN AFRICA'S SAVANNA AREAS - SECOND STAGE.

Implementing agency: Centre de Cooperation Internationale en Recherche Agronomique pour le Developpement (CIRAD).

Start date: 1989-04-00. End date: 1990-04-00.

Country/countries: Africa; Senegal; Mali; Burkina Faso; Côte d'Ivoire; Cameroon;

Statement of objectives/abstract:

The agricultural populations—farmers and stockraisers—in the Sudano-Sahelian regions face very serious difficulties due both to uncertainties of climate and poor supply and marketing circuits, and to the agricultural policies. These difficulties affect the operation of production systems, undermine the bases for replicating agricultural systems, and hasten migratory movement to the cities. In order to better explain the performance gaps, and possible change of direction, the proposed study would assess and integrate three factors: (i) research and development findings—plant or animal material, maintenance of fertility, land management, farming/stockraising integration, etc.; (ii) needs and constraints of various systems of production and strategies of producers; (iii) agricultural policies in the areas of organization of production subsectors, price equilibrium, access to credit, supply of inputs, land tenure law.

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Contact in research organization:

Centre de Cooperation Internationale en Recherche Agronomique pour le
Developpement (CIRAD); 42, rue Scheffer; 75116 Paris; France; Tel: (1) 47 04 32
15; Telex: 620 871 F INFRANCA PARIS

Record number (MFN): 02103

Official project title: WEST AFRICAN FORAGES NETWORK (WAFNET).

Implementing agency: Multilateral Cooperation Division, Economic Cooperation Bureau, MOFA,
JAPAN.

Country/countries: Africa; Benin; Cameroon; Côte d'Ivoire; Ghana; Nigeria; Senegal; Togo;

Statement of objectives/abstract:

Livestock numbers in the acid-soil savannas of the sub-humid belt are expanding as a result of the settlement of pastoralists from the arid zones and could expand even further when research undertaken by ILCA and ILRAD generates solutions to animal disease problems. The settlement of pastoralists is placing strong environmental pressure on the ecosystems of the region and thus places particular emphasis on the urgent need to commence pasture research in the region. CIAT has developed legumes (under low soil fertility conditions with resistance to pest and diseases) which have strong potential for improving forage production in the region. In this context, ILCA and CIAT have agreed to promote the building of a West African Forages Network (WAFNET) in collaboration with national institutions from Benin, Cameroon, Cote d'Ivoire, Ghana, Nigeria, Senegal, and Togo, with the objective of developing improved forage species. In a first phase, the Network will introduce materials selected for tropical savannas with acid soils. Based on these introductions, in a second phase WAFNET will develop germplasm in situ.

Contact in research organization:

Centro Internacional de Agricultura Tropical (CIAT): Apartado Aereo 6713; Cali;
Colombia; Tel: 57-3-680111; Telex: 05769 CIAT Co; Cable: CINATROP
Mr. Richard A. Stewart: Assistant to Director General; International Livestock Centre for
Africa (ILCA); P.O. Box 5689; Addis Abeba; Ethiopia; Tel: 61 32 22; Telex: 21207
ETDr. A.R. Gray; Director; International Laboratory for Research on Animal
Diseases (ILRAD); P.O. Box 30709; Nairobi; Tel: 59 23 11; Telex: 22040 ILRAD

Record number (MFN): 02104

Official project title: GHANA GRAINS DEVELOPMENT PROJECT - PHASE III.

Implementing agency: Canadian International Development Agency.

Start date: 1989-10-00. End date: 1994-10-00.

Country/countries: Ghana;

Statement of objectives/abstract:

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Applied and adaptive research on maize, cowpea, and cropping systems will continue. There will be increased emphasis placed on research and extension linkages and the strengthening of national research capacity in Phase III.

Contact in research organization:

Mr. Ron Cantrell; CIMMYT; Londres 40; Apartado Postal 6-641; 06600 Mexico; D.F.; Mexico

Record number (MFN): 02109

Official project title: NETWORK ON LAND DEVELOPMENT FOR SUSTAINABLE AGRICULTURE IN AFRICA (AFRICALAND - LAND DEVELOPMENT).

Implementing agency: International Board for Soil Research and Management.

Start date: 1988-01-00. End date: 1993-12-00.

Country/countries: Africa; Côte d'Ivoire; Ghana; Nigeria; Cameroon; United Republic of Tanzania; Uganda;

Statement of objectives/abstract:

Project would: (1) develop appropriate land clearing and viable improved post-clearing soil management technologies in order to sustain and improve food production in humid and sub-humid tropical Africa; (2) test and validate appropriate technologies on post-clearing soil management which are economic and acceptable to farmers; (3) strengthen the capability of the national agricultural institutions in undertaking soil management research (including support of some projects with equipments and consultances).

Contact in research organization:

Dr. B. Hintze; International Board for Soil Research and Management (IBSRAM); P.O. Box 9-109; Bangkok; Bangkok 10900; Thailand; Tel: 579-7590; 579-4012; 579-7753; 580-5958; Telex: 21505 IBSRAM TH; Cable: IBSRAM; Fax: 66-2-5611230; E-Mail: CGI134

Record number (MFN): 02110

Official project title: RESEARCH ON SMALL RUMINANTS IN THE HUMID AND SUB-HUMID ZONES OF WEST AFRICA.

Implementing agency: International Fund for Agricultural Development.

Start date: 1989-00-00. End date: 1991-00-00.

Country/countries: Africa; Benin; Nigeria; Togo;

Statement of objectives/abstract:

The programme would include both on-station and on-farm research and trials to improve feeding systems for small ruminants through improved forage and browse production.

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Contact in research organization:

Mr. Richard A. Stewart; Assistant to Director General; International Livestock
Centre for Africa (ILCA); P.O. Box 5689; Addis Ababa; Ethiopia; Tel: 613322;
Telex: 21207 ET

Record number (MFN): 02113

Official project title: AGROFORESTRY RESEARCH FOR DEVELOPMENT OF THE DRYLANDS OF WEST
AFRICA.

Implementing agency: International Fund for Agricultural Development.

Start date: 1989-00-00. End date: 1991-00-00.

Country/countries: Africa; Burkina Faso; Mali; Niger; Senegal; Benin; Cameroon:

Statement of objectives/abstract:

The research programme would provide for strong collaboration between national
programmes, regional and international institutions in generating suitable
agroforestry technologies that could lead to improved wood components and management
practices: adaptation of prototypes to specific agro-ecological and socio economic
conditions.

Contact in research organization:

Dr. Bruce Scott; Director; International Council for Research in Agroforestry
(ICRAF); P.O. Box 30677; Nairobi; Kenya; Tel: 52 14 50; Telex: 22048

Record number (MFN): 02141

Official project title: START-UP GRANTS - (INTERNATIONAL FERTILIZER DEVELOPMENT
CENTER-AFRICA).

Implementing agency: International Fertilizer Development Center, Africa (IFDC-Africa).

Start date: 1987-00-00. End date: 1988-00-00.

Country/countries: Africa:

Statement of objectives/abstract:

Grants are provided to support the start-up costs associated with the establishment
of IFDC-Africa Center in Lome as well as the construction of a research complex
composed of libraries; research laboratories; and experimental stations in Lome
(Davie), Amoutchou, Tchitchao, Kokombo, Kambole, and Kpeme.

Record number (MFN): 02142

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Official project title: COMMUNICATION, DOCUMENTATION, AND TRAINING PROGRAM (CDTP).

Implementing agency: International Fertilizer Development Center, Africa (IFDC-Africa).

Start date: 1987-00-00. End date: 1990-00-00.

Country/countries: Africa;

Statement of objectives/abstract:

The program would establish a documentation center to store and make accessible fertilizer sector information for Africa. The objective is to overcome the lack of information available to the fertilizer sector and to the various agents active in the sector, and improve fertilizer information flow in sub-Saharan Africa. Effective means of technology such as radio and TV clips, brochures and demonstration materials will be produced and training of regional cadre of fertilizer sector personnel responsible for transferring technology to the ultimate users will be provided. The program would help identify the role IFDC-Africa could play in strengthening the process of fertilizer technology transfer, particularly to the African farmer, leading to the development of training programs. A video project will highlight the problems of soil fertility degradation in West Africa and improve the awareness and comprehension of African farmers in relation to cropping practices that help conserve soil resources and restore fertility.

Record number (MFN): 02143

Official project title: SOIL FERTILITY RESTORATION PROJECT (SFRP).

Implementing agency: International Fertilizer Development Center, Africa (IFDC-Africa).

Start date: 1987-00-00. End date: 1992-00-00.

Country/countries: Africa: Ghana: Togo: Niger:

Statement of objectives/abstract:

The project seeks to identify means of introducing fertilizer practices in various agro-ecological zones of West Africa that are not tied to long-term subsidy policies. The research involves both agronomic and socioeconomic aspects of possible investment policies with the objective to identify means of restoring fertility-depleted lands, and to create an economic environment in which a community will attempt to sustain soil productivity without further government intervention.

Record number (MFN): 02144

Official project title: FERTILIZER POLICY RESEARCH PROJECT (FPRP).

Implementing agency: International Fertilizer Development Center, Africa (IFDC-Africa).

Start date: 1987-00-00. End date: 1992-00-00.

Country/countries: Africa;

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Statement of objectives/abstract:

This project is a joint effort between IFPRI and IFDC, and was designed to remedy the lack of clear set of fertilizers policies in Africa. With the emergence of a fertilizer sector in Africa there is a need to establish clear policies that will facilitate the adoption and proper use of fertilizers to better attain the goal of food security. The objective is to assist the sub-Saharan African countries identify the key variables affecting the supply and demand of fertilizers, and design and evaluate various fertilizer policies to stimulate the sector development.

Record number (MFN): 02145

Official project title: FERTILIZER MARKETING AND TRADE INFORMATION PROGRAM (FMTIP).

Implementing agency: Directorate General for International Cooperation (DGIS); U.S. Agency for International Development (USAID).

Start date: 1988-00-00. End date: 1991-00-00.

Country/countries: Africa: Benin; Burkina Faso; Cameroon; Côte d'Ivoire; Ghana; Lesotho; Madagascar; Niger; Nigeria; Rwanda; Senegal; United Republic of Tanzania; Togo;

Statement of objectives/abstract:

The lack of up to date information in Africa regarding the world and regional fertilizer trade and marketing costs hampers the African procurement institutions in their purchase of fertilizer at the best possible price. The objective of this program is to establish an African Fertilizer Trade and Marketing Information Network (AFTMIN) which will bring together correspondants from various countries to exchange marketing and trade information. Studies will be conducted to analyse fertilizer procurement and marketing system in West African region and identify their principal constraints, so as to provide sound advice on how to improve fertilizer marketing in the region, and to develop a "Fertilizer Early-Warning System" for the region through continuous data input into a regional model. In-depth studies on production, marketing, and distribution and demand of fertilizers will also be conducted.

Contact in research organization:

Dr. Paul L.G. Viek; Director, IFDC-Africa; B.P. 4483; Lome; Togo; Tel: 21-79-71;
Telex: 5416 CIFDC TG; Fax: 21-78-17

Record number (MFN): 02146

Official project title: WEST AFRICAN PROGRAM FOR AGRO-MINERAL RESEARCH.

Implementing agency: International Fertilizer Development Center, Africa (IFDC-Africa).

Start date: 1988-00-00. End date: 1990-00-00.

Country/countries: Africa; Togo; Senegal;

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Statement of objectives/abstract:

The program is executed in collaboration with the German Institute of Geology and Raw Materials (BGR) and seeks to complete an inventory of the agromineral endowment of the Volta Basin, and to conduct a series of in-depth studies in three selected countries where exploitation of the local resources appears promising. The objective is to develop a series of feasible projects that can be undertaken by donors with a reasonable chance of success as well as establish a West African Network for Agromineral Research (WANAR).

Record number (MFN): 02147

Official project title: AGRONOMIC FERTILIZER RESEARCH PROGRAM (AFRP).

Implementing agency: International Fertilizer Development Center, Africa (IFDC-Africa).

Start date: 1989-00-00. End date: 1994-00-00.

Country/countries: Africa; Togo; Niger;

Statement of objectives/abstract:

The objectives of the agronomic program are to: (1) evaluate alternate fertilizers and fertilizer management options and to encourage the use of indigenous resources to help meet the fertilizer requirements in the region in order to attain food self-sufficiency on a sustainable basis; (2) identify the fertilizer needs of the important foodcrops in the different agro-ecological zones of West Africa; and (3) study the impact of fertilizer use on long-term soil productivity through the accumulation of mineral and organic nutrient supplies. The hub of the program is formed by the West African Fertilizer Management Evaluation Network (WAFMEN), with 18 participating national institutions from 14 countries in the region. Research projects were formulated for all collaborating institutes and the 6th annual WAFMEN meeting held in February 1988, agreed to shift the research emphasis towards multinutrient fertilizers.

Record number (MFN): 02148

Official project title: ON-FARM FERTILIZER ADOPTION PROGRAM (OFFAP).

Implementing agency: International Fertilizer Development Center, Africa (IFDC-Africa).

Start date: 1987-00-00. End date: 1992-00-00

Country/countries: Africa; Niger; Mali; Nigeria;

Statement of objectives/abstract:

With the objective to design a viable fertilizer strategies for the principal agro-ecological zones of West Africa, the program would verify the results from the Agronomic Fertilizer Research Program in the farmers environment providing an opportunity to study the farmers reaction to the technologies proposed. The program

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would provide fertilizer application instructions for farmers to conduct and manage on-farm fertilizer trials in Niger, Mali and Nigeria. Training of extension personnel at village level will also be provided.

Record number (MFN): 02151

Official project title: CASE STUDIES ON RAISING AGRICULTURAL PRODUCTIVITY OF WOMEN IN AFRICA FOR INCREASED FOOD PRODUCTION.

Implementing agency: World Bank.

Start date: 1987-03-00. End date: 1990-06-00.

Country/countries: Africa: Kenya: Nigeria: Burkina Faso: Zambia:

Record number (MFN): 02154

Official project title: WEST AFRICA REGIONAL PEARL MILLET IMPROVEMENT PROGRAM.

Implementing agency: International Crops Research Institute for the Semi-Arid Tropics (ICRISAT Sahel Center).

Country/countries: Africa: Burkina Faso: Benin; Côte d'Ivoire; Cameroon; Ghana; Gambia; Mali; Mauritania; Niger; Nigeria; Senegal; Chad; Togo;

Statement of objectives/abstract:

Research and regional trials of improved varieties.

Contact in research organization:

ICRISAT Sahel Center, B.P. 12404, Niamey, Niger

Record number (MFN): 02156

Official project title: WEST AFRICA MAIZE COLLABORATIVE RESEARCH NETWORK [RESEAU MAIS].

Implementing agency: Conférence des Responsables de Recherche Agronomique Africains.

Start date: 1987-00-00.

Country/countries: Africa: Benin; Burkina Faso; Cameroon; Central African Republic; Chad; Congo; Côte d'Ivoire; Gabon; Guinea; Madagascar; Mali; Mauritania; Niger; Senegal; Togo; Zaire;

Statement of objectives/abstract:

The goals of the Network are: (a) orienting and harmonizing of research on the common themes defined by IARCs; (b) identifying of maize research priorities and

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designing of projects for funding by donors; (c) organizing of workshops and seminars for researchers and technicians; (d) encouraging collaborative research work to support genetic resource management, cataloguing of varieties, and use of scientific and technical information. The activities of the Network include: (i) evaluation and development of new maize varieties for irrigated areas in humid zone dry zones as well as hybrids for agro-industrial users; (ii) epidemiological study of viral diseases and biological studies of virus vectors in West and Central Africa, including transfer of virus resistance to adapted varieties; (iii) intensification of production in smallholders maize-growing systems in semi-humid and irrigated zones; (iv) training, documentation, and information exchange.

Contact in research organization:

IITA/SAFGRAD; B.P. 1783; Ouagadougou; Burkina Faso; Tel: 30-60-71; 30-60-72;
30-82-46; Telex: 5381 BF

Record number (MFN): 02157

Official project title: WEST AND CENTRAL AFRICA MAIZE COLLABORATIVE RESEARCH NETWORK (WECAMAN).

Implementing agency: U.S. Agency for International Development (USAID) Semi-Arid Food Grain Research and Development (SAFGRAD).

Start date: 1987-00-00. End date: 1996-00-00.

Country/countries: Africa: Burkina Faso; Cameroon; Niger; Madagascar; Senegal; Togo; Benin; Côte d'Ivoire; Central African Republic; Cape Verde; Ghana; Gambia; Guinea; Guinea-Bissau; Mali; Mauritania; Chad; Nigeria;

Statement of objectives abstract:

The major thrust of the Maize Network collaborative effort will be to continue to enhance the development of early and extra-early maturing cultivars of maize suitable to the West African Semi-Arid Tropics (SAT). Although IITA and CIMMYT will continue to provide the basic maize germplasm, the development of maize cultivars resistant/tolerant to drought and related stresses will continue to be a unique involvement of the maize Network. Currently, the Burkina Faso national programme is serving as the technological base where the Network has developed a number of extra-early maturing varieties which have been made available to other national programmes through the SAFGRAD Regional Uniform Variety trials. This research work would need to be further strengthened, in view of the high potential of early-maturing maize in the Sudan zone.

Contact in research organization:

Director General: International Institute of Tropical Agriculture (IITA); Oyo Road; PMB 5320; Ibadan; Nigeria; Tel: 400360; 400313; Telex: TDS IBA NG 20311 (Box 015); Cable: TROPFOUND; IKEJADr. J.B. Suh; Project Leader: IITA/SAFGRAD; B.P. 1783; Ouagadougou; Burkina Faso; Tel: 306071; 306072; Telex: 5381 BF

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Record number (MFN): 02160

Official project title: INTERNATIONAL RICE TESTING PROGRAM FOR AFRICA (IRTP).

Implementing agency: United Nations Development Program (UNDP)/European Economic Commission (EEC)/Japan.

Start date: 1975-00-00.

Country/countries: Africa: Burkina Faso; Burundi; Benin; Côte d'Ivoire; Cameroon; Congo; Ghana; Kenya; Gambia; Guinea-Bissau; Liberia; Madagascar; Mali; Malawi; Nigeria; Sierra Leone; Rwanda; Senegal; Togo; United Republic of Tanzania; Uganda; Zaire; Zambia; Zimbabwe.

Statement of objectives/abstract:

Research on rice improvement. The collaborative research network activities located and conducted at IITA include yields and observations nurseries testings under irrigation and rainfed conditions, and nurseries testings for specific stresses for temperature, soil, diseases, insects, and specific environments.

Contact in research organization:

Dr. K. Alluri: Coordinator, IRTP-Africa/IITA/IRRI; Liaison Scientist; Oyo Road; PMB 5320; Ibadan; Nigeria; Tel: 400300; 400313; Telex: TDS IBA NG 20311 (Box 015); Cable: TROPFOUND, IKEJA

Record number (MFN): 02161

Official project title: NETWORK FOR IMPROVEMENT OF RICE CULTIVATION [RESEAU RIZ].

Implementing agency: Conférence des Responsables de Recherche Agronomique Africains et Français.

Start date: 1989-00-00.

Country/countries: Global: Benin; Burkina Faso; Cameroon; Central African Republic; Congo; Côte d'Ivoire; France; Gabon; Guinea; Madagascar; Mali; Mauritania; Niger; Senegal; Togo.

Statement of objectives/abstract:

The goals of the Network are: (1) promoting exchange of information between rice researchers in order to work out common methodologies and formulate and carry out joint research projects; and (2) facilitating coordination and concertation with the IARCs, regional research organizations, and universities. The network activities on rainfed and flooded rice cultivation involve short-term and long-term projects. Short term projects include: (i) selecting and developing of new varieties for resistance to diseases; (ii) high-altitude growing; (iii) controlling of rice pyricularia diseases, with specific reference to monitoring of cryptogamic, viral and bacterial diseases and their evolution along with selection methodology for varietal resistance to Blast; and (iv) inventory and controlling of weeds, and development of control methods. Long term projects include: (i) perfecting of cultivation practices for permanent rainfed rice; and (ii) training of researchers on the job.

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Record number (MFN): 02162

Official project title: WEST AFRICA COLLABORATIVE GROUNDNUT RESEARCH NETWORK.

Implementing agency: International Crops Research Institute for the Semi-Arid Tropics (ICRISAT).

Start date: 1987-00-00.

Country/countries: Africa: Niger; Madagascar; Mali; Burkina Faso; Senegal; Cameroon; Gambia; Côte d'Ivoire; Ghana; Chad; Benin;

Statement of objectives/abstract:

Research on groundnut improvement.

Contact in research organization:

ICRISAT: Patancheru P.O.; Andhra Pradesh 502 324; India

Record number (MFN): 02166

Official project title: CENTRAL AND WEST AFRICAN ROOT CROPS COLLABORATIVE RESEARCH NETWORK (CEWARRN).

Implementing agency: International Institute of Tropical Agriculture.

Start date: 1980-00-00.

Country/countries: Africa: Angola; Benin; Burkina Faso; Cameroon; Central African Republic; Côte d'Ivoire; Equatorial Guinea; Gabon; Gambia; Ghana; Guinea; Guinea-Bissau; Liberia; Mauritania; Mali; Niger; Nigeria; Madagascar; Burundi; Chad; Congo; Rwanda; Sao Tome and Principe; Togo; Zaire;

Statement of objectives/abstract:

Regional trials on cassava and sweet potato improvement.

Contact in research organization:

Dr. S.K. Hahn; Director; Root, Tuber and Plantain Improvement Program; IITA; Oyo Road; PMB 5320; Ibadan, Nigeria; Tel: 400300; 400313; Telex: TDS IBA NG 20311 (Box 015); Cable: TROPFOUND, IKEJA

Record number (MFN): 02167

Official project title: WEST AFRICA REGIONAL COOPERATIVE FOR RESEARCH ON PLANTAIN (WARCORP).

Implementing agency: International Institute of Tropical Agriculture.

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Start date: 1987-00-00.

Country/countries: Africa: Cameroon: Gabon: Ghana: Guinea: Côte d'Ivoire: Nigeria: Zaire:
Benin: Central African Republic: Congo: Ghana: Guinea-Bissau: Liberia: Sierra
Leone: Senegal: Togo:

Statement of objectives/abstract:

Research on plantain breeding and agronomy.

Contact in research organization:

Prof. Edmond A.L. De Langhe: Director: International Network for the Improvement
of Banana and Plantain (INIBAP); Avenue du Val de Montferrand; P.O. Box 5035:
34032 Montpellier Cedex; France; Tel. (67) 61 13 02; Telex: 490376 F

Record number (MFN): 02168

Official project title: EAST AFRICA REGIONAL COOPERATIVE FOR RESEARCH ON BANANAS (AND
ENSETE) (EARCORBE).

Implementing agency: International Network for the Improvement of Banana and Plantain.
Start date: 1987-00-00.

Country/countries: Africa: Burundi: Ethiopia: Kenya: Rwanda: Somalia: United Republic of
Tanzania: Uganda: Zaire:

Statement of objectives/abstract:

Strengthening agronomic research and input of improved material for Banana (and
Ensete).

Record number (MFN): 02169

Official project title: REGIONAL TROPICAL LEAFY TREES IMPROVEMENT PROGRAM (PROGRAMME
REGIONAL D'AMELIORATION DES FEUILLUS TROPICAUX (PRAFT)).

Implementing agency: European Economic Commission (EEC).

Start date: 1986-00-00.

Country/countries: Global: Congo: Côte d'Ivoire: Cameroon: Ghana: Liberia: Nigeria: Sierra
Leone:

Statement of objectives/abstract:

Research on genetic improvement of leafy trees for livestock production.

Contact in research organization:

CTFT/ITE: 45 bis Avenue de la Belle Gabrielle: 94130 Nogent-Sur-Merne: France

SPAAR Information System

Record number (MFN): 02170

Official project title: AFRICAN RESEARCH NETWORK FOR AGRICULTURAL BY-PRODUCTS (ARNAB).

Implementing agency: International Development Research Centre (IDRC); International Livestock Centre for Africa (ILCA).

Start date: 1981-00-00.

Country/countries: Africa: Kenya; United Republic of Tanzania; Malawi; Botswana; Ethiopia; Côte d'Ivoire; Gambia; Sierra Leone; Senegal;

Statement of objectives/abstract:

ARNAB's objectives are to develop and strengthen an African network to support research on crop residue and agro-industrial by-product utilization through collaborative research. While these objectives were partly achieved in Phase I with funding from IDRC and ILCA, a Phase II of the project will be reviewed by IDRC for partial funding. In the second Phase the project will test and evaluate on-farm animal feeding technologies and strengthen national research programmes by: (1) developing sub-regional research programmes on agricultural by-products utilization; (2) introducing and evaluating by-products feeding technologies on farm; (3) assessing the economic and social impacts of the technologies introduced in the Ethiopian Highlands and other target areas; (4) training scientists and technicians from national programmes in agreed, standardized, on-station methods and on-farm testing; (5) providing fora for exchanging information among scientists from national programmes and reviewing the collaborative research programmes; and (6) producing and disseminating ARNAB newsletters and proceedings of ARNAB workshops.

Contact in research organization:

Dr. Abdullah N. Said: ARNAB Coordinator International Livestock Centre for Africa (ILCA); P.O. Box 5689; 21207; Addis Abeba; Ethiopia; Tel: 61 33 22; 18 32 15; Telex: 21207 ET; Cable ILCAF ADDIS ABABA

Record number (MFN): 02171

Official project title: COOPERATIVE CEREALS RESEARCH NETWORK (CCRN).

Implementing agency: International Crops Research Institute for the Semi-Arid Tropics.

Country/countries: Africa: Nigeria; Burkina Faso; Mali; Niger; Cameroon; Gambia; Sudan; Ethiopia; Kenya; Uganda; Somalia; Rwanda; Zimbabwe; United Republic of Tanzania; Botswana; Zambia; Malawi; Lesotho;

Statement of objectives/abstract:

Sorghum and pearl millet improvement.

Contact in research organization:

ICRISAT

SPAAR Information System

Record number (MFN): 02173

Official project title: MAIZE CROPPING SYSTEMS IMPROVEMENT NETWORK [RESEAU DE RECHERCHES SUR L'AMELIORATION DE LA CULTURE DU MAIS].

Implementing agency: Conférence des Responsables de Recherche Agronomique Africains.

Country/countries: Africa:

Record number (MFN): 02174

Official project title: COOPERATIVE PROGRAMME FOR THE IMPROVEMENT OF GENETIC RESOURCES OF MULTIPURPOSE WOODY SPECIES.

Implementing agency: Food and Agriculture Organization of the United Nations.

Start date: 1988-02-00.

Country/countries: Africa: Burkina Faso; Cameroon; Cape Verde; Chad; Djibouti; Ethiopia;

Gambia; Guinea-Bissau; Kenya; Mali; Mauritania; Niger; Nigeria; Senegal;

Somalia; Sudan; United Republic of Tanzania.

Statement of objectives/abstract:

Research on genetic improvement of local woody species.

Contact in research organization:

Mr. Gora Beye; FAO; Via delle Terme di Caracalla; 00100 Rome; Italy; Tel:

5797-3037; Telex: 610181 FAO; Mr. Mohamed Zehni; Director; Research & Technology

Development Division; FAO; Via delle Terme di Caracalla; 00100 Rome; Italy; Tel:

5797 5004; Telex: 610181 FAO

Record number (MFN): 02365

Official project title: PALM OIL PROCESSING (SIERRA LEONE).

Implementing agency: International Development Research Centre.

Start date: 1984-01-00. End date: 1992-06-30.

Country/countries: Sierra Leone;

Statement of objectives/abstract:

The average Sierra Leonean depends heavily on palm oil as part of his/her daily meal.

There are many wild and cultivated plantations of oil palm that produce large quantities of the fruit. However, the traditional method of processing the fruit is unhygienic, tedious and inefficient. Palm oil presses using screw threads have been made in Sierra Leone but have been sold on a very limited scale without systematic evaluation of their performance. This project will develop and test palm oil extractors suitable for use in small farming communities and for manufacture in Sierra Leone. Specifically, researchers will survey traditional palm oil production

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processes: test and improve two existing prototypes of palm oil extraction machines developed in Sierra Leone; design, construct, and field test alternate models; and disseminate the results.

Contact in research organization:

Mr. Akitayo Akiwumi: University of Sierra Leone; Private Mail Bag; Freetown;
Sierra Leone

Record number (MFN): 02426

Official project title: PALM OIL EXTRACTION (CAMEROON).

Implementing agency: International Development Research Centre.

Start date: 1986-08-18. End date: 1989-06-01.

Country/countries: Cameroon.

Statement of objectives/abstract:

Palm oil is used by the majority of the Cameroonian population. Although the oil is processed by three main agro-industrial companies, a substantial quantity is produced by farmers at the rural level. The traditional method of production is relatively inefficient and tedious. Processing equipment available at the rural level is imported, old, and spare parts are difficult to obtain. This project will develop improved oil palm processing equipment for middle income farmers and cooperatives in the country. Researchers will assess the need for processing and the scope for the use of processing equipment; develop a palm oil press and related equipment suitable for local manufacture; and field-test the developed equipment and disseminate the results.

Contact in research organization:

Mr. Jules Tetka: CENEEMA; B.P. 1040; Yaounde; Cameroun

Record number (MFN): 02428

Official project title: MEAT/FISH PROCESSING (NIGERIA).

Implementing agency: International Development Research Centre.

Start date: 1986-05-30. End date: 1990-05-30.

Country/countries: Nigeria.

Statement of objectives/abstract:

The nutritional quality of Nigerian diet could be improved with animal protein through quality processing of meat and fish products, as well as improvement of shelf-life to prevent spoilage. This project improves the traditional methods of processing fish and meat. Researchers will document the traditional processing techniques and assess product quality from production to market. Using intermediate-moisture food technology, improved processing techniques for local

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processors will be developed and tested. Results of the study will then be distributed to fish and meat producers.

Contact in research organization:

Mr. Zak A. Obanu; University of Nigeria; Nsukka; Nigeria

Record number (MFN): 02429

Official project title: EGUSI SHELLERS (CAMEROON).

Implementing agency: International Development Research Centre.

Start date: 1986-08-18. End date: 1989-06-01.

Country/countries: Cameroon.

Statement of objectives/abstract:

Egusi seed is obtained from several types of melons. It is protein-rich and commonly used in sauces, soups, and other dishes in Cameroon and many other West African countries. The traditional method of shelling consists of manually opening the outer pod, one seed at a time – a time-consuming process. This project will design, construct, and test an efficient, simple egusi sheller prototype for use by small producers and traders in Cameroon. Initially, researchers will survey egusi marketing and processing to establish types of egusi used, production levels and shelling methods. Shellers for the egusi will be designed, lab-tested to establish their performance, and then field-tested to assess their acceptability and socioeconomic impact.

Contact in research organization:

Mr. S.T. Fomunyan; CENEEMA; B.P. 1040; Yaounde; Cameroun

Record number (MFN): 02501

Official project title: POND CULTURE (GHANA).

Implementing agency: International Development Research Centre.

Start date: 1989-03-10. End date: 1992-03-10.

Country/countries: Ghana.

Statement of objectives/abstract:

Pond culture of fish has taken hold on a small scale in Ghana, following promotion by government agencies, but yields are low, inhibiting further development. The Institute of Aquatic Biology will test improved pond tilapia culture systems. Project support will enable the Institute of Aquatic Biology (IAB) to develop the capacity to produce and culture all-male (sex-reversed) tilapias on a field pilot scale, and to develop propagation of *Clarias* catfishes to be cultured in combination with tilapias. Improved tilapia culture systems will be compared to those presently in use, on an experimental station and in farmers' ponds, and results will be

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disseminated to farmers. Fish farmers, farmers with sites favorable for pond culture, and fish consumers will benefit. The project is one of a series of African aquaculture projects funded by IDRC and linked through network activities.

Contact in research organization:

Mr. Mark Owusu-Frimpong; Institute of Aquatic Biology; P.O. Box 38; Achimota; Ghana

Record number (MFN): 02519

Official project title: SOYBEAN THRESHERS (NIGERIA).

Implementing agency: International Development Research Centre.

Start date: 1989-08-07. End date: 1992-03-31.

Country/countries: Nigeria.

Statement of objectives/abstract:

Increasing local food production is a national priority in Nigeria. Soybean is recognized as a crop that can be used for a range of household and commercial food products. Extension activities by several institutions in the country have led to the adoption of soybean by many farmers and production is increasing yearly. An IDRC project on soybean utilization (86-0188) is facilitating increased production. However, the high cost of farm labour limits the amount of crop that can be threshed after harvest. This is discouraging farmers from increasing production. This project will develop low-cost soybean threshing machines for use by small-scale farmers. Activities will include: a survey of crop variety cultivated by farmers in the target area, and of the type and extent of threshing machine used by them; identification of potentially adaptable designs (local and global); development and production of threshers by local workshops; extensive field testing; and the dissemination of results.

Contact in research organization:

Mr. Peter Oyekan; Institute of Agricultural Research and Training; Obafemi Awolowo University; P.M.B. 5029; Moor Plantation; Ibadan; Nigeria

Record number (MFN): 02520

Official project title: PLANTAIN CONSERVATION (IVORY COAST).

Implementing agency: International Development Research Centre.

Start date: 1989-10-14. End date: 1992-07-31.

Country/countries: Côte d'Ivoire;

Statement of objectives/abstract:

One of the most important staple foods in the Ivory Coast is plantain. Estimated losses are about 40 percent, most occurring at the farm level. This has resulted in

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the crop being cultivated as a secondary cash crop by farmers. There is a glut during a short period of the year followed by scarcity and higher prices throughout the rest of the year. Considering the rapid increase in population and the lack of foreign exchange to import food, methods of preservation must be developed which will encourage increased production of plantain and reduce losses. This project will determine the efficacy of traditional preservation methods used in the country; develop improved methods of solving the ripening process; and develop techniques for transforming plantain into a product with a longer shelf life at ambient conditions. Results of the project will be shared with the International Network on Bananas and Plantains (INIBAP) for possible use in other countries with similar problems.

Contact in research organization:

Mr. Georges Agbo N'zi; Faculte des Sciences et Techniques; Universite d'Abidjan;
22 B.P. 582; Abidjan 22; Cote d'Ivoire

Record number (MFN): 02548

Official project title: INVENTORY OF ENVIRONMENTAL RESEARCH AND DEVELOPMENT ACTIVITIES
(NIGERIA).

Implementing agency: International Development Research Centre.

Start date: 1990-01-17. End date: 1991-07-17.

Country/countries: Nigeria:

Statement of objectives/abstract:

Nigeria, like many other countries, has its share of serious environmental problems. Relatively little is known, however, about the state of the environment, research capabilities, and institutional responsibilities in policy-making in the area. This project will undertake a comprehensive review of environmental problems in the country in an effort to initiate the formulation of environmental research and development policy and plan of action. Researchers will collect data on the status of the environment, compile an inventory of environmental activities and research over the last several years; organize this information; assess the reported research and development activities on actual and potential impact on the environment; and develop direction for future environmental research and development activities.

Contact in research organization:

Mr. A.T. Salau; Nigerian Environment Study Team; c/o CUSO; Ibadan; Nigeria

Record number (MFN): 02586

Official project title: FOOD TECHNOLOGY POLICY (NIGERIA).

Implementing agency: International Development Research Centre.

Start date: 1983-02-00. End date: 1989-03-31.

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Country/countries: Nigeria:

Statement of objectives/abstract:

African economic and social welfare depends on agricultural prosperity, but the agricultural sector is failing to provide food for Africa's growing population. Little is known about the nature of technological inputs and their potential for African agricultural growth. The general objective of this project is to examine the contribution of technology to food self-sufficiency in African countries and to determine how technology policy might contribute to this goal. Specifically Phase I will attempt to set out a method and form of analysis for evaluating the costs and benefits of food self-sufficiency in Nigeria and its consequent implications for technology by examining the supply and demand for the technology of two crops: maize and cassava.

Contact in research organization:

Mr. Francis Idachaba: Department of Agricultural Economics: University of Ibadan; Ibadan; Nigeria

Record number (MFN): 02610

Official project title: DROUGHT RESISTANCE RESEARCH NETWORK (R3S) [RESEAU DE RECHERCHE SUR LA RESISTANCE A LA SECHERESSE].

Implementing agency: Conférence des Responsables de Recherche Agronomique Africains et Français.

Start date: 1988-00-00. End date: 1992-00-00.

Country/countries: Global; Benin; Burkina Faso; Cameroon; Cape Verde; Chad; Congo; Côte d'Ivoire; Gambia; Guinea; Guinea-Bissau; Mali; Mauritania; Niger; Senegal; Togo; France:

Statement of objectives/abstract:

This multidisciplinary network is concerned with water as a factor limiting agricultural production in the Sudanian and Sahelian zones. The main network objective is to characterize water supply in order improve its potential for rainfed crops. The components of the Network are plot, watershed management, and production systems. Plot or field trial activities include: (i) simulation of water balance in crops for drought risk analysis; (ii) improvement of water supply through irrigation techniques and cultural association of food crops and woody plants; (iii) trials of food crop varieties for adaptation to pedo-climatic zones, including study of physiological mechanisms of adaptation to drought for new varieties; and (iv) creation of research facilities and a laboratory at the Centre Regional de Recherches pour l'Amélioration de l'Adaptation a la Secheresse (CERAAS). Watershed management activities include: (i) water management and agricultural development in bottomlands; (ii) bioclimatic monitoring of pastoral ecosystems; (iii) watershed rain water management for agricultural use; and (iv) assessment of rainfall variability. Workshops will be held to help identify research priorities and establish joint projects on production systems.

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Record number (MFN): 02611

Official project title: AGRONOMIC NETWORK FOR EAST AND SOUTHERN AFRICA.

Implementing agency: United Nations Development Program (UNDP); World Bank.
Country/countries: Africa: Burundi; Ethiopia; Kenya; United Republic of Tanzania; Uganda;
Zambia; Zimbabwe; Malawi;

Statement of objectives/abstract:

To determine agronomic effectiveness of fertilizer manufactured utilizing indigenous agrominerals. Training of scientists, monitoring, documentation, and procurement of equipment.

Contact in research organization:

Dr. Paul L.G. Vlek; Director; International Fertilizer Development Center,
Africa (IFDC-Africa); B.P. 4483; Lome; Togo; Tel: 21-79-71; Telex: 5416
CIFDC-TG; Fax: 21 78 17

Record number (MFN): 02612

Official project title: WEST AFRICAN IRRIGATION RESEARCH DEVELOPMENT NETWORK (WAIRD).

Implementing agency: International Irrigation Management Institute (IIMI).
Country/countries: Africa: Burkina Faso; Mali; Niger; Nigeria; Senegal;

Statement of objectives/abstract:

The proposed activities of the network include: (a) exchange and communication on methods and results of irrigation management research; and (b) training on application of principles, methods and techniques of management of irrigation systems.

Contact in research organization:

IIMI

Record number (MFN): 02613

Official project title: THE GEOLOGICAL NETWORK FOR AGROMINERALS IN EAST AND SOUTHERN AFRICA.

Implementing agency: United Nations Development Program (UNDP); World Bank.
Country/countries: Africa: Burundi; Ethiopia; Kenya; Malawi; United Republic of Tanzania;
Uganda; Zambia; Zimbabwe;

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Statement of objectives/abstract:

Development of indigenous agrominerals. Training, monitoring, and documentation.

Contact in research organization:

Dr. Paul L.G. Vlek; Director; International Fertilizer Development Center, Africa
(IFDC-Africa); B.P. 4483; Lome; Togo; Tel: 21-79-71; Telex: 5416 CIFDC-TG; Fax:
21 78 17

Record number (MFN): 02614

Official project title: WEST AFRICAN FERTILIZER MANAGEMENT AND EVALUATION NETWORK
(WAFMEN).

Implementing agency: International Development Research Centre (IDRC); United Nations
Development Program (UNDP).

Country/countries: Africa: Senegal; Gambia; Mali; Guinea; Sierra Leone; Liberia; Côte
d'Ivoire; Burkina Faso; Ghana; Togo; Niger; Nigeria; Benin; Cameroon;

Statement of objectives/abstract:

Fertilizer management and evaluation. Training courses in fertilizer research,
including monitoring, documentation.

Contact in research organization:

Dr. Paul L.G. Vlek; Director; International Fertilizer Development Center,
Africa (IFDC-Africa); B.P. 4483; Lome; Togo; Tel: 21-79-71; Telex: 5416
CIFDC-TG; Fax: 21 78 17

Record number (MFN): 02615

Official project title: APPLIED RESEARCH PROGRAMME: EASTERN AND CENTRAL AFRICAN
AGROFORESTRY NETWORK FOR AFRICA (ECA-AFRENA) - THE BIMODAL
HIGHLANDS.

Implementing agency: International Council for Research in Agroforestry.

Start date: 1986-00-00. End date: 1991-09-00.

Country/countries: Africa; Kenya; Rwanda; Burundi; Uganda; Ethiopia; Zaire;

Statement of objectives/abstract:

This is one of the four ecozone-based networks planned by ICRAF for Sub-Saharan
Africa under the AFRENA programme. The main objectives of the Network are: (a) to
collaborate with national institutions to generate agroforestry technologies to
address identified constraints to production and sustainability; and (b) to
strengthen national capacity and capability to carry out agroforestry research to
address land use problems confronting smallholders. The Network will be implemented
in three stages: planning, research formulation and design, and research
implementation. Planning activities include: (i) background data collection on

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ecozones; (ii) establishment of the network, identification of national institutions, and formation of network committees and task forces; (iii) field surveys in delineated ecozones using ICRAF's macro-Diagnosis and Design methodology (D&D) to describe land use systems and prepare "blueprint" and recommendations on agroforestry research; and (iv) regional workshops on country findings and mandates for zonal and location-specific research. Research formulation and design activities include: (i) training on diagnosis and design methodology and land use priorities (micro-diagnosis); and (ii) formulation of location specific national projects. Research implementation activities involve planning and laying out of experiments at zonal sites in accordance with the research mandate of each site. Major land-use problems identified in the planning phase of this network were low soil fertility and soil erosion problems especially in food crop plots, shortage of fodder, particularly in the dry season and shortages of fuelwood. To address these problems, 56 different trials (component trials, component interaction trials, and systems/technology trials) are ongoing at all the research station sites.

Contact in research organization:

Dr. Dirk A. Hoekstra: Coordinator of AFRENA; ICRAF; P.O. Box 30677; Nairobi; Kenya; Tel: 52 14 50; Telex: 22048

Record number (MFN): 02618

Official project title: APPLIED RESEARCH PROGRAMME: NETWORK FOR HUMID LOWLANDS OF WEST AFRICA (HULWA-AFRENA).

Implementing agency: International Council for Research in Agroforestry (ICRAF).

Start date: 1987-00-00. End date: 1993-00-00.

Country/countries: Africa; Cameroon; Ghana; Côte d'Ivoire; Nigeria; Sierra Leone; Togo;

Statement of objectives/abstract:

The AFRENA programme for the Humid Lowlands of West Africa (HULWA) is partly ongoing and partly planned (subject to resources). Currently there are three ongoing projects - Cameroon, Ghana, and Multipurpose Tree (MPT) screening/evaluation at IITA.

When fully operational, the network will expand to include six countries with the addition of Cote d'Ivoire, Nigeria, Sierra Leone and Togo. Ongoing research activities in HULWA are confined to Cameroon and Ghana. In Cameroon the project is focussing its research to develop technologies to address declining soil fertility and fodder shortage in the humid lowlands of Cameroon. The major agroforestry technologies under investigations since 1987 are: (a) hedgerow intercropping; (b) alley farming; and (c) simple improved fallow. In support of these management trials MPT screening and evaluation trials and on-farm research are underway. In Ghana the project has focused attention on MACRO and MICRO D&Ds. In 1990, the MICRO D&D was undertaken and the analysis is current / underway. This will form the basis for planning the experimental research programme in 1991. The major constraints identified were: (a) soil fertility and erosion problems; (b) livestock feeding and management systems; and (d) lack of poles and fuelwood. The major technologies identified to address these problems are: (i) cover crops under oilpalm, citrus and coconuts; (ii) alley farming; (iii) fodder banks; (iv) live fencing; and (v) live

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staking.

Contact in research organization:

Dr. Mamadou Djimde: Coordinator of the SALWA-AFRENA Network; ICRAF; P.O. Box 30677; Nairobi; Kenya. Tel: (254-2) 52 14 50; Telex: 22048; Fax: 521 001

Record number (MFN): 02619

Official project title: WEST AFRICAN FARMING SYSTEMS RESEARCH NETWORK (WAFSRN/RESPAO).

Implementing agency: International Fund for Agricultural Development (IFAD); Semi-Arid Food Grain Research and Development (SAFGRAD).

Start date: 1984-00-00 End date: 1996-00-00.

Country/countries: Africa: Benin; Cape Verde; Cameroon; Gambia; Ghana; Côte d'Ivoire; Liberia; Nigeria; Senegal; Togo;

Statement of objectives/abstract:

The general objective of WAFSRN is to promote and facilitate cooperation among researchers and among national, international, and external research programmes and institutions working in the field of farming systems research in West Africa. This collaboration should make it possible to support researchers and strengthen NARS experience in research methodologies, compare results, and provide better access to information. The specific objectives are to: (a) enhance collaboration in planning and evaluating FSR in West Africa; (b) improve research practices through exchanging experiences, particularly through meetings, monitoring tours for researchers, and any other activity which meets the needs of members; (c) organize, or assist in organizing, and institutionalizing training in FSR for researchers and other rural development agents; (d) collect, process, and disseminate relevant FSR results. In particular, it aims to encourage researchers to publish their results and make them available to all interested parties, e.g. researchers, research institutions, extension services, producers and professional organizations, policy makers; and assist national researchers, programmes and institutions, when requested, in planning, implementing, and evaluating FSR and, possibly, in preparing funding requests.

Contact in research organization:

Dr. Jacques Faye: Coordinator of WAFSRN; OAU/SAFGRAD; B.P. 1783; Ouagadougou; Burkina Faso; Tel: 30-60-71; 30-60-72; 30-82-46; Telex: 5381 BF

Record number (MFN): 02620

Official project title: AFRICAN SMALL RUMINANT COLLABORATIVE RESEARCH NETWORK.

Implementing agency: International Fund for Agricultural Development.

Start date: 1981-00-00. End date: 1991-00-00.

Country/countries: Africa: Rwanda; Mozambique; Togo; Sudan; Nigeria; Ethiopia; United

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Republic of Tanzania; Kenya; Botswana; Côte d'Ivoire;

Statement of objectives/abstract:

The network would complement research by ILCA on small ruminants in West Africa. It would aim to refine some of the basic findings already obtained from on-going research by carrying out both on-station and on-farm research and trials to improve feeding systems for small ruminants through improved forage and browse production. The overall aim of the network is to develop more beneficial crop-livestock interactions (through the integration of food crop, browse legume and small ruminant production), as well as the use of sheep manure for the maintenance of soil fertility in small farmers' production systems. The network would develop a sustainable production system which can contribute to the improvement of small ruminant production in the humid and sub-humid zones of West Africa and through the manure studies it would demonstrate and improve the role of small ruminants in increasing crop production. The network would promote/enhance information exchange, training and research and development of small ruminant technologies for smallholders and agro-pastoralists in collaboration with NARS. The technologies developed and validated on farmers' fields would be incorporated in future IFAD investment projects in the region. Training courses would be conducted annually in areas identified by the Annual General Meeting of NARS scientists.

Contact in research organization:

Dr. R.T. Wilson; Coordinator of African Small Ruminant Collaborative Research Network; International Livestock Centre for Africa (ILCA); P.O. Box 5689; Tel: 18-32-15; Telex: IICA ADDIS 21207; Cable: ILCAF/Addis Abeba

Record number (MFN): 02621

Official project title: IMPROVING THE PRODUCTIVITY OF INDIGENOUS AFRICAN LIVESTOCK USING RADIOIMMUNOASSAY AND RELATED TECHNIQUES.

Implementing agency: Directorate General for International Cooperation (DGIS).

Country/countries: Africa; Burkina Faso; Egypt; Ethiopia; Ghana; Malawi; Morocco; Niger; Nigeria; Senegal; Sudan; United Republic of Tanzania; Tunisia; Uganda; Zimbabwe;

Statement of objectives/abstract:

Improving ruminant livestock productivity. Training, documentation and information system.

Contact in research organization:

FAO/IAEA Division; Rome; Italy

Record number (MFN): 02622

Official project title: WEST AFRICA NETWORK ON ANIMAL TRACTION (WAATA).

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Implementing agency: Deutsche Gesellschaft fuer Technische Zusammenarbeit (GTZ) Gmb H.
Country/countries: Africa: Senegal; Nigeria; Cameroon; Côte d'Ivoire; Ghana; Mali; Niger;
Burkina Faso; Liberia:

Statement of objectives/abstract:

Problem orientation, exchange of problems and experiences. Monitoring and documentation.

Record number (MFN): 02624

Official project title: AFRICAN RESEARCH NETWORK ON RURAL POULTRY DEVELOPMENT.

Implementing agency: United Nations Food and Agriculture Organization.
Country/countries: Africa: Benin; Cameroon; Niger; Nigeria; Somalia; Sudan; Zimbabwe:

Statement of objectives/abstract:

The network objectives are to: (1) review, assess and publish current knowledge on rural poultry development in Africa for further planning and research activities; (2) appraise the current approaches and strategies of rural poultry development in Africa; and (3) identify areas where further research is required and coordinate subsequent research activities. Leading African institutes in poultry production will participate in: (i) developing new strategies and technologies for rural poultry keeping; (ii) testing improved techniques in research stations and later at the farm level; and (iii) ensuring dissemination of new technology through contacts with extension services.

Contact in research organization:

Prof. B.C. Sonaiya; Department of Animal Science; University of Ife, Ile-Ife;
Nigeria; Tel: 2291: 2419

Record number (MFN): 02626

Official project title: THE DEVELOPMENT OF PRACTICES FOR AREA-WIDE TSETSE ERADICATION WITH EMPHASIS ON THE STERILE INSECT TECHNIQUE.

Implementing agency: United Nations Food and Agriculture Organization.
Start date: 1988-11-00. End date: 1993-00-00.
Country/countries: Africa: Ghana; Nigeria; Kenya; Uganda; Zimbabwe:

Statement of objectives/abstract:

Tsetse control.

Contact in research organization:

Joint FAO/IAEA Division; Rome; Italy

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Record number (MFN): 02627

Official project title: IMPROVING THE DIAGNOSIS AND CONTROL OF TRYPANOSOMIASIS AND OTHER VECTOR-BORNE DISEASES OF AFRICAN LIVESTOCK. USING IMMUNOASSAY METHODS.

Implementing agency: Directorate General for International Cooperation (DGIS).

Country/countries: Africa: Egypt; Gambia; Ghana; Kenya; Mali; Morocco; Senegal; Somalia; Sudan; United Republic of Tanzania; Uganda; Zambia; Zimbabwe;

Statement of objectives/abstract:

Standardising diagnostic methods. Conduct training workshops for scientists and provide expert services, including documentation.

Contact in research organization:

FAO/IAEA Division; Rome; Italy

Record number (MFN): 02628

Official project title: SERO-SURVEILLANCE OF RINDERPEST AND OTHER DISEASES IN AFRICA. USING IMMUNOASSAY TECHNIQUES.

Implementing agency: Swedish Agency for Rural Cooperation (SAREC).

Country/countries: Africa: Burkina Faso; Egypt; Ethiopia; Ghana; Côte d'Ivoire; Kenya; Mali; Niger; Nigeria; Senegal; Somalia; Sudan; United Republic of Tanzania; Uganda; Zambia;

Statement of objectives/abstract:

Monitoring PARC vaccination. Training workshops for scientists and expert services, including documentation.

Contact in research organization:

FAO/IAEA Division; Rome; Italy

Record number (MFN): 02629

Official project title: CO-ORDINATED RESEARCH PROGRAMME ON THE APPLICATION OF IRRADIATION TECHNIQUE FOR FOOD PROCESSING IN AFRICA.

Implementing agency: United Nations Food and Agriculture Organization.

Country/countries: Africa: Algeria; Egypt; Ghana; Uganda; Zambia; United Republic of Tanzania; Zaire; Senegal; Côte d'Ivoire; Kenya; Libyan Arab Jamahiriya; Nigeria;

Statement of objectives/abstract:

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Research programme to reduce postharvest losses of staple food crops. Training of scientists in food science and technology, and documentation.

Record number (MFN): 02632

Official project title: SMALL RUMINANTS AND CAMEL GROUP.

Implementing agency: Deutsche Gesellschaft fuer Technische Zusammenarbeit (GTZ) Gmb H.

Country/countries: Africa: Mali: Kenya: Nigeria: Ethiopia: Sudan; Burkina Faso; Mozambique; Rwanda; Zimbabwe;

Statement of objectives/abstract:

Research on improvement of small ruminants and camels.

Contact in research organization:

Mr. Richard A. Stewart; Assistant to Director General; International Livestock Centre for Africa (ILCA); P.O. Box 5689; Addis Ababa; Ethiopia; Tel: 61 33 22; Telex: 2:207 ET

Record number (MFN): 02634

Official project title: AGRICULTURE HYDROLOGIE-METEOROLOGIE.

Implementing agency: Centre Regional de Formation et d'Application en Agrometeorologie et Hydrologie (AGRHYMET).

Start date: 1975-00-00.

Country/countries: Africa: Burkina Faso; Cape Verde; Gambia; Mali; Mauritania; Niger; Senegal; Chad; Guinea-Bissau;

Statement of objectives/abstract:

Research on agro-meteorology.

Contact in research organization:

World Meteorological Organization (WMO); Africa Division; 41 Giuseppe-Motta; case Postale No. 5; CH - 1211 Geneve 20; Switzerland; Tel: national (022) 34 64 00; international + 45 22 34 64 00; Telex: 23 260 OMM CH; Fax: + 41 22 34 23 26; Telegram: METEOMOND GENEVE

Record number (MFN): 02635

Official project title: INTERNATIONAL BENCHMARK SOILS NETWORK FOR AGRO-TECHNOLOGY TRANSFER (IBSNAT).

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Implementing agency: U.S. Agency for International Development.

Start date: 1982-00-00.

Country/countries: Global; Cameroon; Burundi; Zambia:

Statement of objectives/abstract:

Research on soil, water, and climate characterization for agricultural technology transfer.

Contact in research organization:

Dr. Reinroth; University of Puerto Rico; Rio Piedras; Puerto Rico; 00931; USA

Record number (MFN): 02638

Official project title: RESEAU EROSION (EROS) [EROSION NETWORK].

Implementing agency: ORSTOM/Institut Francais de Recherche Scientifique pour le Developpement en Cooperation.

Start date: 1984-00-00.

Country/countries: Africa; Burkina Faso; Burundi; Congo; Côte d'Ivoire; Algeria; Kenya;

Mali; Togo; Tunisia; Zaire:

Statement of objectives/abstract:

Research on soil erosion and conservation.

Contact in research organization:

Mr. M. Roose; Coordinator of Reseau Erosion; ORSTOM/ENCREF; B.P. 5093; 34033 Montpellier Cedex; France

Record number (MFN): 02639

Official project title: RESEAU EUROPEEN D'ETUDE DES LATERITES (EUROLAT) [EUROPEAN NETWORK ON FERRALSOLS STUDIES].

Implementing agency: Ministere de la Recherche et de l'Enseignement Superieur; Universite of Strasbourg.

Start date: 1984-00-00.

Country/countries: Africa; Angola; Burkina Faso; Burundi; Benin; Central African Republic;

Côte d'Ivoire; Cameroon; Congo; Algeria:

Statement of objectives/abstract:

Information on laterite soils.

Contact in research organization:

Mr. Tardy; Coordinator of EUROLAT; 1, rue Blessig; 67084 Strasbourg Cedex; France

SPAAR Information System

Record number (MFN): 02640

Official project title: RESEAU INTERNATIONAL DE TRAITEMENT DES DONNEES SOLS (RIDTS)
{INTERNATIONAL NETWORK FOR SOILS DATA PROCESSING}.

Implementing agency: Agence de Cooperation Culturelle et Technique (ACCT).

Start date: 1971-00-00.

Country/countries: Africa; Benin; Central African Republic; Cameroon; Togo; Tunisia:

Statement of objectives/abstract:

Information of soils.

Contact in research organization:

Mr. Waechter; Coordinator of RIDTS; Agence de Cooperation Culturelle et
Technique (ACCT); 13 quai A.; Citroen; 75015 Paris; France

Record number (MFN): 02641

Official project title: ASSOCIATION INTERNATIONALE POUR L'OPTIMISATION DE LA NUTRITION DES
PLANTES (ANIOP) {INTERNATIONAL ASSOCIATION FOR THE OPTIMIZATION OF
PLANT NUTRITION}.

Implementing agency: Centre de Cooperation Internationale en Recherche Agronomique pour le
Developpement (CIRAD).

Start date: 1983-00-00.

Country/countries: Global; Central African Republic; Congo; Cameroon; Egypt; Ethiopia;
Kenya; Morocco; Madagascar; Niger; Nigeria; Sudan; Togo; United Republic of
Tanzania; Saudi Arabia; Zaire:

Statement of objectives/abstract:

Information on optimizing nutrition in production of plants.

Contact in research organization:

Centre de Cooperation Internationale en Recherche Agronomique pour le
Developpement (CIRAD); B.P. 5035; 34032 Montpellier Cedex; France

Record number (MFN): 02647

Official project title: RESEAU SUR LA CONSERVATION POST-RECOLTE DES DENREES ALIMENTAIRES
(GRENIER) {NETWORK FOR POST-HARVEST STORAGE OF FOOD CROPS}.

Implementing agency: Association des Universites Partiellement ou Entierement de Langue
Francaise (AUPELF).

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Start date: 1979-00-00.

Country/countries: Africa: Burkina Faso: Benin: Burundi: Congo: Central African Republic:
Côte d'Ivoire: Cameroon: Gabon: Nigeria: Mauritania: Mauritius: Niger: Rwanda:
Senegal: Togo; Zaire:

Statement of objectives/abstract:

Information on postharvest storage of food crops.

Contact in research organization:

Association des Universités Partiellement ou Entièrement de Langue Française
(AUFELF)

Record number (MFN): 02652

Official project title: RESEAU FEMMES ET DEVELOPPEMENT (FEM/DEV) [WOMEN IN DEVELOPMENT
NETWORK].

Implementing agency: ORSTOM/Institut Français de Recherche Scientifique pour le
Développement en Coopération.

Start date: 1983-00-00.

Country/countries: Africa: Côte d'Ivoire: Cameroon: Kenya: Madagascar: Mali: Niger:
Senegal:

Statement of objectives/abstract:

Information on role of women in rural development.

Contact in research organization:

Ms. Jeanne Bisili : (ISD-ORSTOM): 15-21. rue de l'École de Médecine: 75005
Paris: France

Record number (MFN): 02653

Official project title: RESEAU DEVELOPPEMENT (R/D) [DEVELOPMENT NETWORK].

Implementing agency: GRET.

Start date: 1982-00-00.

Country/countries: Africa: Burkina Faso: Cameroon: Comoros: Ethiopia: Madagascar: Niger:
Rwanda; Senegal; Somalia; United Republic of Tanzania:

Statement of objectives/abstract:

Information on appropriate technology.

Contact in research organization:

Mr. Lefort; Coordinator of Réseau Développement; GRET; 30, rue de Charonne;
75011 Paris; France

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Record number (MFN): 02655

Official project title: STRATEGIES ALIMENTAIRES (STRA) [FOOD STRATEGIES NETWORK].

Implementing agency: ORSTOM/Institut Francais de Recherche Scientifique pour le
Developpement en Cooperation.

Start date: 1982-00-00.

Country/countries: Africa; Burundi; Benin; Burkina Faso; Central African Republic; Congo;
Côte d'Ivoire; Ethiopia; Gabon; Kenya; Mali; Mauritania; Malawi; Niger; Rwanda;
Senegal; Somalia; Togo; Zaire; Zimbabwe;

Statement of objectives/abstract:
Information on food policies.

Contact in research organization:

Mr. M. Minier; Coordinator of GEMDEV; 12, Avenue de la Soeur Rosalie; 75013
Paris; France

Record number (MFN): 02657

Official project title: SAHELIAN INFORMATION NETWORK (SIN).

Implementing agency: Institute of Sahel (INSAH).

Start date: 1979-00-00.

Country/countries: Africa; Burkina Faso; Cape Verde; Gambia; Guinea-Bissau; Mali;
Mauritania; Niger; Senegal; Chad;

Statement of objectives/abstract:
Information on matters of interest to CILSS.

Contact in research organization:

Mr. T. Jallow; Director General; Institut du Sahel (INSAH); CILSS; B.P. 1530;
Bamako; Mali; Tel: (223) 22 23 37; Telex: 2432 INSAH; Fax: (223) 22-21-78

Record number (MFN): 02661

Official project title: PAN-AFRICAN NETWORKS FOR RURAL SOCIAL SCIENCE RESEARCH.

Implementing agency: Winrock International; Ford Foundation.

Start date: 1986-02-00. End date: 1990-02-00.

Country/countries: Africa; Benin; Ethiopia; Ghana; Liberia; Malawi; Mali; Nigeria; Sierra
Leone; Sudan; United Republic of Tanzania; Zambia; Zimbabwe;

Statement of objectives/abstract:

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Development of African countries has been hampered by the inadequate contribution of the rural social sciences to rural development. Several international agencies have tried to improve this situation but have made only modest accomplishments. The Pan-African Networks for Rural Social Science Research is a four year program set up to stimulate sub-Saharan Africans to conduct research on rural development issues. The objectives of the networks are to: (1) encourage African scholars to conduct research contributing to better understanding of the social and economic problems faced by African countries; (2) develop networks of social scientists to stimulate discussion of development issues and to provide peer review of research and teaching activities; and (3) use the findings of the research studies in preparing relevant teaching materials and as a resource in making agricultural policy decisions.

Contact in research organization:

Dr. Paul T. Perrault, Field Office Coordinator, Winrock International, 08 B.P.
1603; Abidjan 08; Cote d'Ivoire; Tel: (225) 41-34-32; Telex: 26-138 RECTU-CI;
Fax: (225) 41-34-32; E-mail: DIALCOM. CIRES

Record number (MFN): 02665

Official project title: STRENGTHENING MAIZE AND CASSAVA RESEARCH IN ELEVEN COUNTRIES OF WEST AND CENTRAL AFRICA: PLAN OF ACTION.

Implementing agency: Ministere de la Cooperation (France).

Start date: 1988-12-00.

Country/countries: Africa; Benin; Cameroon; Congo; Gabon; Ghana; Guinea; Liberia; Nigeria; Sierra Leone; Togo; Côte d'Ivoire;

Statement of objectives/abstract:

The CGIAR Task Force on Sub-Saharan Africa has undertaken an initiative to deal with the maize and cassava research needs of coastal West and Central Africa. The principal objective of the initiative was to draw a plan of action to strengthen, in a cost-effective way, the infrastructure and research capacity of the national agricultural research systems (NARS) in West and Central Africa in order to increase their research impact on maize and cassava production (the predominant crops in the region) and to facilitate collaboration both between the NARS, and between IARCs and the NARS. The initiative was implemented in three phases: (1) desk study of all available documentation on the NARS; (2) visits to participating countries and to IITA; and (3) regional consultations.

Contact in research organization:

Dr. Laurence D. Stifel, Director General, International Institut of Tropical Agriculture (IITA), Oyo Road, PMB 5320; Ibadan, Nigeria; Tel: 400300; 400313; Telex: TDS IBA NG 20311 (Box 015); Cable: TROPFOUND. IKEJAMr. Pierre Dubreuil, Coordinator of the Initiative, CIRAD, 42, rue Scheffer, 75116 Paris, France; Tel: 47.04.32.15; 47.55.15.30; Telex: 648729; 620871

SPAAR Information System

Record number (MFN): 02732

Official project title: RESEARCH, COORDINATION, AND TRAINING FOR IMPROVED LIVESTOCK PRODUCTION IN SUB-SAHARAN AFRICA.

Implementing agency: Commission of the European Communities.

Start date: 1989-00-00. End date: 1992-00-00.

Country/countries: Africa; Botswana; Ethiopia; Côte d'Ivoire; Niger; Togo; Senegal; Zimbabwe;

Statement of objectives/abstract:

The International Livestock Centre for Africa (ILCA) will work with the regional agricultural research organizations of Botswana, Ethiopia, Cote d'Ivoire, Niger, Togo, Senegal, and Zimbabwe on research into: (1) draft animals; and (2) small ruminants (milk and meat). The aim of the draft animal research is to: (i) develop a research and data exchange network between ILCA and four countries (Botswana, Ethiopia, Togo, and Senegal); (ii) intensify the use and improve the feeding of draft animals in the semi-arid and high-altitude regions; and (iii) identify constraints and develop suitable techniques for the use of draft animals in regions where the practice is not common. The small ruminant scheme would investigate the different production systems which would include a sizeable small ruminant component and would improve stock management and feeding methods to reduce the risk of diseases in the six countries. The research activities would be backed up by intensive training schemes. The training component would improve the numbers and standard of African researchers and ensure proper dissemination of information on draft animals and small ruminants.

Contact in research organization:

International Livestock Center for Africa (ILCA): P.O. Box 5689; Addis Abeba; Ethiopia; Tel: (251-1) 613 215; Telex: 980-21207 ILCA ET; Fax: (251-1) 611 892; E-mail: 157.CG1070; Cable: ILCAF

Record number (MFN): 02738

Official project title: IMPROVEMENTS TO MILLET, SORGHUM, COWPEA, AND MAIZE CROPS IN THE SAHEL.

Implementing agency: Commission of the European Communities.

Country/countries: Africa; Burkina Faso; Cape Verde; Gambia; Guinea-Bissau; Mali; Mauritania; Niger; Senegal; Chad;

Statement of objectives/abstract:

This is a continuation of a first scheme financed under the 4th EDF from 1981-1987 (3 450 000 ECU), which developed cereal strains suitable for the various ecological conditions of the region. The project was evaluated in 1988 and based on the successful results, it was envisaged to mass produce and distribute seeds. The present phase would cover a transitional period during which support would be provided to the national seed services to reproduce seeds identified during phase one

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on a modest scale, and carry out testing in peasant environment. It would also study the means needed to mass produce and distribute the seeds to the maximum number of farmers. The research activities will be coordinated by INSAH.

Contact in research organization:

Mr. T. Jallow; Directeur General: Institut du Sahel (INSAH); CILSS; B.P. 1530; Bamako; Mali; Tel: (223) 22 23 37; Telex: 2432 INSAH; Fax: (223) 22 21 78

Record number (MFN): 02739

Official project title: MONITORING OF RENEWABLE NATURAL RESOURCES IN THE SAHEL.

Implementing agency: Commission of the European Communities.

Start date: 1989-00-00.

Country/countries: Africa; Burkina Faso; Cape Verde; Gambia; Guinea-Bissau; Mali; Mauritania; Niger; Senegal; Chad; Guinea;

Statement of objectives/abstract:

This proposal would cover a transitional programme between Phase I of a 5th EDF methodology development scheme and an operational phase involving the application of the techniques developed. The aims of Phase I was to continue theoretical and applied research, and develop a methodology to help monitor the renewable natural resources of the Sahelian countries and Guinea (primarily cereal crops), using remote sensing. An operational phase is being planned to extend the methods developed to the whole field of agriculture and to all nine countries of the Sahel (Burkina-Faso, Cap-Verde, Gambia, Guinea-Bissau, Mali, Mauritania, Niger, Senegal, and Tchad). The present funding would help continue the previous activities for a period of one year, evaluate the results, and prepare the operational phase.

Contact in research organization:

Mr. Aly Cisse; Secretaire Executif; Comite permanent Inter-Etats de Lutte contre la Secheresse au Sahel (CILSS); B.P. 7049; Ouagadougou; Burkina-Faso; Tel: 33078; 342 52; 343 55; Telex: 5263 COMITER OUAGA

Record number (MFN): 02754

Official project title: THIRD MULTI-STATE AGRICULTURAL DEVELOPMENT PROJECT.

Implementing agency: World Bank; Nigeria.

Start date: 1990-03-29. End date: 1995-03-31

Country/countries: Nigeria:

Statement of objectives/abstract:

Project would support policy approach and a number of initiatives which would boost small farmer production and incomes, the increased use of fertilizers and inputs, the expansion of maize production, the development of small-scale irrigation schemes

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using tubewells and pumps, and the expansion of new technologies in cassava multiplication and yam seed production. The objective of the project is to provide support to these initiatives, create suitable management systems in the states, while incorporating the lessons learnt to date and refining the organizational structures to achieve increasing sustainability. Support for the agencies of Federal Agricultural Coordinating Unit (FACU), Agricultural Projects Monitoring and Evaluation Unit (APMEU) and ADPLA were provided under the Agricultural Technical Assistance Project (Loan 2029-UNI) which will close in June 1989. Based on a critical examination of the functions of these agencies and their future role in relation to Nigeria's overall agricultural development efforts under the project, their roles, structure and functioning would be rationalized, and their operations streamlined and strengthened. Project would involve: (a) on-farm adaptive research through on-farm adaptive trials; (b) adaptive research on freshwater giant prawn and marine shrimp; (c) fish feed development; (d) marine inshore capture fisheries; and (e) adaptive technology.

Contact in research organization:

Director, Agricultural Sciences Department, Federal Ministry of Science and Technology, 9, Kofo Abayomi Street, Victoria Island, Lagos, Nigeria; Tel: 61 14 67

Record number (MFN): 02755

Official project title: NATIONAL SEED AND QUARANTINE PROJECT.

Implementing agency: World Bank; Nigeria.

Start date: 1990-12-10. End date: 1996-06-30.

Country/countries: Nigeria;

Statement of objectives/abstract:

The main objective of the project is to support the national goal of increasing agricultural production and farm income by ensuring institutional development for cost-effective and timely production and distribution of good quality seed of selected varieties. In particular, the project would assist in the formulation of a well-defined national strategy for: (i) institutional reform leading to changes in the roles and responsibilities of the public sector; (ii) accelerating development of the seed programs; (iii) pricing of seed; (iv) improving the effectiveness of seed certification; and (v) improving quality control operations. The project would include actions to strengthen the private sector and help to ensure availability of breeder and foundation seed of publicly bred varieties to private seed enterprises. Operations of public sector agencies for seed production, processing, and marketing would be reoriented along commercial lines to prepare them for possible future privatization. It would also improve the efficiency of the Plant Quarantine Service (PQS) through streamlining organizational and managerial procedures and by focussing programs on activities presenting the highest risks.

Contact in research organization:

Federal Ministry of Science and Technology; New Federal Secretariat Bldgs:

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Bedwell Road; Ikoyi; Lagos; Nigeria; Tel: 614250

Record number (MFN): 02756

Official project title: TREE CROPS (OILPALM, RUBBER).

Implementing agency: World Bank; Nigeria.

Start date: 1991-07-05. End date: 1997-06-01.

Country/countries: Nigeria;

Statement of objectives/abstract:

Oil palm planting, palm oil and rubber processing; technical assistance for management and technology improvement.

Contact in research organization:

Federal Ministry of Agriculture, Water Resources & Rural Development; New
Federal Secretariat Bldgs; Bedwell Road; Ikoyi; Lagos; Nigeria; Tel: 681896;
Telex: 22605 Director, Nigerian Institute for Oil Palm Research (NIFOR); Nigeria

Record number (MFN): 02759

Official project title: FORESTRY/ENVIRONMENT.

Implementing agency: World Bank; Togo.

Start date: 1995-00-00.

Country/countries: Togo;

Statement of objectives/abstract:

An omnibus program for protecting natural resources and mitigating environmental effects of growth.

Contact in research organization:

Ministry of Rural Development; ave de Sarakawa; Lome; Togo; Tel: 21-56-71
Ministry of Planning; Lome; Togo

Record number (MFN): 02761

Official project title: PILOT EXTENSION.

Implementing agency: World Bank; Zaire.

Start date: 1990-11-15. End date: 1992-12-31.

Country/countries: Zaire;

Statement of objectives/abstract:

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The project is designed to address the urgent need for effective agricultural extension and testing approaches adapted to Zaire. It would be implemented over a three year period and would include the following components: (a) strengthening management of extension services; (b) training of extension staff; (c) adaptive research; (d) establishment of monitoring and evaluation systems; and (e) studies.

Contact in research organization:

Department of Agriculture and Rural Development (Ministry of Rural Development);
B.P. 8722: Kinshasa-Gombe, Tel: 31821

Record number (MFN): 02779

Official project title: SOCIAL SCIENCE INTERFACE RESEARCH UNIT (SSIRU).

Implementing agency: The International Centre of Insect Physiology and Ecology.

Start date: 1989-00-00. End date: 1992-00-00.

Country/countries: Africa: Kenya; Zambia; Somalia; Côte d'Ivoire; Senegal; Rwanda.

Statement of objectives/abstract:

In order for ICIPE's work to be successful, there is an obvious need for an effective understanding of the sociocultural and economic environment within which IPM packages and methodologies are to be implemented. The proper appreciation of the social context of the resource-poor farmer is crucial in gaining scientific knowledge of the socio-cultural milieu of target communities, farmers' resource base, priorities and socioeconomic constraints. The SSIRU has identified key areas of emphasis which will help achieve the objectives. (a) development of an iterative research approach and a multidisciplinary methodology which will enable the Centre to gain the necessary understanding and a comprehensive view of the problem of pest and vector management constraints and their interactions as a means for achieving a clearer understanding of farmers' actions and capacity to adopt improved pest and vector management strategies, and how natural science can contribute to innovations in this area; (b) identification and analysis of farmers' indigenous technical knowledge in agriculture, animal and human health and indication of technological gaps; (c) analysis of forces of change (historical and contemporary, e.g., drought) which shape farmers' opportunities for technology adoption, innovation and receptivity to new or improved pest and vector management strategies; (d) incorporating socioeconomic insights in the Centre's biological research agenda which will contribute to an enhancement of the Centre's responsiveness to its constituency--the resource-poor farmers; (e) achieving synergism between farmers' production priorities and scientific research agenda; and (f) training.

Contact in research organization:

Professor Thomas R. Odhiambo: Director, The International Centre of Insect Physiology and Ecology (ICIPE); P.O. Box 30772; Nairobi, Kenya; Tel: 802501/3/9; Telex: 22053 ICIPE 25066 DUDU; Fax: 803360; Cable: ICIPE NAIROBI

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Record number (MFN): 02787

Official project title: ENVIRONMENT PROJECT (FORMERLY PILOT FOREST AND ENVIRONMENT PROJECT).

Implementing agency: World Bank; Zaire.

Start date: 1990-00-00.

Country/countries: Zaire;

Statement of objectives/abstract:

The objectives of this first phase project are: (i) strengthening the forest services of the Ministry of Environment achieve to a better control of logging (timber) concessions and experiment with sustainable forest management practices; (ii) promotion of agro-forestry (testing of farmers responsiveness to the soil conservation techniques developed by ISDR Bukavu, i.e., planting of nitrogen fixing species such as *Acacia auriculiformis* and grass planting and contour farming techniques) and village reforestation (promotion of village woodlots and the establishment of nurseries to produce tree planting materials to be sold to farmers), particularly in the eastern highlands, both through contracts with NGOs and private organizations in these areas and through more intensified collaboration with extension services, to which forest department personnel would serve as subject matter specialists; (iii) increased protection of parks and reserves through Institut Zairois pour la Conservation de la Nature (IZCN), including general support and protection of specific additional parks; and (iv) expanded research (establishment of trial plots to monitor the real effects of logging on the ecosystems of the tropical rain forest) and training in nature conservation, ethnography and forestry, as well as improvements in the present training system (strengthening the student selection process, improving the relevance of training, increasing the student success rates, and promoting applied research in coordination with Institut National pour l'Etude et la Recherche Agronomiques' (INERA) national program and research on biodiversity in the parks and reserves of Zaire).

Contact in research organization:

Department (Ministry) of the Environment, Conservation and Tourism: 15 ave des Cliniques; B.P. 1240; Kinshasa; Tel: 31252

Record number (MFN): 02321

Official project title: INVESTIGATION OF THE CAUSATIVE AGENTS OF GROUNDNUT ROSETTE DISEASE IN AFRICA.

Implementing agency: Commission of the European Communities.

Country/countries: Africa; Nigeria;

Statement of objectives/abstract:

Groundnut Rosette (GR) is a virus disease in Africa south of the Sahara, including Madagascar. Diseased plants do not bear nuts, are constantly present in low levels in large fields and are tolerated by the farmers. However, in some years, the

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disease occurs in epidemic proportions and leads to tremendous losses (greater than 80 percent) in yield. The main question is: What is the reason for a GR epidemic? To learn about this, the disease and its etiology has to be analysed mainly by local scientists. The objective of the project is to give tools to these scientists for their work (i.e. develop a simple GR diagnostic assay) and look at the genomic level in order to determine the nature of resistance in groundnut to the virus. It is hoped to stimulate a breeding program for resistant peanuts by developing an assay which detects a gene correlated with GR symptoms.

Contact in research organization:

Mr. R. Casper; Biologische Bundesanstalt fuer Land-u; Forstwirtschaft; Institut fuer Viruskraenkenheiten der Pflanzen; Messeweg 11/12; D-3300 Braunschweig, D; Federal Republic of Germany; Tel: (0531) 39.93.84; Fax: 531-39.92.39

Record number (MFN): 02840

Official project title: FOREST ECOLOGY AND TRAINING IN CAMEROON.

Implementing agency: Commission of the European Communities.

Country/countries: Cameroon;

Statement of objectives/abstract:

After a period of research training in Edinburgh, the following projects have been started by three Cameroon forestry graduates: (a) Project 1: The Selection and Propagation of High Performance Genotypes of Indigenous Cameroon Hardwoods. The objectives of this project are to: (i) develop three improvement technology to enhance the productivity of locally important hardwoods in Cameroon and to sustain their genetic resources; (ii) create vegetative propagation facilities at Mbalmayo, Cameroon; (iii) determine the requirements for root initiation in leafy stem cuttings of *Khaya ivorensis* and *Lovoa trichilioides*, and the sources of variation in rooting capacity determined by stock-plant management; (iv) establish clonal plants of *Lovoa trichilioides* in field trials for subsequent determination of genetic variability in growth rates, form, wood quality, etc.; (v) determine the performance of a number of *L. trichilioides* clones on sites prepared following the Manual and Mechanical Regrowth Methods and the complete clearance of all vegetation; (b) Project 2: The Role of Mycorrhizas in the Establishment of Indigenous Forest Trees of Cameroon. The objectives of this project are to: (i) identify the site preparation methods most appropriate for afforestation projects with indigenous species in West and Central Africa; (ii) develop techniques of extracting and identifying the endomycorrhizal fungi in soil samples from natural forest and *Terminalia ivorensis* plantations in the moist-deciduous forests of Cameroon; (iii) determine the ecology of these endomycorrhizal fungi and assess the extent to which various site preparatic.: methods affect the mycorrhizal populations found within *T. ivorensis* plantations; and (iv) identify and use the most successful symbiont to enhance the survival and growth of planted trees in Cameroon; and (c) Project 3: The Ecology of Natural and Man-made Forests in Cameroon, with reference to Nutrient Cycling. The objectives of this project are: (i) the identification of the most appropriate methods of site preparation for afforestation with indigenous hardwoods in Cameroon - as for Project

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2. but with special reference to soil fertility and nutrient cycling; (ii) to identify the changes in soil chemical and physical properties when natural forest is converted to *Terminalia ivorensis* plantations following various site preparation methods; (iii) to identify the changes occurring in these plantations with time, and hence the effect of the forest crop and its associated groundflora on soil properties; and (iv) to test the hypothesis that tropical plantations can improve the soil conditions and may therefore be beneficial to conservation. The United Kingdom Overseas Development Administration has agreed to fund the continuation of these projects for a further 2 years.

Contact in research organization:

Dr. R.R.B. Leakey; Institute of Terrestrial Ecology; Bush Estate; Penicuik;
Midlothian EH 26 OQB; Scotland; United Kingdom; Tel: (031) 445.43.43; 445.43.46;
Telex: 72579

Record number (MFN): 02847

Official project title: CHARACTERIZATION OF LYMPHOCYTES AND PRODUCTION OF INTERFERON AS PARAMETERS FOR DISTINGUISHING TRYPANOTOLERANCE IN ANIMALS AND PEOPLE.

Implementing agency: Commission of the European Communities.

Country/countries: Africa; Liberia; Burkina Faso;

Statement of objectives/abstract:

Trypanotolerance is an individual capacity of certain animals to develop a state of immunity which enables them to control a *Trypanosoma* infection. This immunity is thought to be labile and is abolished by several factors such as pregnancy and lack of food and water. In the recent years, it has been shown that animals (i.e. cattle: N'dama, Zebu, dtisch. Schwarzbunt, goats and ponies) infected with different species of trypanosomes (*T. congolense*, *T. vivax*, *T. brucei* and *T. evansi*) develop significantly rising numbers of nullcell-like lymphocytes. These cells are responsible for the antibody dependent cell-mediated cytotoxicity and are known to produce interferon (IFN).

Contact in research organization:

Prof. Dr. F. Hoerchner; Freie Universitaet Berlin; Institut fuer Parasitologie und Tropenveterinaermedizin; Fachbereich Veterinaermedizin; Koenigsweg 65; 1000 Berlin 37 (Zehlendorf); D; Federal Republic of Germany; Tel: (030) 8108-1310;
Telex: 018.40.19

Record number (MFN): 02848

Official project title: COMPARISON OF THE PRODUCTIVITY OF TRYPANOTOLERANT RUMINANTS.

Implementing agency: Commission of the European Communities.

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Country/countries: Togo;

Statement of objectives/abstract:

The objectives of this research are to improve livestock production in the tsetse-infested part of Southern Togo (Sous-Prefecture Agou) by improving the knowledge of: (a) the present status of trypanotolerant livestock kept in this area; (b) their genetic and acquired resistance (trypanotolerance); (c) their performance traits such as reproduction, viability and growth which can give suitable information on overall animal productivity and the economic consequences; and (d) environmental and other factors which influence the productivity such as climate, tsetse challenge, diseases, herd management.

Contact in research organization:

Dr. G. Steinacker; Deutsche Gesellschaft fuer Technische Zusammenarbeit (GTZ);
Fachbereich 113; Postfach 5130; D-6236 Eschborn 1 (bei Frankfurt am Main); D;
Federal Republic of Germany; Tel: (06196) 79 0; Telex: 407-501-0 gtz d

Record number (MFN): 02879

Official project title: OPTIMISATION OF NATURAL-CIRCULATION SOLAR-ENERGY TROPICAL CROP DRYERS.

Implementing agency: Commission of the European Communities.

Country/countries: Nigeria;

Statement of objectives/abstract:

Open-sun drying, the method most widely utilised in the tropics requires little or no investment in infrastructure but has numerous inherent limitations which dictate the need for more efficient and economic methods. The low capital and running costs of natural-circulation solar-energy dryers and the large decrease in losses associated with the drying process enable them to compete economically with open sun drying. This study has undertaken the first comprehensive monitoring and validated simulation modelling of the transient performance of a large-scale solar dryer over the range of tropical weather conditions.

Contact in research organization:

Dr. Brian Norton; Cranfield Institute of Technology; Solar Energy Technology
Centre; Bedford MK 43 0AL; United Kingdom; Tel: (0234) 75.01.11; Telex: 82.50.72
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Record number (MFN): 02884

Official project title: INVESTIGATIONS OF REQUIREMENTS FOR A NEW TECHNIQUE OF LARGE SCALE COCOA FERMENTATION ADAPTED TO LOCAL CONDITIONS IN GHANA.

Implementing agency: Commission of the European Communities.

SPAAR Information System

Country/countries: Ghana:

Statement of objectives/abstract:

The aim of the project is to investigate the traditional heap fermentation and to find out, which of its peculiarities have to be considered when changing the system to large scale fermentation. Although the heap fermentation has been studied extensively it is not known why the quality of traditionally fermented Ghanaian cocoa is superior to cocoa from large scale fermentations. The investigations performed were directed to gain analytical results for subsequent development of large scale methods. The development of methods for large scale fermentation is not the objective of this study.

Contact in research organization:

Prof. Dr. Boele Biehl; Technische Universität Braunschweig; Botanisches Institut; Postfach 3329; 3300 Braunschweig; D; Federal Republic of Germany; Tel: (0531) 391.36.32; Telex: 952.526

Record number (MFN): 02890

Official project title: CONSERVATION OF SOIL FERTILITY BY PEASANT FARMERS IN ATLANTIC PROVINCE, BENIN.

Implementing agency: Commission of the European Communities.

Country/countries: Benin;

Statement of objectives/abstract:

The aim of Etude des Systemes de Culture Traditionnelle et de leur Maitrise de la Fertilité (ESYCTRA) within Centre d'Action Regionale pour le Developpement Rural, Province Atlantique (CARDER) is to help farmers develop more intensive yet ecologically sustainable landuse systems. The ESYCTRA team sought to identify new cultivation techniques developed by peasants in Atlantic Province, Benin, to alleviate the problem of decreasing soil fertility, with a view to improving these indigenous innovations and/or extending them to other peasants or replacing them by innovations developed on agricultural research stations. The ultimate aim of the study is to improve the content of agricultural extension messages by including innovations which have proved to be suitable within the smallholder setting. The second major objective of the study is to explore and develop a participative method of research and development in ecologically-oriented agriculture. Ways have been sought of integrating the knowledge and skills of peasant farmers and development agents in different stages of problem diagnosis and experimentation in order to generate site-appropriate new technologies.

Contact in research organization:

Dr. J. Pfeiffer; Deutsche Gesellschaft fuer Technische Zusammenarbeit (GTZ); Fachbereich 113; Postfach 5180; D-6236 Eschborn (bei Frankfurt am Main); D; Federal Republic of Germany; Tel: (0619 6) 79-0; Telex: 407-501-0 gtz d

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Record number (MFN): 02901

Official project title: LACTIC ACID BACTERIA IN CASSAVA FERMENTATION FOR GARRI PRODUCTION.

Implementing agency: IFS.

Start date: 1981-00-00.

Country/countries: Nigeria:

Statement of objectives/abstract:

Gari is an important food in Nigeria and throughout West Africa. It is produced by fermentation of cassava. Several researchers have tried to characterize the microorganisms responsible for this fermentation and they have had various results. Ms Akpala will try to make a conclusive characterization of the microorganisms responsible for the texture and flavour of garri, using standardized methods. Seed cultures of the proper organisms will be made available to local producers which might then be able to reduce the production time of garri.

Contact in research organization:

Ms Erinma Akpala; Department of Microbiology; University of Nigeria; NSUKKA; Anambra State; Nigeria

Record number (MFN): 02902

Official project title: POST-HARVEST TECHNOLOGY OF ROOT AND TUBER CROPS: CASSAVA FERMENTATION.

Implementing agency: IFS.

Start date: 1982-00-00.

Country/countries: Cameroon;

Statement of objectives/abstract:

Products made from fermented cassava flour are eaten daily in Western and Central Africa. The processing of fermented cassava flour is carried out by old traditional methods which could be improved in many ways. Mr Numfor will investigate possibilities of improving the fermentation of cassava by reducing the fermentation time. He will also develop better drying and milling techniques and attempt to prolong the storage. He will also study the microorganisms involved in fermentation to develop better inocula.

Contact in research organization:

Mr Festus Numfor; Centre de Recherches Agronomiques; Institut de la Recherche Agronomique; (IRA); B P 13; NYOMBE; Cameroon

Record number (MFN): 02935

SPAAR Information System

Official project title: STUDIES ON FUNGAL CONTAMINATION OF OGIRI (FERMENTED SESAME SEED) AND POSSIBLE MYCOTOXIN PRODUCTION.

Implementing agency: IFS.

Start date: 1982-00-00.

Country/countries: Sierra Leone;

Statement of objectives/abstract:

The study of the presence of toxigenic fungi and mycotoxin in ogiri from Sierra Leone will now be extended to other areas of the country. Ms Jonsyn hopes to identify the microorganism(s) responsible for the fermentation. The moisture content, pH, and temperature of the fermenting mash will also be tested. Toxicity tests of the various fluorescent compounds isolated from mouldy ogiri will be carried out on bacteria, yeasts, and guinea pigs.

Contact in research organization:

Ms Felixina Jonsyn; Department of Biological Sciences; Njala University College; University of Sierra Leone; Private Mail Bag; FREETOWN; Sierra Leone

Record number (MFN): 02939

Official project title: DEVELOPMENT OF STARTER CULTURES FOR THE PRODUCTION OF INDIGENOUS FERMENTED FOOD CONDIMENTS.

Implementing agency: IFS.

Start date: 1979-00-00.

Country/countries: Nigeria;

Statement of objectives/abstract:

Dr Odunfa will develop starter cultures for the fermentation of African locust bean, iru, an important food flavouring condiment in West Africa. Appropriate microbial strains will be selected on the basis of their abilities to improve the nutritive value of the fermented products, accelerating the fermentation process, increasing the flavouring potential and eliminating off odours. Selected cultures will be mass produced on appropriate carriers. The conditions for mass production such as storage viability, moisture conditions and drying methods will be investigated. Consequently starters could then be factory grown and distributed to local producers in satchets to improve their product. Finally, the appropriate method for the preservation of the fermented product will be investigated.

Contact in research organization:

Dr S Ayo Odunfa; Department of Botany, University of Ibadan; IBADAN, Nigeria

Record number (MFN): 02940

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Official project title: CORN DOUGH FERMENTATION TO PRODUCE KENKEY, PORRIDGE AND OTHER GHANAIAN DISHES.

Implementing agency: IFS.

Start date: 1979-00-00.

Country/countries: Ghana;

Statement of objectives/abstract:

Fermented corn dough is common food in Ghana. Improper fermentation gives acidic or tasteless products, and undesirable microorganisms may have harmful effects on the product. Mr Nyako will isolate the microorganisms involved in the fermentation process, and study their biochemical characteristics and mode of preservation. Pure cultures will be inoculated on corn dough, as well as combinations, to determine suitable inoculum composition and amount to obtain a product of superior quality.

Contact in research organization:

Dr Kwaku Nyako; Department of Biological Sciences; University of Science and Technology; KUMASI; Ghana

Record number (MFN): 02943

Official project title: ETHNOBOTANIC INVESTIGATION OF PLANTS USED BY THE GHANAIAN TRADITIONAL HEALERS IN CURING DISEASES.

Implementing agency: IFS.

Start date: 1976-00-00.

Country/countries: Ghana;

Statement of objectives/abstract:

Mr Dokosi has already made a survey of many parts of Ghana to obtain information on the medical use of Ghanaian plants. With this complementary study, Mr Dokosi hopes to obtain further information as to the identification of plants and their medicinal value as well as descriptions of important drug recipes traditionally used. The project also includes a comparative study of plants used in a few other West African countries.

Contact in research organization:

Mr Oscar Dokosi; Department of Botany; University of Ghana; P O Box 54; LEGON; Ghana

Record number (MFN): 02949

Official project title: STUDIES ON CHRYSICHTYS SPP. IN RELATION TO PRODUCTIVITY.

Implementing agency: IFS.

Start date: 1974-00-00.

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Country/countries: Côte d'Ivoire;

Statement of objectives/abstract:

There are five species of *Chrysichtys* in Ivory Coast, mainly found in lagoons and river mouths. Slightly changed conditions seem to affect growth in some species. Dr Dia will study the growth and reproduction patterns of *Chrysichtys* spp. under different feeding conditions. Reproduction studies, including induced spawning experiments will also be carried out. The ultimate aim will be to improve aquaculture production.

Contact in research organization:

Dr Abdel Dia; Centre de Recherches Oceanographiques; B P V 18; ABIDJAN; Cote d'Ivoire

Record number (MFN): 02953

Official project title: ANTI-DIABETIC TRADITIONAL MEDICINAL PLANTS: METABOLIC EFFECTS.

Implementing agency: IFS.

Start date: 1980-00-00.

Country/countries: Ghana;

Statement of objectives/abstract:

The objective of the project is to set up laboratory animal assays corresponding to the different etiologies of Diabetes mellitus, and use them to test the effects of medicinal plants used to treat diabetes. The tests will involve measuring levels of certain metabolites, as it is expected that the anti-diabetic plant compound will have a normalizing effect on the level of some of these. It is expected that a better understanding of the mode of action of these plants will be obtained. Another possible benefit of the project would be that the efficacy of various plant preparations used against diabetes by herbalists in the country could be tested and evaluated.

Contact in research organization:

Dr Marian Addy; Department of Biochemistry; University of Ghana; P O Box 54; LEGON; Ghana

Record number (MFN): 02954

Official project title: SCHISTOSOMICIDE SCREENING AND EVALUATION OF NIGERIAN MEDICINAL PLANTS.

Implementing agency: IFS.

Start date: 1980-00-00.

Country/countries: Nigeria;

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Statement of objectives/abstract:

Schistosomiasis is one of the most common parasitic diseases in southern Nigeria. Dr Adewunmi will screen medicinal plant extracts for schistosomicidal activity by both in vitro and in vivo techniques. The toxicity of the promising extracts will be investigated, and pharmacological studies carried out. An efficient schistosomicidal plant extract could be a cheap way of controlling the occurrence of schistosomes.

Contact in research organization:

Dr Clement Adewunmi; Drug Research and Production Unit; Faculty of Pharmacy; Obafemi Awolowo University; ILE-IFE; Nigeria

Record number (MFN): 02955

Official project title: ISOLATION AND UTILIZATION OF ESSENTIAL OILS.

Implementing agency: IFS.

Start date: 1980-00-00.

Country/countries: Ghana:

Statement of objectives/abstract:

The demand for essential oils is large, and new sources would be of great economical interest. Dr Dzakpasu will work on lemon grass, *Cymbopogon citratus*, which is common in Ghana. The citral will be separated from the extracted oil and the d- and B-ionones synthesized. The physical properties of the products will be determined, and the yield and quality related to the type of grass, season of collection, efficiency of the extraction processes and the condensing agent. The effect of temperature, pressure and duration of some of the operations will also be studied. An appropriate processing method will be developed, and a cost/benefit analysis of the production carried out.

Contact in research organization:

Dr Alice Dzakpasu; Department of Chemistry; Faculty of Science; University of Cape Coast; CAPE COAST; Ghana

Record number (MFN): 02968

Official project title: CAGE FEEDING TO STUDY DIGESTIBILITY AND CONVERSION RATE OF SOME FORMULATED FEEDS FOR TILAPIA DISCOLOR IN LAKE BUSUMTWI.

Implementing agency: IFS.

Start date: 1981-00-00.

Country/countries: Ghana;

Statement of objectives/abstract:

Mr Oduro-Boateng will design and fabricate inexpensive cages for fish culture, using locally-available materials. He will then investigate the best feed rations for cage

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culture of *Tilapia discolor* in Lake Busumtwi. Information about the cage culture system thus devised will be disseminated to local fishermen around Lake Busumtwi.

Contact in research organization:

Mr Francis Oduro-Boateng; Technology Consultancy Centre; University of Science and Technology; KUMASI; Ghana

Record number (MFN): 02970

Official project title: VEGETABLE IMPROVEMENT: PROCESSING AND FRESH MARKET TOMATO BREEDING.

Implementing agency: IFS.

Start date: 1980-00-00.

Country/countries: Ghana;

Statement of objectives/abstract:

The tomato is an important vegetable in the daily diet of Ghanaian households. It is either consumed fresh or processed for consumption during the off-season. Production is however far below demand. Dr Agble will breed and select the most suitable cultivars for fresh consumption and for the processing industry, taking into consideration their tolerance to heat. The selected cultivars will be multiplied and supplied to the farmers for cultivation.

Contact in research organization:

Dr Francis Agble; /now at/ Regional Administration Office; P O Box 119; HO; V/R

Record number (MFN): 03002

Official project title: CASSAVA IMPROVEMENT BY REDUCTION OF THE RATE OF CYANHYDRIC ACID.

Implementing agency: IFS.

Start date: 1981-00-00.

Country/countries: Congo;

Statement of objectives/abstract:

Cassava is a staple of the diet in the Congo and constitutes the main source of carbohydrates of a large part of the population. Dr Dongala will make a systematic analysis of the various cassava varieties occurring in the Congo in order to identify varieties with a low content of hydrocyanic acid. Further agronomic studies of the selected varieties will then be done in order to improve their cultivation. He will also study the influence of different treatments (steeping, drying, cooking) on the content of hydrocyanic acid.

Contact in research organization:

Dr Emmanuel Dongala; Departement de Chimie; Faculte des Sciences; Universite

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Marien NGouabi; B P 69; BRAZZAVILLE; Congo

Record number (MFN): 03003

Official project title: IMPROVEMENT OF COWPEA CULTIVATION (VIGNA UNGUICULATA).

Implementing agency: IFS.

Start date: 1981-00-00.

Country/countries: Cameroon;

Statement of objectives/abstract:

Dr Mbouemboue will select new varieties of cowpea (*vigna unguiculata*) for high yield and resistance to diseases and insect pests. Adaptation to local cultivation practices will also be taken into consideration. A multi-F1 generation will be obtained by pyramidal crossing between eight parents. Five will be varieties obtained from the International Institute of Tropical Agriculture. Two of these (IT840-460 and IT845-275-9) are resistant to bruchidae; two others (IT835-872 and IT82D-875) are high-yielding in grain and green matter); and one (IT84E-124) is precocious. The final three varieties are local varieties and are selected for grain quality. The F2 generation, possessing great variability, will be established using the Bulk method, the single seed descent method, and the haploid method. The efficiency of each of these methods under tropical conditions will be compared.

Contact in research organization:

Mr Paul Mbouemboue; Departement d'Agriculture; Centre Universitaire de Dschang;
B P 222; DSCHANG; Cameroon

Record number (MFN): 03009

Official project title: STUDY OF BUSSEOLA FUSCA, A LEPIDOPTER ATTACKING MAIZE.

Implementing agency: IFS.

Start date: 1982-00-00.

Country/countries: Cameroon;

Statement of objectives/abstract:

Busseola fusca is the most common pest to attack maize crops in Cameroon and causes considerable losses. Mr Kome will study the population dynamics and the biology of *Busseola fusca* as well as the relation of host to parasite. He will carry out his project in close collaboration with advanced research laboratories in France, in particular for the identification of specific sexual pheromones. The final aim is to establish efficient biological control techniques.

Contact in research organization:

Mr Jules-Jacques Kome; Departement d'Agriculture; Centre Universitaire de Dschang; B P 96; DSCHANG; Cameroon

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Record number (MFN): 03015

Official project title: ECOLOGICAL STUDY OF THE BRUCHIDAE ATTACKING LEGUMINOUS PLANTS IN THE CONGO.

Implementing agency: IFS.

Start date: 1982-00-00.

Country/countries: Congo;

Statement of objectives/abstract:

Important parts of the harvests of leguminous plants (beans, peas and groundnuts) are destroyed by Bruchidae coleopters during storage. Dr Nkouka will study the ecology and population dynamics of one Bruchidae, *Callosobruchus maculatus* or *Caryedon serratus* (the most common species in the Congo), that contaminate leguminous plants in the fields and continue to develop during storage. He will compare the importance of the attacks due to *C. maculatus* or *C. serratus* under different cultivation systems and investigate whether there could be seasonal variability. The results will be used to develop protection methods which can be easily implemented by small farmers.

Contact in research organization:

Dr Nazaire Nkouka; Direction Generale de la Recherche Scientifique; B P 2499; BRAZZAVILLE; Congo

Record number (MFN): 03019

Official project title: IMPROVEMENT OF MIXED CROPPING IN TRADITIONAL FARMING SYSTEMS IN CAMEROON.

Implementing agency: IFS.

Start date: 1982-00-00.

Country/countries: Cameroon;

Statement of objectives/abstract:

Mixed cropping accounts for 95 per cent of food crop production in Cameroon. Dr Tetio-Kagho aims to collect detailed information on the potential constraints of this system, and his study will be carried out near Dschang, which is located in the west part of Cameroon. A survey establishing data on the environmental conditions, the cultivation practices used by local farmers, and the various associations between crops will be conducted. Dr Tetio-Kagho will then evaluate the different constraints in relation to planting density, geometric arrangement of crops, and date of sowing. The associations to be studied are those between different legumes-cereals and coffee-legumes-cereals. The ability of these crops to complement and tolerate one another will be studied with the ultimate goal of optimizing the use of arable soil.

Contact in research organization:

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Mr Fidele Tetio-Kagho; Departement d'Agriculture; Centre Universitaire de
Dschang; B P 96; DSCHANG; Cameroon

Record number (MFN): 03030

Official project title: EXAMINATION OF TECLEA CAMPESTRIS AND VEPRIS LOUISII, ENDEMIC
CAMEROONIAN RUTAÇEAE SPP. WITH REPUTED MEDICINAL PROPERTIES.

Implementing agency: IFS.
Start date: 1980-00-00.
Country/countries: Cameroon:

Statement of objectives/abstract:

Little general phytochemical work has been done in Cameroon considering the rich variety of plants. At the same time it is estimated that 80% of the population relies on traditional medicinal plants for their health care. Dr Foyere Ayafor will do phytochemical work on two plants used in traditional medicine, namely *T. campestris* and *V. louisii*. Phytochemical work on *T. campestris* may also help to clarify the botanical position of this plant.

Contact in research organization:

Dr Johnson Foyere Ayafor; Departement de Chimie Organique; Faculte des Sciences;
Universite de Yaounde; B P 812; YAOUNDE; Cameroon

Record number (MFN): 03044

Official project title: SOLAR DRYING OF TIMBER IN GHANA - DEVELOPMENT OF LOW-COST
TECHNOLOGY FOR RURAL AND AGRICULTURAL CONSTRUCTION.

Implementing agency: IFS.
Start date: 1979-00-00.
Country/countries: Liberia;

Statement of objectives/abstract:

A problem for wood utilization in Ghana is the lack of efficient lumber drying facilities. Air drying is inexpensive but takes much time; kiln dryers are efficient, but expensive to install and operate. Dr Okoh will investigate the feasibility of using solar energy for lumber drying. The effect of different materials on the efficiency of the solar dryer will be determined as well as absorption and heat losses. The drying capacity of the chosen dryer model will be determined in terms of drying rate and cost. The results will be compared with those obtained by the drying methods used at present, such as steam heated kilns and air drying.

Contact in research organization:

Dr Isaac Okoh; College of Agriculture and Forestry; University of Liberia;
MONROVIA; Liberia

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Record number (MFN): 03052

Official project title: STUDY OF ANTHRACNOSE AND PUTREFACTION OF CASSAVA IN CONGO.

Implementing agency: IFS.

Start date: 1979-00-00.

Country/countries: Congo;

Statement of objectives/abstract:

Cassava is the most common tuber crop in Congo and is important as a staple food. Large losses are caused by anthracnose and putrefaction. Mr Makambila will study the epidemiology of the disease as well as the relation between parasite-host plant, and climatic factors. The mode of transmission of anthracnose will also be investigated. A selection of cultivars will be made to obtain disease-resistant stock.

Contact in research organization:

Mr Casimir Makambila; Departement de Biologie et Physiologie Vegetale; Faculte des Sciences; Universite Marien NGouabi; B P 69; BRAZZAVILLE; Congo

Record number (MFN): 03063

Official project title: IMPROVEMENT OF SOIL FERTILITY UNDER DIFFERENT CULTIVATION SYSTEMS.

Implementing agency: IFS.

Start date: 1979-00-00.

Country/countries: Congo;

Statement of objectives/abstract:

The Congo is heavily dependent on agricultural production and improvement of cultivation practices is a national research priority. Mr Dzaba will determine the present and potential carrying capacity of the soils by making laboratory and field studies of soil deficiencies. Nutritional requirements of different crops will be investigated under different cultivation systems, and suitable fertilization formulas will be developed.

Contact in research organization:

Mr Desire Dzaba; Centre de Recherches Agronomiques; B P 28; LOUDIMA; Congo

Record number (MFN): 03090

Official project title: STUDIES ON THE FEEDING OF TILAPIA.

Implementing agency: IFS.

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Start date: 1983-00-00.

Country/countries: Côte d'Ivoire;

Statement of objectives/abstract:

The importance of aquaculture in the Ivory Coast is increasing. Mr Cisse is going to investigate the possibilities of using locally available agroindustrial wastes as food for Tilapia. He will also try to establish suitable feed, which has little animal protein as possible and is adapted to local economic conditions. This feed can then be produced and used in other aquaculture systems in the country.

Contact in research organization:

Mr Adou Cisse; Centre de Recherches Oceanographiques; B P V 18; ABIDJAN; Cote d'Ivoire

Record number (MFN): 03092

Official project title: CATTLE BREEDING IN THE ITURI PROVINCE IN NORTHEAST ZAIRE.

Implementing agency: IFS.

Start date: 1983-00-00.

Country/countries: Zaire;

Statement of objectives/abstract:

Cattle breeding is only partially recognized as a national asset for Zaire, inasmuch as ownership of cattle is a mark of affluence for the owners. As a consequence there has been little interest in developing cattle breeding and improving cattle production. Mr Bamahuga is going to make a socio-economic study of the cattle breeding in the province of Ituri in Northeastern Zaire. This survey will provide background information for plans to improve cattle breeding in Zaire and for pointing out the economic importance and possibilities of cattle in Zaire.

Contact in research organization:

Mr Loni Buga Bamuhiga; Institut Supérieur Pédagogique; B P 106; BUTA; Zaire

Record number (MFN): 03093

Official project title: IMPROVEMENTS OF THE TRADITIONAL POULTRY BREEDING.

Implementing agency: IFS.

Start date: 1983-00-00.

Country/countries: Côte d'Ivoire;

Statement of objectives/abstract:

The need to investigate and improve local poultry breeds in Africa is great. So far, the poultry industry is largely based on industrial farming utilizing expensive imported feed. Mr Monnet intends to study the potentials of both animals and

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feed-stuff. He will analyse local agricultural by-products and their effects on the animals. He will also do genetic studies on such characteristics as heat resistance and feed-conversion.

Contact in research organization:

Mr Leon Monnet; Ecole Nationale Supérieure Agronomique; (ENSA); B P 35; ABIDJAN 08; Cote d'Ivoire

Record number (MFN): 03094

Official project title: RUMEN DEGRADABILITY OF TROPICAL FORAGES, BROWSE PLANTS AND AGRO-INDUSTRIAL BY-PRODUCTS.

Implementing agency: IFS.

Start date: 1983-00-00.

Country/countries: Nigeria;

Statement of objectives/abstract:

The majority of ruminants in Nigeria has, so far, been fed on forages. The potential nutritional value of browse plants and agro-industrial by-products has recently been recognized. Dr Smith's study will use a nylon bag technique on fistulated animals for evaluating these feeds. The study will involve cattle, sheep and goats of local breeds.

Contact in research organization:

Dr Olanrewaju Smith; Department of Animal Science; Obafemi Awolowo University; ILE-IFE; Nigeria

Record number (MFN): 03105

Official project title: BIOLOGICAL NITROGEN FIXATION STUDIES IN FAST-GROWING TREE LEGUMES IN SIERRA LEONE.

Implementing agency: IFS.

Start date: 1983-00-00.

Country/countries: Sierra Leone;

Statement of objectives/abstract:

Local and exotic species of *Leucaena* and *Glinicidia* will be propagated in representative upland soils of Sierra Leone. Their nodulation will be assessed, rhizobia isolated, and effectiveness tested according to established rhizobiological techniques. Studies will also be conducted to determine the effect of environmental factors on selected strains under conditions characteristic of Sierra Leone soils. Strains which demonstrate the best symbiosis and ability to survive in the soils will be used to inoculate tree legumes which will be introduced into the agroforestry systems of Sierra Leone.

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Contact in research organization:

Dr Denis Amara; Department of Agronomy; Njala University College; University of
Sierra Leone; Private Mail Bag; FREETOWN; Sierra Leone

Record number (MFN): 03106

Official project title: SILVICULTURAL STUDIES IN THE SUDANESE SAVANNAH PLANT-SOIL
RELATIONS.

Implementing agency: IFS.

Start date: 1983-00-00.

Country/countries: Cameroon;

Statement of objectives/abstract:

The fuelwood shortage in the Sahel zone has led to the systematic pillage of the few remaining forests. One way of reversing this situation is to plant tree species that are both fast growing and adapted to the environment. Preliminary trials of exotic species such as *Eucalyptus camaldulensis*, *Acacia holosericea* and *Cassia siamea* have shown that performance varies according to soil properties and the depth of the water table. Dr Eyog Matig will study the soil properties, water dynamics and root penetration of the trees in experimental plots. The ultimate objective is to provide recommendations on which tree species are best adapted to the soils in the Sudanese savannah of Cameroon.

Contact in research organization:

Dr Oscar Eyog Matig; Centre de Recherches Forestieres; B P 2102; YAOUNDE;
Cameroon

Record number (MFN): 03110

Official project title: CULTIVATION OF FENUGREEK SEED AND THE ISOLATION AND QUANTIFICATION
OF ITS STERIODAL SAPOGENINS.

Implementing agency: IFS.

Start date: 1983-00-00.

Country/countries: Nigeria;

Statement of objectives/abstract:

Fenugreek, *Trigonella foenumgraecum* (Fam. Fabaceae) is a legume traditionally grown as a peasant crop in Mediterranean, Middle and Far Eastern countries. It is also used for flavouring purposes and its seeds have been shown to contain diosgenin which is used as a starting material for steroid production. Dr Elujoba intends to carry out a cultivation trial on fenugreek, which is not indigenous to Nigeria. At a later stage,

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he intends to analyze qualitatively and quantitatively the steroidal saponins produced by the plant under various cultivation conditions. The ultimate objective is to start diosgenin production in Nigeria.

Contact in research organization:

Dr Anthony Elujoba: Department of Pharmacognosy; Obafemi Awolowo University; ILE-IFE; Nigeria

Record number (MFN): 03111

Official project title: PHARMACOLOGICAL AND TOXICOLOGICAL STUDIES OF THE ALKALOID CRYPTOLEPINE AND ITS MODIFICATIONS IN ANIMAL MODELS.

Implementing agency: IFS.

Start date: 1983-00-00.

Country/countries: Ghana;

Statement of objectives/abstract:

Cryptolepine, an alkaloid of *Cryptolepis sanguinolenta*, possesses anti-inflammatory, antimicrobial, and analgesic properties. The anti-inflammatory potency is enhanced when sub-threshold concentrations are combined with sub-clinical concentrations of other non-steroidal anti-inflammatory agents. The plant aqueous extract is used in Ghanaian traditional medicine to treat malaria and venereal disease. Dr Noamesi will study the acute and chronic toxicity of cryptolepine and other anti-inflammatory drug combinations. Blood chemistry analytical methods will be used to investigate the effect of cryptolepine and its combinations on chronically treated laboratory animal blood to determine effects on liver, kidney, lung, and heart functions. Blood glucose, hematocrit, erythrocyte effects will also be investigated. The results of the study would provide indications of safety in the long term therapeutic use of this compound and its possible development as a drug.

Contact in research organization:

Dr Benjamin Noamesi: Department of Pharmacy; Kumasi University; KUMASI; Ghana

Record number (MFN): 03115

Official project title: EVALUATION OF THE TECHNOLOGICAL CHARACTERISTICS OF UNDERUTILIZED TREE SPECIES IN IVORY COAST.

Implementing agency: IFS.

Start date: 1983-00-00.

Country/countries: Côte d'Ivoire;

Statement of objectives/abstract:

Ivory coast has almost 4 million hectares of forests representing about 120 million

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m3 wood, counting only trees with a diameter more than 60 cm. In these forests there are about 30 tree species which are not well known and which constitute a substantial economical potential. Mr Kouasse Achi intends to study the technological properties of some of the less known tree species in Ivory Coast. This involves measurement of technical parameters like bending characteristics, elasticity of the wood, axial compression, suitability for nailing etc. The results of this project will indicate the possible use of the various tree products.

Contact in research organization:

Mr Kouassi Achi Edi; /until 1990-04-/Forest Products Laboratory, One Gifford Pinchot Drive; MADISON; Wisconsin 53705-2398; U S

Record number (MFN): 03125

Official project title: IMPROVEMENT OF PRODUCTION FROM LOCAL AQUACULTURE STATIONS.

Implementing agency: IFS.

Start date: 1984-00-00.

Country/countries: Congo;

Statement of objectives/abstract:

Support for aquaculture in Congo mostly goes to stations which produce fish for consumption and alevins for fish farmers. The present production level is not sufficient for the demand, and Ms Koubakouenda wants to direct her research towards practical solutions. She will try to improve reproduction by mass production of *Tilapia nilotica* alevins. She will also try to improve production with simple techniques and prepare new feed with local agricultural by-products.

Contact in research organization:

Ms Henriette Koubakouenda; Centre Piscicole National de Djoumouna; B P 98; BRAZZAVILLE; Congo

Record number (MFN): 03135

Official project title: COLLECTION AND EVALUATION OF VIGNA VEXILLATA.

Implementing agency: IFS.

Start date: 1984-00-00.

Country/countries: Zaire;

Statement of objectives/abstract:

Vigna vexillata is a leguminosae which produces grain as well as edible tubers. Mr Kembola will collect cultivars within the country and introduce exotic cultivars. The natural variability between cultivars will be evaluated using characteristics such as flowering, tuber formation, and nutritive value. Improved cultivars will then be produced through genetic improvement studies.

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Contact in research organization:

Mr Kejuni Kembola: Centre Regional d'Etudes Nucleaires de Kinshasa: B P 868:
KINSHASA X1: Zaire

Record number (MFN): 03138

Official project title: SCREENING CASSAVA (MANIHOT ESCULENTA) FOR LOW CYANIDE (HCN) IN
TUBEROUS ROOTS AND LEAVES.

Implementing agency: IFS.

Start date: 1984-00-00.

Country/countries: Zaire:

Statement of objectives/abstract:

Cassava, which is an important staple food in Zaire, contains cyanogenic glucosides which release HCN by hydrolysis. This poses a health hazard and some reports have indicated the role of cassava in the etiology of endemic goitre and cretinism in Zaire. Dr Mahungu will screen a large cassava germplasm collection for low HCN content in tuberous roots and in leaves. These characteristics will then be incorporated in high-yielding cassava varieties resistant to pests and diseases.

Contact in research organization:

Dr Nzola-Meso Mahungu: Programme National Manioc (PRONAM); B P 11635; KINSHASA
1: Zaire

Record number (MFN): 03141

Official project title: ANTIMICROBIAL PROPERTIES OF SELECTED LOCAL PLANT SPECIES.

Implementing agency: IFS.

Start date: 1984-00-00.

Country/countries: Sierra Leone;

Statement of objectives/abstract:

In Sierra Leone several plant species are used in traditional medicine to cure human diseases and in agriculture to cure plant diseases. Dr MacFoy will study the antibacterial and antifungal properties of the following plants: *Ageratum conyzoides*, *Ficus exasperata*, *Lantana camara*, *Colocasia esculenta*, *Hyptis suaveolens*, *Selaginella myosurus*, *Diospyrus hendelotti*, *Mangifera indica*, *Mareya micrantha*. With the help of bioassays the active principles will be isolated and chemically characterized.

Contact in research organization:

Dr Cyrus MacFoy; Department of Botany; Fourah Bay College; University of Sierra
Leone; FREETOWN; Sierra Leone

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Record number (MFN): 03143

Official project title: PRACTICAL VILLAGE TECHNOLOGY FOR BIOLOGICAL CONVERSION OF AGRICULTURAL WASTES.

Implementing agency: IFS.

Start date: 1984-00-00.

Country/countries: Sierra Leone;

Statement of objectives/abstract:

Various types of agricultural wastes (rice straw and husk, peanut shells) are left to deteriorate. The wastes constitute a potential source of energy, especially in rural areas. Dr Massaquoi will study the bioconversion of these wastes to biogas. The fermentation process in various mixtures of agricultural wastes and manure will be investigated. These studies should result in the design of fermentors which could be used in rural areas.

Contact in research organization:

Dr Joseph Massaquoi, Department of Mechanical Engineering, Fourah Bay College; University of Sierra Leone; FREETOWN; Sierra Leone

Record number (MFN): 03149

Official project title: ZOOONOSIS OF HUMAN SLEEPING SICKNESS IN CAMEROON: CATTLE, SHEEP, GOATS AND SWINE AS FACTORS.

Implementing agency: IFS.

Start date: 1984-00-00.

Country/countries: Cameroon;

Statement of objectives/abstract:

There are many foci of sleeping sickness in Cameroon and control teams are working on diagnosis and treatment of human African trypanosomiasis. The results of the research indicate that the domestic animals in the endemic areas need the same diagnosis and treatment in order to completely control disease. Dr Asonganyi is going to isolate trypanosomes from cattle, goats, sheep and swine in human sleeping sickness areas of Cameroon. Among the isolates *Trypanosoma brucei gambiense*-like trypanosomes will be characterized using the blood incubation infectivity test and eventually iso-enzyme electrophoresis on thin layer starch gels.

Contact in research organization:

Dr Tazoacha Asonganyi; Department of Immunology, C U S S; University of Yaounde; YAOUNDE; Cameroon

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Record number (MFN): 03154

Official project title: PHOSPHORUS REQUIREMENTS OF UPLAND RICE IN LIBERIA.

Implementing agency: IFS.

Start date: 1984-00-00.

Country/countries: Liberia;

Statement of objectives/abstract:

Phosphorus (P) deficiency is a major problem in upland humid tropical soils. Five sources of P (including rock phosphates, partially acidulated rock phosphates, commercial grade superphosphates) and five doses of P will be utilized in a field experiment arranged in a randomized block design. Data on dry matter yield, grain yield, and nutrient concentration at two growth stages will be taken. Soil analyses for major nutrients before and after planting will also be done. The ultimate aim is to determine the dose at which the best source of P will result in optimum yield of upland rice.

Contact in research organization:

Dr James Kiazolur; College of Agriculture and Forestry; University of Liberia; P
O Box 9020; MONROVIA; Liberia

Record number (MFN): 03155

Official project title: BIOECOLOGICAL STUDY OF PHENACOCCLUS MANIHOTI, AN INSECT ATTACKING CASSAVA IN GABON.

Implementing agency: IFS.

Start date: 1984-00-00.

Country/countries: Gabon;

Statement of objectives/abstract:

Cassava is a staple food in Gabon. It is attacked by *P. manihoti*, a mealybug which was observed for the first time in Gabon in 1975. Mr Boussienguet will study the influence of abiotic factors (temperature, hygrometry, pluviometry, host plant) on the mealybug's sporadic appearance and growth. He will also inventory the indigenous natural enemies of *P. manihoti* in Gabon and study their bio-ecology and interrelations before introducing exotic natural enemies.

Contact in research organization:

Mr Juste-Lie Boussienguet; Departement de Biologie; Faculte des Sciences;
Universite O Bongo; B P 1886; LIBREVILLE; Gabon

Record number (MFN): 03156

Official project title: PRODUCTION OF SINGLE CELL PROTEIN FROM INDUSTRIAL WASTES.

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Implementing agency: IFS.
Start date: 1984-00-00.
Country/countries: Nigeria;

Statement of objectives/abstract:

There is an acute shortage of protein in Nigeria. The accelerated industrial development in the country produces huge amounts of industrial and agricultural wastes which may be utilized with limited energy inputs. Dr Oguntimein will investigate the conditions for the production of single-cell protein from industrial and agricultural wastes. The wastes to be studied include those from fruit canning factories and breweries. The microbial protein is primarily intended for use as animal feed.

Contact in research organization:

Dr Gbemeloluwa Oguntimein; Department of Food Technology; Faculty of Technology; University of Ibadan; IBADAN; Nigeria

Record number (MFN): 03157

Official project title: DEVELOPMENT OF WEANING FOOD FROM LOCAL FERMENTED FOOD.

Implementing agency: IFS.
Start date: 1984-00-00.
Country/countries: Nigeria;

Statement of objectives/abstract:

Malnutrition is a major cause of mortality in children under 5 years in Nigeria. Locally-available, low-priced staple foods could be used as weaning food after being improved by fermentation. Dr Achinewhu will try to develop an acceptable product by fermenting the seeds of melons, oil beans and pumpkins. These products will be used to supplement corn which is commonly used. The resulting products will be subjected to nutritional evaluations and toxicological tests.

Contact in research organization:

Dr Simeon Achinewhu; Rivers State University of Science and Technology; P M B 5080; PORT HARCOURT; Nigeria

Record number (MFN): 03162

Official project title: SEASONAL INFLUENCE ON THE REPRODUCTIVE EFFICIENCY OF THE WEST AFRICAN DWARF (WAD) GOAT: THE HORMONAL PROFILE DURING THE REPRODUCTIVE CYCLE.

Implementing agency: IFS.
Start date: 1985-00-00.

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Country/countries: Nigeria;

Statement of objectives/abstract:

Seasonal high temperatures in tropical areas affect reproduction adversely in cattle. Data regarding the effect of high temperatures on goats are lacking. Dr Akusu will study the profile of reproduction hormones in the West African Dwarf goat to obtain basic data. Oestrus will be synchronized with PGF2a and animals in heat will be bred naturally. Blood collection will be done through pregnancy, parturition and until the first postpartum oestrus. Progesteron, Estradiol 17. and Hydrocortisone will be measured using radioimmunoassay.

Contact in research organization:

Dr Matthew Akusu; Veterinary Surgery and Reproduction; University of Ibadan; IBADAN; Nigeria

Record number (MFN): 03171

Official project title: STUDIES ON THE IMPROVEMENT OF SOME LOCALLY FERMENTED PLANT PRODUCTS AS FOOD SUPPLEMENTS.

Implementing agency: IFS.

Start date: 1985-00-00.

Country/countries: Nigeria;

Statement of objectives/abstract:

Locust beans, melon seeds, and soybeans are plant products which are often fermented and used as food supplements in Nigeria. Dr Abiose intends to study the traditional ways of processing these beans and seeds in order to assess the nutritive value of the resulting food products. She will introduce modern techniques to scale up and improve the traditional processes to prepare fermented foods. The results will be communicated to local food technologists and processors with the aim to improve food quality in rural areas.

Contact in research organization:

Dr Sumbo Abiose; Department of Food Sciences and Technology; Obafemi Awolowo University; ILE-IFE; Nigeria

Record number (MFN): 03172

Official project title: AN INVESTIGATION INTO THE ANTI-MALARIAL PROPERTIES OF SOME WOOD AND WOODY PLANTS OF SIERRA LEONE.

Implementing agency: IFS.

Start date: 1985-00-00.

Country/countries: Sierra Leone;

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Statement of objectives/abstract:

A fair number of local medicinal plants are used in Sierra Leone by healers to treat malaria. Following a screening, nine plants with considerable antimalarial use were selected for detailed studies. Dr Robert will make extracts from these plants testing the extracts for anti-malarial activities. He will also carry out tests for anti-viral, anti-bacterial and anti-protozoal effects. The extracts showing positive effects will be subjected to separation procedures in order to purify and identify the active constituents.

Contact in research organization:

Dr Gregory Robert: Njala University College: University of Sierra Leone: Private Mail Bag; FREETOWN: Sierra Leone

Record number (MFN): 03173

Official project title: PHYTOCHEMICAL STUDIES ON TWO PLANTS WITH REPUTED INSECTICIDAL AND PHARMACOLOGICAL PROPERTIES: PACHYPODANTHIUM SP. AND THOMANDESIA LAURIFLORA.

Implementing agency: IFS.

Start date: 1985-00-00.

Country/countries: Cameroon;

Statement of objectives/abstract:

Thomandersia lauriflora is used in Cameroon traditional medicine for multipurpose medicinal purposes. Pachypodanthium sp. is traditionally used to treat coughs, asthma, tumors, and also as an insecticide to preserve grain. Dr Ngadjui will extract dried plant materials from the two plants and then try to isolate constituents with pharmacological and insecticidal effects using classical and modern chromatographic methods. The resulting active preparations will be standardised for local use.

Contact in research organization:

Mr Tchaleu Ngadjui: Faculty of Science: University of Yaounde; Box 812; YAOUNDE; Cameroon

Record number (MFN): 03177

Official project title: STUDY ON THE IMMUNOLOGICAL VALUE OF COLOSTRUM FROM TROPICAL CATTLE.

Implementing agency: IFS.

Start date: 1985-00-00.

Country/countries: Zaire;

Statement of objectives/abstract:

Knowledge about the immunological composition of the colostrum from tropical cattle

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will help to define the immunological conditions for calves in tropical countries. This can help planning for animal management and breeding in these countries. Dr Tshibangu will collect milk samples from calved cows and study the immunoglobuline content. The calves will also be studied and certain parameters will be recorded, such as weight before and after sucking and immunoglobuline content in blood and specific antibodies.

Contact in research organization:

Dr Mpumbua Luvuenge Tshibangu; Faculte de Medecine Veterinaire; Universite de Lubumbashi; B P 1325: LUBUMBASHI; Zaire

Record number (MFN): 03179

Official project title: ECOLOGICAL AND BIOLOGICAL STUDY OF CRICETOMYS SP: EVALUATION OF ITS REPRODUCTIVE POTENTIAL IN THE PENINSULA OF KALOUM.

Implementing agency: IFS.

Start date: 1985-00-00.

Country/countries: Guinea;

Statement of objectives/abstract:

The Kaloum peninsula in the southwest of Guinea has two species of Cricetomys. Mr Sankhon will study the growth, nutrition and productivity of this species in captivity. The aim is to establish management and nutrition techniques which can be used to promote the breeding of the species among the rural population.

Contact in research organization:

Mr Ibrahima Sankhon; Direction de Recherche Scientifique et Technique (DRST); B P 561: CONAKRY; Guinea

Record number (MFN): 03180

Official project title: COLLECTION, EVALUATION AND GENETIC IMPROVEMENT OF COCOYAMS.

Implementing agency: IFS.

Start date: 1985-00-00.

Country/countries: Côte d'Ivoire;

Statement of objectives/abstract:

The biological and physiological characteristics of ten cocoyam (*Xanthosoma* spp. and *Colocasia esculenta*) from Cote d'Ivoire have been described in an earlier phase of this project. Dr Grangbe now aims to evaluate the agronomic potential and nutritive value of the local cultivars. The first experiment will be performed in forest region in the southern part of the country and will compare the yields of the cultivars using randomized Fischer plots. The cultivars will be selected according to the yields obtained under intensive cultivation conditions. Biochemical analysis of the

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amino acid content, total proteins, minerals, vitamins, and calcium oxalate in tubers and leaves will be performed to characterize each cultivar. New accessions from regions not yet explored and foreign cultivars will also be added to the local collection.

Contact in research organization:

Dr Felix Gnanngbe; Laboratoire de Genetique; Faculte des Sciences; Universite d'Abidjan; 22 B P 582; ABIDJAN 22; Cote d'Ivoire

Record number (MFN): 03182

Official project title: PRODUCTIVITY AND PROFITABILITY OF CASSAVA AND MAIZE INTERCROPPING SYSTEMS.

Implementing agency: IFS.

Start date: 1985-00-00.

Country/countries: Togo.

Statement of objectives/abstract:

Cassava and maize, the two most important food crops in southern Togo, are frequently intercropped. Mr Adri will study the traditional cultivation systems used. The influence of planting date, plant densities, and meometric pattern and fertilization on yields will be evaluated. Special attention will be given to the labour requirements of the different systems. The experiments will be performed both in experimental stations and in farmers' fields.

Contact in research organization:

Mr Kwami Adri; Direction de la Recherche Agronomique; B P 2318; LOME; Togo

Record number (MFN): 03183

Official project title: GENETIC VARIABILITY IN GROWTH AND NITROGEN FIXATION OF SOME FAST-GROWING TREE SPECIES IN LOW PHOSPHATE SOIL.

Implementing agency: IFS.

Start date: 1985-00-00.

Country/countries: Nigeria.

Statement of objectives/abstract:

Dr Sanginga will investigate the genetic variability in a number of fast-growing trees, i.e., *Leucaena* and *Glinicidia*, associated with the alley-farming systems for their potential to grow and to fix atmospheric nitrogen in low phosphate soils. About 25 provenances of each species will be first screened for their tolerance to low phosphate. Selected provenances will be then tested over various levels of phosphate in the field and examined for their ability to fix nitrogen. This research will determine if the effect of phosphate operates via plant growth potential or primarily

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on factors affecting growth of Rhizobium in the rhizosphere, infection process, nodule formation and development on nitrogen fixing processes themselves.

Contact in research organization:

Mr Nteranya Sanginga: IITA; Private Mail Bag: 5320; Oyo Road; IBADAN; Nigeria

Record number (MFN): 03186

Official project title: NATURAL PRODUCTS FROM SOME IMPORTANT AGRICULTURAL PEST INSECTS OF NIGERIA.

Implementing agency: IFS.

Start date: 1985-00-00.

Country/countries: Nigeria:

Statement of objectives/abstract:

Biological pest control is becoming increasingly attractive for Nigeria. Various chemical attractants/repellents such as pheromones have been successfully used to control some insects. Prof Otagbemirot intends to identify, isolate, and characterize chemical compounds of ecological interest from a selection of insect pests in Nigeria. The ecological significance of the isolated products will be investigated by both field and laboratory bioassays. The insects chosen for these studies are Messor galla, Trinervitermes geminatus, Odontotermes smeathmani, Odontotermes magdalenae, Mirdae spp. and Mylabris spp.

Contact in research organization:

Prof T Otagbemirot: Abubakar Tafawa Balewa College; Ahmadu Bello University; P M B 0248; BAUCHI; Nigeria

Record number (MFN): 03187

Official project title: REGULATION OF THE METABOLISM IN ONCHOCERCA VOLVULUS.

Implementing agency: IFS.

Start date: 1985-00-00.

Country/countries: Cameroon:

Statement of objectives/abstract:

Onchocerciasis or river blindness, caused by the nematode Onchocerca volvulus, affects at least 17 million people in tropical countries. There are currently no safe drugs from complete elimination of adult worms, which can live for up to 15 years in human beings. Dr Titanji aims to identify and study new candidate drugs from medicinal plants. Among the plant filaricides recently discovered by Dr Titanji and others at the University of Yaounde are oliverine and carapoxide A from Pachypodanthium staudtii and Carapa procera, which will be evaluated pharmacologically in the mouse filarial models. In other studies phosphoproteins

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will be examined as new filarial drug targets.

Contact in research organization:

Dr V P K Titanji: Biochemistry Service: Faculty of Science: University of
Yaounde: Box 812: YAOUNDE: Cameroon

Record number (MFN): 63190

Official project title: DIGESTIBILITY AND BIO-AVAILABILITY OF AGRICULTURAL BY-PRODUCTS IN
NIGERIA FOR USE AS FEED FOR CLARIAS SP. AND HETEROBRANCHUS SP.

Implementing agency: IFS.

Start date: 1986-00-00.

Country/countries: Nigeria.

Statement of objectives/abstract:

The demand for fish and fish products is high in Nigeria. Fish farmers face a competitive demand from poultry and livestock producers for traditional feed. Alternative ingredients must, therefore, be used to produce fish feed, but reliable information on digestibility and bio-availability of the local products is not available. Dr Mgbenka will study the potential of some local agricultural by-products in different diets for *Clarias* and *Heterobranchus*. The digestibility of the diets will be determined by the indirect chromic oxide method and protein, energy, moisture, and ash contents will also be recorded.

Contact in research organization:

Dr Bernard Obialo Mgbenka: Department of Zoology: University of Nigeria: NSUKKA:
Anambra State: Nigeria

Record number (MFN): 63191

Official project title: PATHOGENS AND DISEASES OF CULTURED FISH IN THE SOUTHERN STATES OF
NIGERIA.

Implementing agency: IFS.

Start date: 1986-00-00.

Country/countries: Nigeria.

Statement of objectives/abstract:

In spite of the existence of several hatcheries in Nigeria, inadequate supply of catfish (*Heterobranchus*, *Clarias*) fingerlings remains a factor which hinders expansion of their aquaculture. Preliminary studies have shown that substantial losses of catfish fry are due to pathogenic bacteria, protozoa, and monogenetic trematodes. Dr Obiekezie will study in greater detail the pathogenic causes of catfish fry/fingerling mortality in five private and government owned hatcheries in South Nigeria. Experimental investigations in aquaria and hatchery raceways will

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determine the influence of environmental and host factors in the development and pathology of the identified pathogenic diseases. Effective prophylactic and chemotherapeutic regimes will be developed during drug trials to minimise the pathogenic factor in catfish.

Contact in research organization:

Dr Augustine Obiekezie; Institute of Oceanography; University of Calabar; P M B 1115; CALABAR; Nigeria

Record number (MFN): 03192

Official project title: TRYPANOSOMIASIS AND TRYPANOTOLERANCE IN SMALL RUMINANTS IN THE OUEST-FORESTIERE REGION OF THE IVORY COAST.

Implementing agency: IFS.

Start date: 1986-00-00.

Country/countries: Côte d'Ivoire;

Statement of objectives/abstract:

One of the main constraints for improvement of animal production in the Ivory Coast is trypanosomiasis. Its incidence among small ruminants is not well known, and Mr Douati will undertake a study on this problem in one region of the country. The presence and ecology of the Glossina fly, as well as the infection rate in the small ruminants, will be recorded.

Contact in research organization:

Mr Alphonse Douati; Region Ouest-Forestiere de la Cote d'Ivoire; Ministère du Développement Rural; B P 45; KORHOGO; Cote d'Ivoire

Record number (MFN): 03193

Official project title: GENETIC STUDY OF THE AUBERGINE CULTIVARS SOLANUM AETHIOPIUM AND S. MACROCARPON AND THEIR RELATION WITH THE WILD SPECIES SOLANUM ANGUIVI AND.

Implementing agency: IFS.

Start date: 1986-00-00.

Country/countries: Côte d'Ivoire;

Statement of objectives/abstract:

The main centre of genetic diversity for African eggplants (or aubergines) is the Ivory Coast, where they are nutritionally very important. However, little work has been done to improve them. Mr Kouassi will collect cultivars of aubergines (Solanum aethiopicum and S. macrocarpon) and related wild species (Solanum anguivi and S. dasycarpum). Phenotypic variability will be described in relation to enzymatic variability. A hybridization programme will be undertaken to search for gene tracers

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of the morphological and enzymatic characters.

Contact in research organization:

Mr Auguste Kouassi: Faculte des Sciences et Techniques; Universite d'Abidjan; 04
BP 322; ABIDJAN; Cote d'Ivoire

Record number (MFN): 03195

Official project title: MICROPROPAGATION AND IN VITRO REJUVINATION OF TERMINALIA SUPERBA.

Implementing agency: IFS.

Start date: 1986-00-00.

Country/countries: Congo:

Statement of objectives/abstract:

Terminalia superba is a tree species used in afforestation programmes in the Congo. Methods of propagation by cuttings of selected material have been developed in order to mass produce plants of high quality for an industrial plantation project of 25 000 hectares. As the level of rejuvenation reached is not satisfactory, Mr Miateo will use instead an in vitro culture technique. Methods will be developed to disinfect the vegetative material before it is used. The composition of a culture medium will be determined. Different in vitro culture methods will be carried out using buds, nodes, and principally meristems. Methods which entail less risk for genetic deviation will be carried out. The methods will be compared in terms of the risk for genetic deviation. Root formation and root penetration studies will be performed before the in vitro plants are transferred to the fields.

Contact in research organization:

Dr Sebastien Miateo: Centre Technique Forestier Tropical; B P 764; POINTE-NOIRE;
Congo

Record number (MFN): 03197

Official project title: STUDY ON THE NUTRITIVE VALUE OF SOME TRADITIONAL GRAINS IN THE
IVORY COAST.

Implementing agency: IFS.

Start date: 1986-00-00.

Country/countries: Côte d'Ivoire:

Statement of objectives/abstract:

Few of the grains traditionally consumed in the Ivory Coast have been analysed for their nutritive value. Some such as 'Nere' (Parkia biglokosa), 'Pistache' (Cucumeropsis edulis) and 'Akpi' (Riziodendron kandeloti) have protein contents approaching those of peanut or even soybean. Dr Kouame will analyse these grains for their contents of protein, nitrogen, lipids, glucids, energy minerals and vitamins as

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well as for the presence of anti-nutritive substances. The effects of traditional cooking methods on the nutritive value will be studied. Growth studies on rats fed different grain products will also be performed.

Contact in research organization:

Dr K Kouame: Departement de Biologie et Physiologie Animale; Universite Nationale de Cote d'Ivoire; 04 BP 322 ABIDJAN 04; Cote d'Ivoire

Record number (MFN): 03198

Official project title: STUDY OF THE MICROBIOLOGY AND BIOCHEMISTRY OF PALM WINE.

implementing agency: IFS.

Start date: 1986-00-00.

Country/countries: Congo.

Statement of objectives/abstract:

The quality of palm-wine produced in Congo and other tropical countries is variable. Dr Louembe will study the microbiology and biochemistry of the fermentation process to be able to standardize and optimize palm-wine production.

Contact in research organization:

Dr D Louembe; Faculte des Sciences; Universite Marien NGouabi; B P 69; BRAZZAVILLE; Congo

Record number (MFN): 03199

Official project title: DEVELOPMENT AND UTILISATION OF PLANT DERIVED INSECTICIDES WITH SPECIAL REFERENCE TO COMPONENTS FROM THE NEEM TREE AND JATROPHA SPECIES.

Implementing agency: IFS.

Start date: 1986-00-00.

Country/countries: Ghana.

Statement of objectives/abstract:

Large amounts of expensive synthetic pesticides are currently imported to Ghana. Dr Cobbinah will develop a technique for identifying the insecticidal potential of indigenous plant substances. The study will involve isolation, characterization, and utilization of purified and semi-purified active substances. The sensory and behavioural responses of insects exposed to the substances will be tested. The ultimate goal is to develop cheap, biodegradable insecticides.

Contact in research organization:

Dr J Cobbinah; Department of Entomology; Forest Products Research Institute; University of Kumasi; P O Box 63; KUMASI; Ghana

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Record number (MFN): 03200

Official project title: SECONDARY METABOLITES OF USEFUL PLANTS OF SIERRA LEONE. A
COMPILATION OF A PHARMACOPOEA OF USEFUL PLANTS OF SIERRA LEONE.

Implementing agency: IFS.
Start date: 1986-00-00.
Country/countries: Sierra Leone:

Statement of objectives/abstract:

A majority of the people in Sierra Leone consult traditional healers for medical care. Dr Faulkner will identify and perform pharmacological screening of plant material used in traditional medicine or in agriculture as biological controls for pests. Isolation, characterization, and testing of active compounds will be performed in order to evaluate scientifically their properties.

Contact in research organization:

Dr D Faulkner; Department of Chemistry; Fourah Bay College; University of Sierra Leone; FREETOWN; Sierra Leone

Record number (MFN): 03201

Official project title: CONTROL OF CALLOSBRUCHUS MACULATUS WITH TWO INSECTICIDAL PLANTS
AND IDENTIFICATION OF THEIR BIOACTIVE COMPONENTS*.

Implementing agency: IFS.
Start date: 1986-00-00.
Country/countries: Nigeria:

Statement of objectives/abstract:

Vigna unguiculata (cowpea) is the cheapest source of protein in Africa. While production is increasing, loss due to insect pests in storage is high. In preliminary studies, two Nigerian plants, *Petiveria alliacea* and *Piper guineense* have been shown to exhibit toxicity to the larval and adult stages respectively of the seed beetle *Callosobruchus maculatus*. The bioactive components will be identified and tested for toxicity in order to develop an effective formulation for pest control.

Contact in research organization:

Dr J Olaiya; Department of Plant Science; Cbafemi Awolowo University; ILE-IFE; Nigeria

Record number (MFN): 03208

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Official project title: EVALUATION OF THE PERFORMANCE OF SHEEP AND GOATS FED CROP RESIDUES CHEMICALLY TREATED WITH ORGANIC WASTE ASHES.

Implementing agency: IFS.

Start date: 1986-00-00.

Country/countries: Nigeria:

Statement of objectives/abstract:

Most of the literature on chemical treatment of poor quality forages and crop residues advise the use of either sodium hydroxide, urea or related chemicals. In a country like Nigeria these chemicals must be imported and are not easily available to rural farmers. Dr Adebowale will study the performance of sheep and goats fed crop residues treated with organic waste ashes. Both wet and dry treatment will be studied and parameters to be recorded include voluntary dry matter intake, digestibility, metabolizable energy and nitrogen retention and animal productivity.

Contact in research organization:

Dr Ebenezer Adebowale; Institute of Agricultural Research and Training; Obafemi Awolowo University; P M B 5029; Moor Plantation; IBADAN; Nigeria

Record number (MFN): 03213

Official project title: STUDIES ON THE BIOLOGY OF CALLOSOBRUCHUS SUBINNOTATUS (COLEOPTERA: BRUCHIDAE) AN INSECT PEST OF STORED BAMBARA GROUNDNUTS.

Implementing agency: IFS.

Start date: 1986-00-00.

Country/countries: Nigeria:

Statement of objectives/abstract:

Dr Mbata intends to investigate the life history of the bruchid *Callosobruchus subinnotatus* and carry out studies on the biochemical losses and reduction in five germination potentials following infestation of the varieties of Bambara groundnuts. The instars are to be determined by dissecting out larvae at intervals and measuring their pronotum. Infested seeds of various varieties will be planted in germination trays to determine the effect of infestation on seed viability. The biochemical changes associated with the infestation of the seeds are to be determined by examining changes in the lipid portions. These studies will reveal varieties that can remain biochemically stable and viable even after infestation.

Contact in research organization:

Dr G N Mbata; Imo State University; P M B 2000; OKIGWE; Imo State; Nigeria

Record number (MFN): 03215

Official project title: STUDIES ON THE FERMENTATION PRODUCTION OF LAFUN AND FUFU FROM

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CASSAVA AND THEIR STORAGE.

Implementing agency: IFS.

Start date: 1986-00-00.

Country/countries: Nigeria:

Statement of objectives/abstract:

Lafun and fufu are fermented products of cassava which are consumed in West Africa. Dr Oyewole will study the enzymatic activities of the major microorganisms previously isolated from fermenting cassava during lafun and fufu production. Further investigation will be carried out on the conditions for optimising the fermentation process. The microbiological quality, the post-processing and shelf-life stability of the products will be studied and the development of a suitable processing method for dried fufu will be investigated.

Contact in research organization:

Dr O Oyewole: Department of Food Technology, University of Agriculture Abeokuta:
P M B 2240: ABEOKUTA: Ogun State: Nigeria

Record number (MFN): 03216

Official project title: PROTEIN AND VITAMIN-FORTIFICATION STUDIES OF FERMENTED AND UNFERMENTED MAIZE AND CASSAVA FOODS.

Implementing agency: IFS.

Start date: 1987-00-00.

Country/countries: Nigeria:

Statement of objectives/abstract:

Ogi and gari are carbohydrate-rich fermented products from maize and cassava respectively. They contribute a substantial proportion of the regular diet of millions of Africans, including weaned infants and children. Dr Sokari will attempt to increase protein and vitamin contents of ogi and gari by adding seeds and leaves of winged bean *Psophocarpus tetragonolobus*. The studies will also include the effects of variations in processing and fermentation techniques on the cyanide content of 'gari' as well as flavours, and acceptability of the products.

Contact in research organization:

Dr T Sokari: Department of Biological Sciences, Rivers State University of Science and Technology, P M B 5080: PORT HARCOURT; Nigeria

Record number (MFN): 03218

Official project title: STUDY ON THE DEVELOPMENT OF SEVERAL OIL PLANTS OF ZAIRE.

Implementing agency: IFS.

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Start date: 1986-00-00.

Country/countries: Zaire;

Statement of objectives/abstract:

Little is known about the plants of forests and savannas in Zaire and their commercial potential. Mr Malumba will investigate potential oil plants in Zaire, study the composition of their seeds, and develop small scale technologies for oil extraction and use of the waste products. The long-term objective is to encourage the cultivation of interesting species useful for food and food-related industries.

Contact in research organization:

Mr M Malumba; Faculte des Sciences; Universite de Kinshasa; B P 190; KINSHASA XI; Zaire

Record number (MFN): 03220

Official project title: ARTIFICIAL SPAWNING OF PRAWNS (PENAEUS DUORARUM AND PRODUCTION OF POST-LARVAE.

Implementing agency: IFS.

Start date: 1987-00-00.

Country/countries: Benin;

Statement of objectives/abstract:

The prawn species *Penaeus duorarum* exists in modest numbers in Benin but are not much exploited because it is not economic. Mr Akambi will establish a laboratory to study the reproduction of this species and the optimum production conditions with the aim to introduce prawn farming.

Contact in research organization:

Mr Liamidi Akambi; Service des Peches Maritimes; Direction Nationale des Peches; B P 383; COTONOU; Benin

Record number (MFN): 03229

Official project title: IDENTIFICATION OF INFECTIOUS BURSAL DISEASE (GUMBORO) VIRUS SEROTYPES IN NIGERIA.

Implementing agency: IFS.

Start date: 1987-00-00.

Country/countries: Nigeria;

Statement of objectives/abstract:

Infectious bursal disease (IBD) is a highly infectious disease of chickens and turkeys and is still difficult to control in Nigeria despite widespread vaccination with imported vaccines. Antigenic variations between field and vaccine IBD viruses have

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been suspected to be responsible for vaccination failures. To date IBD-virus serotypes existing in Nigeria are unknown. Dr Abdu will isolate and identify IBD-virus in poultry in Nigeria, adapt these serotypes to grow in cell culture and attenuate them to reduce virulence as a step towards indigenous vaccine production.

Contact in research organization:

Dr Paul Abdu; Department of Veterinary Surgery and Medicine; Ahmadu Bello University; SAMARU-ZARIA; Nigeria

Record number (MFN): 03230

Official project title: STUDY OF THE EMBRYONIC AND POST-EMBRYONIC DEVELOPMENT OF THE LYMPHOID TISSUES OF THE HELMET GUINEA FOWL.

Implementing agency: IFS.

Start date: 1987-00-00.

Country/countries: Nigeria;

Statement of objectives/abstract:

The possibility of increasing protein intake in Nigeria seems to lie with the poultry industry. Poultry farming to a large extent relies on imported exotic birds and problems with diseases are often encountered. The indigenous guinea fowls are known to have a higher resistance to most avian diseases, and they could serve as a pool for good parent stocks for the poultry industry. Dr Ornyeanusi will study the lymphoid system, its anatomy and histology as well as ultrastructure. The effects of antigens of infectious bursal disease and Newcastle disease on the lymphoid organs will also be examined. This information will be used to select and breed for high disease resistance in this species.

Contact in research organization:

Dr Barth Ornyeanusi; Department of Veterinary Anatomy; Ahmadu Bello University; ZARIA; Nigeria

Record number (MFN): 03232

Official project title: INVESTIGATION INTO THE EFFECTS OF CHRONIC AND SUBCLINICAL TRYPANOSOMIASIS ON REPRODUCTIVE PERFORMANCE OF MALE PIGS IN TSETSE INFESTED ZONE OF NIGERIA.

Implementing agency: IFS.

Start date: 1987-00-00.

Country/countries: Nigeria;

Statement of objectives/abstract:

The modern pig industry is rapidly increasing in the tropics. One of the major constraints is disease and in some parts of Nigeria porcine trypanosomiasis seriously

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affects productivity. Dr Omeke will undertake a study on the effects of chronic and subclinical trypanosomiasis on the reproductive performance of male pigs. The characteristic clinical symptoms and pathogenesis will be determined. Boars will also be experimentally infected with *Trypanosoma brucei* and the semen characteristics, histopathology of testes, and mating behaviour will be studied.

Contact in research organization:

Dr Benjamin Omeke; Department of Veterinary Physiology and Pharmacology; Faculty of Veterinary Medicine; University of Nigeria; NSUKKA; Anambra State; Nigeria

Record number (MFN): 03237

Official project title: STUDIES ON THE LEAF SPOT DISEASES OF TELFAIRIA OCCIDENTALIS 'UGU' IN NIGERIA.

Implementing agency: IFS.

Start date: 1987-00-00

Country/countries: Nigeria;

Statement of objectives/abstract:

The cucurbit *Telfairia occidentalis* is grown in Southeast Nigeria for its edible fruits and young shoots which are used as vegetables. The leaves of *Telfairia occidentalis* are also rich in proteins and vitamins. However, very little is known on the origin, distribution and agronomy of the plant. An investigation will be undertaken firstly to carry out a survey of the leaf spot diseases of *T. occidentalis* in Nigeria, and secondly to study the host-pathogen relationships and control of the diseases. Dr Nwugo will evaluate the incidence of the leaf spot diseases in the field, isolate and identify microorganisms from collected plants, examine the leaf spot lesions under microscope and perform pathogeneticity tests using spore-mycelial suspensions.

Contact in research organization:

Dr Martin Nwugo; School of Agriculture and Agricultural Technology; Federal University of Technology; OWERRI; Imo State; Nigeria

Record number (MFN): 03238

Official project title: DROUGHT RESISTANCE OF SOYBEAN IN THE NIARI VALLEY.

Implementing agency: IFS.

Start date: 1987-00-00.

Country/countries: Congo;

Statement of objectives/abstract:

The Niari valley is characterized by an erratic pluviometry with fluctuations up to 70 per cent around the mean. The second cultivation cycle (March-June) is especially

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affected by irregular and sometimes insufficient rainfall. However, this second cultivation cycle is necessary to obtain viable seeds for some soybean varieties. Mr Mavoungou-Zaou will identify drought resistant varieties from field trials, and experiment on a second cultivation cycle with some of the cultivars. The mechanisms of resistance to specific conditions of water shortage will be determined. A breeding programme could be developed according to the experimental results.

Contact in research organization:

Mr Celestin Mavoungou-Zaou; Laboratoire des Legumineuses; Centre de Recherches Agronomiques; B P 28; LOUDIMA; Congo

Record number (MFN): 03240

Official project title: STUDIES ON GROWTH AND ASPECTS OF PRIMARY METABOLISM OF MANIHOT ESCULENTA (CASSAVA) SEEDLINGS. THE EFFECT OF WATER STRESS.

Implementing agency: IFS.

Start date: 1987-00-00.

Country/countries: Nigeria;

Statement of objectives/abstract:

There is little information available on the primary metabolism of cassava; most of the work has dealt with dry matter accumulation, growth rate, leaf areas and photoperiodicity. However, data on establishment of cassava seedlings during water stress are scanty, although the seedlings are subjected to water stress in the southern part of Nigeria during the months of January to mid-May. Ms Nwosu will undertake a detailed study of the influence of water stress on different parameters such as the relative growth rate, leaf area ratio, net assimilation rate and dry matter accumulation. The levels of pigment formation will be determined, as well as the activities of different enzymes and metabolites. The data obtained could give valuable information on the establishment of cassava seedlings during periods of water stress.

Contact in research organization:

Ms Akaja Love Nwosu; Department of Botany; University of Port Harcourt; P M B 5323; PORT HARCOURT; Nigeria

Record number (MFN): 03241

Official project title: INVESTIGATION OF THE SUSCEPTIBILITY TO INFESTATION OF SOME NEWLY INTRODUCED GHANIAN MAIZE VARIETIES TO SITOPHILUS ZEAMAI.

Implementing agency: IFS.

Start date: 1987-00-00.

Country/countries: Ghana;

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Statement of objectives/abstract:

Maize is a staple food for more than 40 per cent of the population of Ghana. There have been increased efforts to improve production by introducing high yielding, improved varieties to the small-scale farmers, who produce over 70 per cent of maize requirements. However, a lot of these varieties are damaged by during storage. Mr Kwame Akorli will investigate some newly-introduced varieties for their susceptibility to the main storage pest, *Sitophilus zeamais*. Improvements will be made on the post-harvest technology of those varieties with good agronomic characteristics that are highly susceptible to infestation.

Contact in research organization:

Mr Kwame Vowotor; Department of Analysis; Food Research Institute; P O Box M 20; ACCRA; Ghana

Record number (MFN): 03242

Official project title: ECONOMICALLY OPTIMUM RATE OF PHOSPHORUS FERTILIZATION OF UPLAND-RICE ON GRAVELLY, SANDY-CLAY LOAM SOILS IN SIERRA LEONE.

Implementing agency: IFS.

Start date: 1987-00-00.

Country/countries: Sierra Leone;

Statement of objectives/abstract:

Over 80 per cent of the upland soils on which rice is grown in Sierra Leone are gravelly, sandy-clay loam soils, highly-weathered acid with low organic matter content, and high phosphorus fixing capacity. Phosphorus fertilization has been arbitrary in the absence of soil tests and field experiments. Mr Conteh will study the phosphorus status of the soils and experiment different levels of phosphorus fertilization in the field. From the response curve a graphical technique will be developed to determine the economical optimum level of fertilization. The experiments will be conducted in the five agro-ecological zones.

Contact in research organization:

Mr Mohamed Conteh; Department of Soil Science; Njala University College; University of Sierra Leone; Private Mail Bag; FREETOWN; Sierra Leone

Record number (MFN): 03243

Official project title: STUDIES ON BIOLOGICAL CONTROL OF THE BLACK COWPEA APHID, *APHIS CRACIVORA*, BY TWO INDIGENOUS COCCINELLID SPECIES IN NIGERIA.

Implementing agency: IFS.

Start date: 1987-00-00.

Country/countries: Nigeria;

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Statement of objectives/abstract:

The black cowpea aphid, *Aphis craccivora*, is a widespread pest on cowpeas and causes significant damage in the tropics and subtropics. Up to now, little attention has been given to control by natural enemies, such as coccinellids. The project presented by Dr Ofuya is aimed at determining the response of the coccinellid predators to prey availability in the field and evaluate their efficiency using the mechanical exclusion technique.

Contact in research organization:

Dr Thomas Ofuya; Department of Crop Production; The Federal University of Technology; P M B 704; AKURE; Nigeria

Record number (MFN): 03244

Official project title: ADAPTABILITY AND SELECTION STUDIES OF POTATO (*SOLANUM TUBEROSUM*) IN THE WESTERN HIGHLAND REGION OF CAMEROON.

Implementing agency: IFS.

Start date: 1987-00-00.

Country/countries: Cameroon;

Statement of objectives/abstract:

The potato has great potential to improve the nutritional status of the Cameroon people, but yields are very low and Cameroon is forced to import potatoes despite the fact that the western highlands are well suited for potato production. The present low yields of adapted varieties are due to high disease incidence and poor agronomic knowledge, poor storage, and marketing arrangements. The main objective of Ms Aighewi is to collect, test, and select potato varieties on the basis of adaptability, high stable yields, disease resistance, and consumer acceptability.

Contact in research organization:

Ms Beatrice Aighewi; Department of Agriculture; University Centre of Dschang; P O 96; DSCHANG; Cameroon

Record number (MFN): 03247

Official project title: REGENERATION OF THE HUMID FOREST IN MAYOMBE, CONGO.

Implementing agency: IFS.

Start date: 1987-00-00.

Country/countries: Congo;

Statement of objectives/abstract:

Dr Pangou will study the role which seeds and seedlings play in the dynamics of the natural regeneration of the tropical humid forest in Mayombe, Congo. The investigations will be made on the seeds and seedlings of some species of the primary

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forest. Their morphology and anatomy will be studied and the factors influencing the conservation of the seeds and the development of the seedlings will be determined.

Contact in research organization:

Dr Valentin Pangou: C E R V E: Ministere de la Recherche Scientifique et de l'Environnement: B P 1249: BRAZZAVILLE: Congo

Record number (MFN): 03248

Official project title: GENETIC IMPROVEMENT OF TRIPLOCHITON SCLEROXYLON (STERCULIACEAE) IN BENIN.

Implementing agency: IFS.

Start date: 1987-00-00.

Country/countries: Benin;

Statement of objectives/abstract:

Triphochiton scleroxyton, or samba, is a wild tree species in Benin, used for wood-peeling, veneering or construction of pirogues for fishing. Due to shortage of seeds, this species has not been used in reforestation projects or selection programmes. Mr Dah-Dovonon will identify the best phenotypes and create selected clones by graftings and cuttings. The project also aims to protect the samba, which is now endangered due to intensive deforestation and bush fires.

Contact in research organization:

Mr Jean Dah-Dovonon; Unite de Recherche Forestiere; Direction de la Recherche Agronomique; B P 06-707; COTONOU; Benin

Record number (MFN): 03249

Official project title: SILVICULTURE OF MANSONIA ALTISSIMA AND TRIPLOCHITON SCLEROXYLON IN RELATION TO INSECT PESTS IN DIFFERENT ECOLOGICAL REGIONS OF CAMEROON.

Implementing agency: IFS.

Start date: 1987-00-00.

Country/countries: Cameroon;

Statement of objectives/abstract:

Mansononia altissima and Triplochiton scleroxyton are important timber tree species in Cameroon. During the course of a preliminary survey, two insect pests (Godasa sida F, a defoliator, and a cossid wood feeder) have been identified as potential constraints to the development of the national reforestation programme using these tree species. Mr Foahom will study the morphology and biology of the insects and evaluate their distribution in Cameroon. The ecological factors influencing the population dynamics and regulation in 3 different areas will be recorded.

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Contact in research organization:

Mr Bernard Foahom: Centre de Recherches Forestières de Douala: B P 223: EDEA:
Cameroon

Record number (MFN): 03250

Official project title: QUALITY AND STABILITY OF SOLAR DRIED CURED MEAT.

Implementing agency: IFS.

Start date: 1987-00-00.

Country/countries: Nigeria;

Statement of objectives/abstract:

Traditionally, meat in Nigeria is heavily smoked after cooking, which renders a product of poor nutritional quality that is susceptible to fungal and insect spoilage. Mr Okonkwo will improve solar drying techniques to obtain an acceptable product that is self-stable without refrigeration or sophisticated packaging. Traditional techniques will be improved through curing with acceptable ingredients and through control of the drying process. Analysis of physical, chemical, organoleptic and nutritive quality will be performed and shelf-life and spoilage characteristics of the product will be evaluated.

Contact in research organization:

Mr Thomas Okonkwo: Department of Food Science and Technology: University of Nigeria; NSUKKA: Anambra State; Nigeria

Record number (MFN): 03252

Official project title: THE DEVELOPMENT AND EVALUATION OF A NEW PROCESS LINE FOR GARRI PRODUCTION.

Implementing agency: IFS.

Start date: 1987-00-00.

Country/countries: Nigeria;

Statement of objectives/abstract:

Garri is a very popular fermented product in West Africa. At present the equipment used in the garri plant cannot be used to process other food crops. Dr Ajibola will develop and evaluate a new process similar to that used in processing other locally-available food crops, such as yam and rice. Effects of dicing size, fermentation time, steaming time and drying temperature on the quality, swelling characteristics and cyanide content of garri produced by steam gelatinization will be investigated, and optimum processing conditions in terms of energy use and costs will be determined.

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Contact in research organization:

Dr Obafemi Ajibola; Department of Agricultural Engineering; Obafemi Awolowo University; ILE-IFE; Nigeria

Record number (MFN): 03253

Official project title: EVALUATION OF DRACAENA BERRIES FOR THE CONTROL OF SCHISTOSOMIASIS IN NIGERIA.

Implementing agency: IFS.

Start date: 1987-00-00.

Country/countries: Nigeria:

Statement of objectives/abstract:

Extracts and isolated saponins from *Dracaena mannii* and *D. arborea* berries have been found to be molluscicidal at very low concentration. Dr Okunji will evaluate the use of *Dracaena* berries for the control of schistosomiasis in Nigeria as a potential low-cost alternative to synthetic molluscicides. Bioassays on both target and non-target organisms as well as isolation and characterization of the active compounds will be performed.

Contact in research organization:

Dr Christopher Okunji; Phytotherapy Research Laboratory; Department of Pharmacognosy; University of Nigeria; NSUKKA; Anambra State; Nigeria

Record number (MFN): 03255

Official project title: EFFECT OF INTEGRATED POULTRY-AQUACULTURE SYSTEMS IN THE RURAL AREAS OF CONGO.

Implementing agency: IFS.

Start date: 1987-00-00.

Country/countries: Congo:

Statement of objectives/abstract:

Development of aquaculture in the rural sector of the Congo has been slow. A major constraint has been a lack of feed for fish and adequate fertilizers for the ponds. Mr Kali-Tchikati will do a study of an integrated system using *Tilapia nilotica* and local poultry breeds. The birds will be confined in cages situated above the ponds and different stocking densities of fish and birds will be tried. The birds will be fed locally-available waste products.

Contact in research organization:

Mr Edouard Kali-Tchikati; Projet de Developpement de la Pisciculture Rurale; Centre Piscicole National de Djoumouna; B P 98; BRAZZAVILLE; Congo

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Record number (MFN): 03257

Official project title: TOXIC AND POTENTIAL TOXIC FACTORS AND ANTI-NUTRITIONAL FACTORS IN LIVESTOCK FEEDS AND THEIR IMPLICATIONS FOR LIVESTOCK PRODUCTIVITY.

Implementing agency: IFS.

Start date: 1987-00-00.

Country/countries: Nigeria:

Statement of objectives/abstract:

A major constraint to poultry production in Nigeria is the unavailability of feed components. A large number of promising feeds exist in the country, but very little is known about their nutritional value. Dr Ologhobo will study some legume crops and concentrate on toxic and anti-nutritional factors and their influence on performance, metabolism, and pathology of poultry. Methods to reduce the levels of these toxic factors by various processing techniques will also be studied.

Contact in research organization:

Dr Anthony Ologhobo; Department of Animal Science; University of Ibadan; IBADAN; Nigeria

Record number (MFN): 03259

Official project title: PUBERTAL DEVELOPMENT IN INDIGENOUS TROPICAL CATTLE: N'DAMA AND MUTURU.

Implementing agency: IFS.

Start date: 1987-00-00.

Country/countries: Nigeria;

Statement of objectives/abstract:

N'dama and Muturu are unimproved breeds of tropical cattle native to the rain forest zone of West Africa. They have a high tolerance to trypanosomiasis which is endemic in this subregion. This gives them an important economic potential in Nigeria, but improvement of their productivity is much needed. Mr Ezekwe will study the pubertal development in bulls of these two breeds. The study will be performed both during the rainy and dry season to evaluate the influence of birth at the onset of puberty. Besides growth and body measurements, recordings of testicular development and collection and evaluation of semen will also be included in the study.

Contact in research organization:

Mr Arinze Ezekwe; Department of Animal Science; University of Nigeria; NSUKKA; Anambra State; Nigeria

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Record number (MFN): 03263

Official project title: BREEDING OF GIANT RAT (CRICETOMYS EMINI): A WAY TO DEVELOP MEAT PRODUCTION AND TO SOLVE PROTEIN DEFICIENCY FOR RURAL POPULATIONS IN ZAIRE.

Implementing agency: IFS.

Start date: 1987-00-00.

Country/countries: Zaire:

Statement of objectives/abstract:

The giant rat is a nocturnal animal living in the degraded forests and farmland of Zaire. It has a good growth rate and a high reproduction rate and is popular for consumption during the hunting season. It is easy to catch. If it can be domesticated and bred in captivity, it has a good potential for improving meat production. Dr Palata will study the reproductive parameters as well as nutrition and pathology of this species with a view to promoting its use in animal production.

Contact in research organization:

Dr Kabudi Palata; Departement de Biologie et Gestion de l'Environnement;
Universite de Kinshasa; B P 190; KINSHASA XI; Zaire

Record number (MFN): 03265

Official project title: STUDY OF FACTORS TO IMPROVE THE REPRODUCTION OF THE RODENT CRICETOMYS IN CAPTIVITY.

Implementing agency: IFS.

Start date: 1987-00-00.

Country/countries: Zaire;

Statement of objectives/abstract:

Mr Malekani will work with the domestication of the wild rodent, Cricetomyces at the University of Kinshasa in Zaire. The aim of the study is to find a new source of animal protein to fight malnutrition and starvation in developing countries. The reproduction of the animals will be improved through the control of different factors like health, feed, sexual physiology, and eco-ethology. Simple management techniques will be developed and spread to the rural population.

Contact in research organization:

Mr Mbakulirahi Malekani; Departement de Biologie; Faculte des Sciences;
Universite de Kinshasa, B P 190; KINSHASA XI; Zaire

Record number (MFN): 03266

Official project title: EFFECTS OF CHEMOTHERAPY ON REPRODUCTIVE LESIONS IN NIGERIAN

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(YANKASSA) SHEEP EXPERIMENTALLY INFECTED WITH TRYPANOSOMES.

Implementing agency: IFS.

Start date: 1987-00-00.

Country/countries: Nigeria.

Statement of objectives/abstract:

Reproductive abnormalities such as infertility, sterility, and abortions have been recorded in ruminants following trypanosome infections. Dr Edeghere will study the effects of chemotherapy on reproductive lesions in Nigerian sheep experimentally infected with *Trypanosoma brucei brucei*, *T. Congolense* and *T. Vivax*. At various intervals after treatment, semen quality and quantity will be assessed. Histopathological studies on the testes will also be made.

Contact in research organization:

Mr Henry Edeghere; Nigerian Institute for Trypanosomiasis Research; P M B 2077;
KADUNA; Nigeria

Record number (MFN): 03268

Official project title: DEVELOPMENT OF SIMPLE METHODS TO IDENTIFY POTYVIRUS INFECTING YAMS
(*DIOSCOREA ALATA* AND *D. ROTUNDATA*) FOR THE PRODUCTION OF
VIRUS-FREE PLANTLETS.

Implementing agency: IFS.

Start date: 1987-00-00.

Country/countries: Togo;

Statement of objectives/abstract:

Yams (*Dioscorea alata* and *D. rotundata*) are vulnerable to attacks by virus which are difficult to identify, especially for potyvirus, as it exists in low concentration in the plant. Dr Gumedzoe will develop different methods in order to detect disease-free plants from which microsetts could be prepared for planting. An immuno-enzymatic assay will be used to identify the potyvirus in yams from different locations in Togo.

Contact in research organization:

Dr Mawuena Gumedzoe; Ecole Supérieure d'Agronomie; Université du Bénin; B P
1515; LOME; Togo

Record number (MFN): 03273

Official project title: VEGETATIVE REPRODUCTION TECHNIQUES FOR OKOUME (*AUCOUMEA
KLAINIANA*): CUTTINGS AND GRAFTING.

Implementing agency: IFS.

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Start date: 1987-00-00.

Country/countries: Gabon;

Statement of objectives/abstract:

Okoum is the main commercialized timber tree in Gabon. The remaining breeding stock is largely of poor quality. It appears that the Okoum tree regenerates well from cuttings, and Mr Koumba-Zaou will experiment with different methods such as hormone treatments to produce cuttings. The influence of the substrate and of the origin of the cuttings on the tree will also be studied to develop a suitable method to produce selected trees.

Contact in research organization:

Mr Paul Koumba-Zaou; Division Sylviculture et Amelioration Genetiques des Arbres; Institut de Recherches Agronomiques et Forestieres; B P 2246; LIBREVILLE; Gabon

Record number (MFN): 03274

Official project title: BIOLOGICAL ACTIVITY OF HERBICIDE RESIDUES IN THE OIL PALM GROWING ECOLOGIES OF NIGERIA.

Implementing agency: IFS.

Start date: 1987-00-00.

Country/countries: Nigeria;

Statement of objectives/abstract:

Use of herbicides is increasing rapidly in Nigeria, and it is necessary to investigate herbicide persistence to ensure that sensitive crops are not injured by the herbicides. Dr Utulu will determine when sensitive crops intercropped with the oil palm can be planted and not injured by the herbicides used on the oil palm. Normal and double doses of different herbicides will be applied in order to establish the effects on okra, pepper, tomato, maize, cassava, and egusi melon. Crop biometric observation will determine when to plant after herbicide application. Data will be collected on palm growth and bunch yield.

Contact in research organization:

Dr Stephen Utulu; Department of Agronomy; Nigerian Institute for Oil Palm Research; P M B 1030; BENIN CITY; Nigeria

Record number (MFN): 03275

Official project title: USE OF MAIZE RESIDUES FOR BIOGAS PRODUCTION.

Implementing agency: IFS.

Start date: 1987-00-00.

Country/countries: Congo;

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Statement of objectives/abstract:

Maize is mainly used for grain production in Congo. At harvest residues that constitute more than 50 per cent of the total biomass are left to deteriorate. Dr Miambi will study the biococonversion of the maize residue to biogas. The influence of the nature of the inoculum, the rate of seeding and dilution, and the pretreatment of maize residues will be investigated. The study will attempt to determine optimum conditions for biogas production.

Contact in research organization:

Dr Edouard Miambi: Direction Generale de la Recherche Scientifique: B P 2499:
BRAZZAVILLE: Congo

Record number (MFN): 03276

Official project title: PHYTOCHEMICAL AND PHARMACOLOGICAL EVALUATION OF SOME IMPORTANT
NIGERIAN MEDICINAL PLANTS.

Implementing agency: IFS.

Start date: 1987-00-00.

Country/countries: Nigeria;

Statement of objectives/abstract:

A variety of medicinal plants are traditionally used in Nigeria. Dr Igboechi will collect plants of *Piper guineense*, *Vitex thyriflora*, *Maesopsis eminii*, *Uraria picta* and *Combretum racemorosum* to be extracted and subjected to preliminary pharmacological screening. Components responsible for observed biological activities will be isolated and characterised.

Contact in research organization:

Dr Chike Igboechi; Department of Pharmacognosy; Faculty of Pharmacy; University
of Benin; BENIN CITY; Nigeria

Record number (MFN): 03277

Official project title: ANTIFUNGAL PHYTOALEXINS FROM DIOSCOREA SPP.

Implementing agency: IFS.

Start date: 1987-00-00.

Country/countries: Nigeria;

Statement of objectives/abstract:

Yams, particularly the *Dioscorea* spp., constitute a major staple food in West Africa, Asia and the West Indies. In Nigeria over 50 per cent of the harvest is lost during storage due to microbial attack. Resistance in crops has been found to be correlated with high levels of phytoalexins. Dr Adesanya will extract, characterize, and

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synthesize phytoalexins from different *Dioscorea* spp. and test them for anti-fungal and anti-bacterial activity.

Contact in research organization:

Dr Saburi Adejimi Adesanya; Department of Pharmacognosy; Faculty of Pharmacy;
Obafemi Awolowo University; ILE-IFE: Nigeria

Record number (MFN): 03282

Official project title: THE RATE OF ADOPTION OF MINISETT YAM MULTIPLICATION TECHNIQUE
AMONG FARMERS OF IMO STATE, NIGERIA.

Implementing agency: IFS.

Start date: 1987-00-00.

Country/countries: Nigeria;

Statement of objectives/abstract:

Yam is a staple food in Nigeria. One of the problems facing local farmers has been procuring seeds for the next planting season. The National Root Crop Research Institute developed a yam seed multiplication technique called the minisett technique. This package of technology has been introduced to farmers. Dr Asiabaka will study the degree of compatibility of minisett to the existing agronomic practices, its degree of complexity, and its socio-economic aspects. The extent of adoption of this innovation and the factors limiting its rate of adoption will be determined. The results can provide a basis for the transfer and adaptation of this technology to local conditions.

Contact in research organization:

Dr Chigozie Asiabaka; School of Agricultural Technology; Federal University of
Technology; OWERRI; Imo State; Nigeria

Record number (MFN): 03283

Official project title: ANAEROBIC DIGESTION OF INDUSTRIAL WASTE AT AMBIENT TROPICAL
TEMPERATURES.

Implementing agency: IFS.

Start date: 1987-00-00.

Country/countries: Nigeria;

Statement of objectives/abstract:

There is a need to study anaerobic treatment of industrial waste in developing countries. The main advantages of such a system over an aerobic system are that no energy input is required and it is cheap and easy to maintain. Dr Odumosu will investigate anaerobic digestion of industrial wastes using packed bed reactors. Digester performance will be assessed using synthetic waste. A case study will be

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carried out using industrial wastes at various organic loading rates in order to determine optimum conditions for treating such wastes at ambient tropical conditions.

Contact in research organization:

Dr A O Odumosu; Civil Engineering Department; University of Lagos; Akoka Yaba; LAGOS; Nigeria

Record number (MFN): 03284

Official project title: NATURALLY-OCCURRING PRODUCTS MODELLED AS MICROPOLAR FLUIDS.

Implementing agency: IFS.

Start date: 1987-00-00.

Country/countries: Nigeria;

Statement of objectives/abstract:

The theory of micropolar fluids is considered a satisfactory model to describe the flow of naturally-occurring fluids such as polymeric fluids, real fluids and colloidal fluids especially palm and other kernel oils. However, very little is known about the flow and mechanics of such fluids over vertical planes and through channels. Dr Oyediran will investigate the mechanics and heat transfers, using theoretical as well as experimental methods of such fluids. The behaviour of these fluids under various temperature ranges will be examined. This is of interest to researchers in the tropics where oils are stored in containers that are exposed to sunshine. The data could be useful to prevent leakage during storage of these fluids.

Contact in research organization:

Mr Abraham Oyediran; Mechanical Engineering Department; Lagos State University; Badagry Expressway, P M B 1067; APAPA; Nigeria

Record number (MFN): 03286

Official project title: RELATIONSHIP BETWEEN WATER QUALITY AND AEROMONAS HYDROPHILA INFECTIONS IN POND-REARED SPECIES OF TILAPIA IN NIGERIA.

Implementing agency: IFS.

Start date: 1988-00-00.

Country/countries: Nigeria;

Statement of objectives/abstract:

Tilapia has become the most widely used fish in aquaculture systems in the tropics. Pond-stocking rates are often high, which can lead to water quality problems and make conditions suitable for disease outbreaks. *Aeromonas hydrophila* is common in freshwater and has been found to produce a number of diseases in cultivated fish. Dr Okpokwasili will study the relationship between water quality and *Aeromonas hydrophila* infections in pond-reared species of tilapia in Nigeria.

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Contact in research organization:

Dr Gideon Chijioke OKPOKWASILU; Department of Microbiology; University of Port Harcourt; P M B 5323; PORT HARCOURT; Nigeria

Record number (MFN): 03287

Official project title: A TRIAL SPAWNING OF THE CATFISH CHRYSICHTHYS NIGRODIGITATUS AND DETERMINATION OF SOME NUTRIENT REQUIREMENTS OF THE FRY.

Implementing agency: IFS.

Start date: 1988-00-00.

Country/countries: Nigeria;

Statement of objectives/abstract:

Fish farming in Nigeria has been hindered by the lack of fry of suitable culture species as well as by the lack of adequate feed for the fish. Information is lacking on reproduction and on nutritional requirements of some local fish species. Mr Ekanem will do a study on the local species of catfish *Chrysichthys nigrodigitatus*. The study will include a trial spawning using pituitary and synthetic hormones and a study on the nutritional requirements of the fry.

Contact in research organization:

Mr Sunday Ben EKANEM; Department of Biological Sciences; University of Calabar; P M B 1115; CALABAR; Nigeria

Record number (MFN): 03288

Official project title: STUDY OF INFECTIOUS BURSAL DISEASE IN NIGERIA: ROLE OF ANTIGENIC DIFFERENCES AND IMMUNOSUPPRESSION IN VACCINATION.

Implementing agency: IFS.

Start date: 1988-00-00.

Country/countries: Nigeria;

Statement of objectives/abstract:

The poultry industry in Nigeria has grown rapidly during the past two decades. The poultry population is estimated to be over 290 million and poultry products contribute over a third of the national animal protein intake. Diseases have, however, been a major limiting factor in production and infectious bursal disease (IBD, Gumboro disease) is a major problem. Vaccination does not seem to be effective since outbreaks occur frequently in vaccinated flocks. Dr Nwosuh will investigate the causes of IBD vaccination failures and antigens of wild-type IBD virus isolated from various parts of the country will be compared with the vaccine virus.

Contact in research organization:

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Dr Chika NWOSUH; Virology Division; National Veterinary Research Institute; Vom;
via Jos; Plateau State; Nigeria

Record number (MFN): 03291

Official project title: EVALUATION OF THE CARRYING CAPACITY OF NATURAL GRAZING LANDS IN
THE KALALE-NIKKI-SEBANA REGION, NORTHEAST BENIN.

Implementing agency: IFS.

Start date: 1988-00-00.

Country/countries: Benin;

Statement of objectives/abstract:

Land is shared between agriculture, animal rearing and forest in the north of Benin. Projects have been developed for livestock breeding, but basic knowledge of the carrying capacity of a lot is scarce. The goal of Mr Sinsin is to collect data in order to evaluate the potential carrying capacity of the soil in North Benin, using different approaches. The evaluation of the biomass and the mineral stock of vegetation will be studied in comparison with a protected area (control). The data will be used to draw the grazing and carrying capacity map of the area.

Contact in research organization:

Mr Augustin SINSIN; /now at/ Laboratoire de Botanique Systematique et de Phytosociologie; ULB; CP 169; Avenue Paul Heger 28; B-10500; Bruxelles; Belgium

Record number (MFN): 03292

Official project title: ECOLOGY OF THE MAIZE STEM BORERS IN BENIN.

Implementing agency: IFS.

Start date: 1988-00-00.

Country/countries: Benin;

Statement of objectives/abstract:

Mr Arodokoun will study the relationships between the environmental conditions and the host-pest (maize-stem borers) relationship in Benin. Despite the extension work already done, the control methods proposed to the peasants do not reduce significantly the losses. A better knowledge of the insect's biology and ecology is therefore needed to develop an integrated method for insect pest control.

Contact in research organization:

Mr David ARODOKOUN; Laboratoire de Defense des Cultures; Direction de la Recherche Agronomique; B P 884; COTONOU; Benin

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Record number (MFN): 03293

Official project title: AN INVENTORY AND EVALUATION OF MAJOR DISEASES ON VEGETABLE CROPS IN CAMEROON.

Implementing agency: IFS.

Start date: 1988-00-00.

Country/countries: Cameroon.

Statement of objectives/abstract:

Unlike diseases of cash crops and cereals, which have received some considerable by government and research institutions in Cameroon, diseases of vegetable crops have been overlooked by research in the country. A lot of vegetables are damaged due to pests and diseases in the field and at storage. The objective of this study is to survey the diseases causing loss of vegetable crops and to evaluate the disease incidence and severity in different regions of Cameroon.

Contact in research organization:

Mr Dominic Ajong FONTEM; Crop Protection Department; University Centre of Dschang; P O Box 110; DSCHANG; Cameroon

Record number (MFN): 03294

Official project title: STUDIES ON LOCAL VARIETIES OF BAMBARA GROUNDNUT (VOANDZEA SUBTERRANEA) IN THE LITTORAL AND WEST PROVINCES OF CAMEROON.

Implementing agency: IFS.

Start date: 1988-00-00.

Country/countries: Cameroon;

Statement of objectives/abstract:

The Bambara groundnut is considered a pulse of little importance. Thus, very little research has been done on the crop. However, the plant has many advantages (resistance to drought and pests, long harvest period) and is promising. The objectives of Ms Nguy are to rehabilitate the production of Bambara groundnut and investigate the feasibility of its commercial production. Various cultivars will be collected, identified and characterized. In the second phase the best cultivars will be screened for yielding ability and nutritional value.

Contact in research organization:

Ms Francoise NGUY; Departement d'Agriculture; Centre Universitaire de Dschang; B P 96; DSCHANG; Cameroon

Record number (MFN): 03295

Official project title: EPIDEMIOLOGY OF ALTERNARIA BLIGHT OF SUNFLOWER (HELIANTHUS ANNUUS)

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IN THE NIGERIAN GUINEA SAVANNA.

Implementing agency: IFS.

Start date: 1988-00-00.

Country/countries: Nigeria:

Statement of objectives/abstract:

In Nigeria groundnut and oil palm are the two main sources of vegetable oil, but due to the decline in the local production it has become necessary to identify alternative oil-producing crops. Sunflower is just beginning to grow but is already threatened by many diseases, especially the blight leading to defoliation. Ms Okoli will carry out a study of the epidemiology of the Alternaria blight of sunflower, including aetiology, pathogen life cycle, source and spread of the pathogen and effect of environmental conditions. Screening of cultivars will be performed for resistance. The objective is to develop cultural and/or chemical control methods.

Contact in research organization:

Ms Claribel OKOLI; Department of Crop Protection; Faculty of Agriculture;
School of Basic Studies; Ahmadu Bello University; ZARIA; Nigeria

Record number (MFN): 03298

Official project title: THE EFFECT OF SOME LIVE MULCHES ON THE GROWTH AND YIELD OF
INTERCROPPED OIL PALM, MAIZE AND CASSAVA, AND ON SOIL CONDITIONS.

Implementing agency: IFS.

Start date: 1988-00-00.

Country/countries: Nigeria:

Statement of objectives/abstract:

Intercropping the oil palm with arable crops is being emphasized to optimize utilization of land by farmers. Although research has advanced in this area, some salient problems have remained unsolved, such as weed control, soil fertility, and tillage. The objectives of Mr Okpala Jose are to develop live mulches that can be utilized to enhance crop production compatible with oil palm. The live mulch should be effective for weed control, water conservation, maintenance or improvement of soil fertility.

Contact in research organization:

Mr Anthony OKPALA JOSE; Agronomy Division; Nigerian Institute for Oil Palm
Research; P M B 1030; BENIN CITY; Bendel State; Nigeria

Record number (MFN): 03300

Official project title: SPOILAGE AND PRESERVATION OF 'UGBA' (PENTACLETHRA MACROPHYLLA), A
LOCAL SNACK.

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Implementing agency: IFS.

Start date: 1988-00-00.

Country/countries: Nigeria:

Statement of objectives/abstract:

Ugba is a popular delicacy consumed widely in Southern Nigeria. It is prepared by the fermentation of the African oil bean seed (*Pentaclethra macrophylla*) and has considerable value as a source of low cost palatable vegetable protein. A constraint for the production of 'ugba' on a large scale is the short shelf-life of the product.

Dr Njoku will study the shelf-life and acceptability of the product after using simple low-cost preservation methods like salt, spices, sorbic and benzoic acids, parabens, steaming, smoking or drying. Organoleptic, chemical assessments and microbial load of the products at different stages will be studied.

Contact in research organization:

Dr Henry Obiyo NJOKU; Department of Microbiology; University of Port Harcourt; P
M B 5323; PORT HARCOURT; Nigeria

Record number (MFN): 03302

Official project title: STUDY ON THE PHYTOCHEMISTRY AND MICROBIOLOGY OF SYZYGIUM
BRAZZAVILLENSE.

Implementing agency: IFS.

Start date: 1988-00-00.

Country/countries: Congo;

Statement of objectives/abstract:

Syzygium brazzavillense is a relatively rare plant which is used in traditional medicine in Congo. It has been shown to have anti-bacterial effects. Dr Ouabonzi will make a phytochemical study of the plant, attempting to isolate and determine the structure of its anti-microbial constituents. He will monitor the anti-microbial activities using a range of bacterial pathogens. The study will also include attempts to cultivate the plant.

Contact in research organization:

Dr Antoine OUABONZI; Laboratoire de Phytochimie; Centre d'Etudes des Ressources
Vegetales; (CERVE); B P 1249; BRAZZAVILLE; Congo

Record number (MFN): 03304

Official project title: PHARMACOLOGICAL, TOXICOLOGICAL AND PHYTOCHEMICAL INVESTIGATIONS OF
THREE MEDICINAL PLANTS OF EASTERN NIGERIA.

Implementing agency: IFS.

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Start date: 1988-00-00.

Country/countries: Nigeria:

Statement of objectives/abstract:

The leaves of *Combretum dolichopetalum* are used to treat stomach ulcers. The tubers of *Ipocina tricantha* have a use as a purgative, and the bark of *Pilocygnia thonningii* is an anti-helminthic. Dr Asuzu will test extracts from these plants, which are all used in Nigerian traditional medicine, for various pharmacological activities. He also intends to purify and characterize the active principles from the plant extracts.

Contact in research organization:

Dr Isaac ASUZU: Department of Veterinary Physiology and Pharmacology; University of Nigeria: NSUKKA: Anambra State: Nigeria

Record number (MFN): 03305

Official project title: STUDY ON CHEMICAL CONSTITUENTS OF *LOPIRA LANCEOLATA*. A MEDICINAL PLANT OF CAMEROON.

Implementing agency: IFS.

Start date: 1988-00-00.

Country/countries: Cameroon:

Statement of objectives/abstract:

The bark of the tree *Lophira lanceolata* is used in African traditional medicine and its crude extract has been found to suppress the growth of viruses affecting the immunity system. Dr Ghogomu will fractionate extracts of the bark, aiming at isolating and determining the structures of component compounds leading to the identification of the active principles responsible for noted anti-viral action. Other anti-microbial effects will be studied.

Contact in research organization:

Dr Raphael GHOGOMU TIH: Departement de Chimie Organique; Faculte des Sciences; Universite de Yaounde: B P 812: YAOUNDE: Cameroon

Record number (MFN): 03306

Official project title: CHEMICAL STUDIES OF THE *ERYTHRINA* OF CAMEROON.

Implementing agency: IFS.

Start date: 1988-00-00.

Country/countries: Cameroon:

Statement of objectives/abstract:

There are several endemic species of *Erythrina* in Cameroon, some of which are used in

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the traditional medicine. Dr Nkengfack will extract plant materials from *Erythrina* spp. with the aim to isolate alkaloids and other biologically active constituents. The structure of the isolated compounds will be determined.

Contact in research organization:

Dr Augustin NKENGFAK; Department of Organic Chemistry; Faculty of Science;
University of Yaounde; P O Box 812; YAOUNDE; Cameroon

Record number (MFN): 03309

Official project title: ETIOLOGY, EPIDEMIOLOGY AND CONTROL OF SOME VIRUS DISEASES OF
VEGETABLES IN SOUTHERN NIGERIA.

Implementing agency: IFS.

Start date: 1988-00-00.

Country/countries: Nigeria;

Statement of objectives/abstract:

Plant virus diseases are important constraints to high yields for vegetable crops in Nigeria. Dr Atiri will undertake a survey of plant virus diseases of vegetables and study the interrelationships between viruses, vectors, host plants and the environment. Based on the above, the weakest link in the biology and ecology of the specific viruses will be identified, and appropriate control measures for each virus will be developed.

Contact in research organization:

Dr Gabriel ATIRI; Department of Agricultural Biology; University of Ibadan;
IBADAN; Nigeria

Record number (MFN): 03310

Official project title: INCREASED GROUNDNUT CULTIVATION AND SEED PRODUCTION IN GUINEA.

Implementing agency: IFS.

Start date: 1988-00-00.

Country/countries: Guinea;

Statement of objectives/abstract:

Groundnut is the most important grain legume cultivated in Guinea, and there is an urgent need to increase the yields in order to satisfy the demand from the consumers. The research programme undertaken by Dr Toukara will include local varieties collected throughout the country and exotic varieties which have been selected in other countries for precocity, resistance to diseases and insect pests, and high yields. The project includes six experiments in Foutaya where more than 120 varieties will be tested during four successive agricultural cycles. Data will be collected to compare yields and quality for oil processing or direct human consumption. Production

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of seeds will also be studied.

Contact in research organization:

Mr Nestor TOUNKARA; Institut des Sciences Agro-Zootecniques de Foulaya (ISAF);
B P 156; KINDIA; Guinea

Record number (MFN): 03315

Official project title: TOLERANCE OF TILAPIA IN THE BAYS OF BENIN TO VARYING DEGREES OF
SALINITY.

Implementing agency: IFS.

Start date: 1988-00-00.

Country/countries: Benin;

Statement of objectives/abstract:

Tilapia (*O. niloticus*) is being cultured in the bays of Benin. The variations in salinity of these waters has been an obstacle to this culture since tilapia have shown limited tolerance. Mr Laleye will do a study in aquaria to establish the levels of salinity tolerated by the different species of tilapia being used. He will also attempt the possibility of increasing these levels by feeding the fish with salted feed in concrete tanks.

Contact in research organization:

Mr Adedjobi Philippe LALEYE; Faculte des Sciences Agronomiques; Universite
Nationale du Benin; B P 526; COTONOU; Benin

Record number (MFN): 03318

Official project title: SAFETY, EFFICACY AND POTENCY TESTS ON A PPR VIRAL VACCINE.

Implementing agency: IFS.

Start date: 1988-00-00.

Country/countries: Nigeria;

Statement of objectives/abstract:

PPR (Peste des petits ruminants) is a disease which causes great economic loss in African countries. A vaccine has recently been developed against this disease. Dr Daneji will do a study of this vaccine under field conditions and evaluate its safety in pregnant sheep and goats. The duration of the immunity in areas where the disease is endemic will also be established.

Contact in research organization:

Dr Aminu Ibrahim DANEJI; Department of Veterinary Medicine; Usmanu Danfodiyo
University; P M B 2346; SOKOTO; Nigeria

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Record number (MFN): 03319

Official project title: GENETIC IMPROVEMENT OF EGG PRODUCTION POTENTIAL OF NIGERIAN INDIGENOUS CHICKENS USING MIGRANT GENES.

Implementing agency: IFS.

Start date: 1988-00-00.

Country/countries: Nigeria:

Statement of objectives/abstract:

There is an increased need to provide protein at low cost for the population in Nigeria. One reason for the lack of animal protein is the low production of meat, milk and eggs from indigenous animals. Dr Ibe will try to establish a broadly based genetic population of egg-type chickens using unimproved Nigerian and improved exotic gene resources and by selection and crossing of lines to produce a population with desirable egg production potentials.

Contact in research organization:

Dr Sylvester Nzebunwa IBE; Department of Animal Science; University of Nigeria; NSUKKA; Anambra State; Nigeria

Record number (MFN): 03320

Official project title: EVALUATION OF NON-CONVENTIONAL POULTRY FEED INGREDIENTS AND TRADITIONAL MANAGEMENT OF NIGERIAN LOCAL CHICKENS.

Implementing agency: IFS.

Start date: 1988-00-00.

Country/countries: Nigeria:

Statement of objectives/abstract:

Rural poultry production must be improved if the animal protein needs of the rural population in Nigeria are to be met. Inadequate feed quantity and quality is an obstacle, since commercial feeds are too expensive for rural poultry procedures. Dr Sonaiya will carry out a study of rural poultry management practices and of available feed ingredients in 20 villages. Feed ingredient samples will be analyzed to determine the best combinations to meet the nutritional requirements of the local chicken.

Contact in research organization:

Dr Emmanuel Babafunso SONAIYA; Department of Animal Science; Faculty of Agriculture; Obafemi Awolowo University; ILE-IFE; Nigeria

Record number (MFN): 03324

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Official project title: REPRODUCTIVE ENDOCRINOLOGY OF THE RED SOKOTO GOAT (MARADI).

Implementing agency: IFS.

Start date: 1988-00-00.

Country/countries: Nigeria;

Statement of objectives/abstract:

Small ruminants constitute the primary source of meat in many African countries. The Red Sokoto goat now constitutes the largest number of goats in the Nigerian market. Although under favorable nutritional conditions animals will mate at almost any time of the year, seasonal variations in breeding have been noted for some species. Dr Nduka will study the reproductive endocrinology of the Red Sokoto goat and establish hormonal profiles for a whole year and during pregnancy to provide some baseline data and information on its reproductive biology.

Contact in research organization:

Dr Ebere Uzoma Obioha NDUKA; Postgraduate Institute for Medical Research and Training; College of Medicine; University of Ibadan; IBADAN; Nigeria

Record number (MFN): 03325

Official project title: CLIMATIC ADAPTATION OF LAYING HENS.

Implementing agency: IFS.

Start date: 1988-00-00.

Country/countries: Cameroon;

Statement of objectives/abstract:

The poultry industry is important for the consumption of animal protein in Cameroon. The production of the poultry is influenced by the environment and the feeding and differing climatic zones. Studies on the effect of ambient temperature on poultry has only been made in climatic chambers. Mr Njoya will do a study on the nutritional requirements of poultry in tropical conditions in three different climatic zones. Feed consumption as well as production parameters will be recorded.

Contact in research organization:

Mr Jean NJOYA; Institut de Recherches Zootechniques (IRZ); B P 1457; YAOUNDE; Cameroon

Record number (MFN): 03326

Official project title: VECTOR COMPETENCE OF CULEX ANTENNATUS FOR THE TRANSMISSION OF RIFT VALLEY FEVER VIRUS.

Implementing agency: IFS.

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Start date: 1988-00-00.

Country/countries: Nigeria:

Statement of objectives/abstract:

Rift Valley Fever can cause great reduction on livestock populations and the virus has been isolated in Nigeria. Despite the presence of all factors responsible for the transmission of the virus there is no epidemic in Nigeria. Mr Adeniji will study the vector competence of one of the arthropods *Culex antennatus*, responsible for the transmission and also determine the population dynamics and host choice of the mosquito.

Contact in research organization:

Mr Johnson Adekunle ADENIJI; College of Medicine; Virology Department;
University of Ibadan; IBADAN; Nigeria

Record number (MFN): 03328

Official project title: STUDIES OF FACTORS AFFECTING THE BIOLOGY OF APHIS GOSSYPHII, ITS PRODUCTION OF HONEYDEW AND CONTROL METHODS OF THIS PEST OF COTTON IN NORTH CAMEROON.

Implementing agency: IFS.

Start date: 1988-00-00.

Country/countries: Cameroon:

Statement of objectives/abstract:

For the past five years heavy infestation of *Aphis gossypii* have been observed in North Cameroon, particularly towards the end of the cotton crop season. This causes serious problems as *A. gossypii* has been shown to be responsible for "sticky cotton". Honeydew contamination can greatly reduce foreign exchange earnings, as cotton ranks third as a cash crop of Cameroon. Mr Ekukole will undertake studies on the biology and population dynamics of the insect with the aim of finding appropriate control methods. The survey of host plants, the study of the life cycle in relation with environmental factors will also be part of the research programme.

Contact in research organization:

Mr George EKUKOLE; Department of Cotton Entomology; I R A; B P 33; MAROUA;
Cameroon

Record number (MFN): 03329

Official project title: INFLUENCE OF SOIL FAUNA ON SOIL FERTILITY AND CROPS IN THE SAVANNA REGION OF COTE D'IVOIRE.

Implementing agency: IFS.

Start date: 1988-00-00.

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Country/countries: Côte d'Ivoire;

Statement of objectives/abstract:

The aim of the project is to improve our knowledge of natural ecosystems and food crop production in the savanna region of Ivory Coast, focusing on the role of insects (termites). Mr Tano will study the relationships between insect and crops and the action of termites in the soil characteristics and fertility. An inventory of termite species will be made, and the spacial distribution of termite mounds will be investigated. Relations between termites and other components of the soil fauna (myriapods, earthworms) will also be studied.

Contact in research organization:

Mr Yao TANO; Laboratoire de Zoologie; Faculte des Sciences et Techniques;
Universite d'Abidjan; 22 B P 582; ABIDJAN 22; Cote d'Ivoire; Cote d'Ivoire

Record number (MFN): 03330

Official project title: SELECTION OF A RICE VARIETY RESISTANT TO PYRICULTARIA ORYZAE IN BENIN.

Implementing agency: IFS.

Start date: 1988-00-00.

Country/countries: Benin;

Statement of objectives/abstract:

The major drawback of rice culture in Benin is the disease caused by *Pyricularia oryzae*, and rain-fed rice is more affected than irrigated rice. Due to the great variability of the pathogenicity of *P. oryzae*, no resistant rice variety has been found stable in the conditions of Benin. The project of Dr Vodouhe aims at a better knowledge of the pathogen's variability within the different cultivation conditions in Benin, in order to select high-yielding varieties with durable resistance. The fungal strains collected will be inoculated to different rice varieties, and hybridization will be performed between resistant and high yielding varieties.

Contact in research organization:

Dr Raymond Sognon VODOUHE; Programme de Recherche Rizicole; Direction de la Recherche Agronomique; B P 884; COTONOU; Benin

Record number (MFN): 03331

Official project title: METHODS OF COLONIZATION OF TWO COLEOPTERS *PIEZOTRACHELUS* SP. AND *CALLOSBRUCHUS RHODESIANUS* IN THE PODS OF COWPEAS.

Implementing agency: IFS.

Start date: 1988-00-00.

Country/countries: Cameroon;

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Statement of objectives/abstract:

Cowpea (*Vigna unguiculata*) is the major grain legume in some regions of Cameroon, and yield losses due to the coleopters *Piezotrachelus* sp. and *Callosobruchus rhodesianus* are very important. Mr Bapfubusa will study how the two insects colonize the pods in order to develop a control method. The biology of the insects will be studied in the conditions of Cameroon, in relation to cultivation techniques or occurrence of parasitoids. The plant-insect relationship will also be studied to evidence the contamination process and the insect population during the cultivation cycle.

Contact in research organization:

Mr Benot BAPFUBUSA: Laboratoire de Zoologie; Faculte des Sciences; Universite de Yaounde; B P 812; YAOUNDE; Cameroon

Record number (MFN): 02333

Official project title: TREE REGENERATION, RECRUITMENT AND MORTALITY IN NIGERIAN TROPICAL MOIST FORESTS.

Implementing agency: IFS.

Start date: 1988-00-00.

Country/countries: Nigeria;

Statement of objectives/abstract:

The objective of this research is to provide the forester with a better understanding of how to manipulate forests by creating gap conditions favorable to the regeneration of one species or another. Mr Dike will study tree regeneration in different sizes of gaps and under the entire forest canopy. The dynamics of gap phase will be investigated by looking at the distribution, sizes and colonization of gaps. Mr Dike will observe the population changes in seedlings within gaps and under the forest canopy. The recruitment, survival and mortality of trees in Nigerian tropical moist forests will also be investigated.

Contact in research organization:

Mr Michael Chukwugoba DIKE: Department of Forest Resource Management; University of Ibadan; IBADAN; Nigeria

Record number (MFN): 03335

Official project title: PREPARATION AND PRESERVATION OF *VERNONIA CALVOANA* (INDOLE) AND *AMARANTHUS* SPP. (AMARANTHS).

Implementing agency: IFS.

Start date: 1988-00-00.

Country/countries: Cameroon;

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Statement of objectives/abstract:

'Ndole' and the amaranth are important and nutritive vegetables consumed in large quantities in Cameroon. Losses after harvest are substantial and the availability vary. The production is high during the rainy season but the products are frequently rare during the dry period. The present project comprises studies to diminish losses after harvest, and to find means to achieve a regular supply to urban markets. Studies will include traditional methods of preparation and preservation of the vegetables, followed by investigations of the best means for their processing and preservation including drying and heating of the products. Also included will be trials to prepare a protein concentrate of the leaves from the amaranths. Bacteriological and nutritive studies will be carried out and finally organoleptic tests will be performed.

Contact in research organization:

Mr Jean TCHANGO TCHANGO; Institut de la Recherche Agronomique; (IRA); Section Technologie Alimentaire; B P 13; NJOMBE; Cameroon

Record number (MFN): 03338

Official project title: BIOCHEMISTRY AND TECHNOLOGY OF THE PREPARATION OF A FERMENTED PASTE FROM MAIZE IN BENIN.

Implementing agency: IFS.

Start date: 1988-00-00.

Country/countries: Benin;

Statement of objectives/abstract:

This project constitutes a continuation of a project with the object to establish an inventory and evaluation of technologies for the preparation of traditional foods in Benin. The proposed research will comprise such studies of the preparation of a fermented paste from maize, called 'mawe,' and products derived from this paste. Identification of nutrients, amino acids, volatile acids and other parameters of importance to the quality of the product will be carried out. Appropriate analytic techniques will be developed and established. Physical and chemical parameters will be studied and further efforts will include kinetic studies of degradation or formation of starch, sugars, acids and flavouring compounds.

Contact in research organization:

Mr D Joseph HOUHOUJIGAN; Section Nutrition et Sciences Agro-Alimentaires; Faculte des Sciences Agronomiques; Universite Nationale du Benin; B P 526; COTONOU; Benin

Record number (MFN): 03339

Official project title: INVESTIGATING THE SUITABILITY OF SOLID STATE FERMENTATION (TEMPE) OF VARIOUS LEGUMES AND LEGUME CEREAL MIXTURES IN GHANA.

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Implementing agency: IFS.

Start date: 1988-00-00.

Country/countries: Ghana:

Statement of objectives/abstract:

In Ghana protein malnutrition is frequent and often severe, due to low incomes in large groups of the population. These groups cannot afford expensive meat and milk products, hence there is a need to supplement their cereal diets with comparatively cheap protein sources. The objective of this project is to study the feasibility of supplementing cereals with legumes, having a high protein content. However, the consumption of legumes frequently results in digestion problems with concurrent flatulence. Therefore studies of methods decreasing the flatulence factors, the oligosaccharides, will be carried out. Mixtures of several locally-available cereals and legumes available cereals will be fermented using the mold *Rhizopus oligosporus*, with the aim to create a food product readily digestible and high in protein and vitamins.

Contact in research organization:

Ms Alice HAYFORD: Department of Analysis: Food Research Institute: The Council for Scientific and Industrial Research (CSIR); P O Box 20: ACCRA; Ghana

Record number (MFN): 03340

Official project title: IRON NUTRITION AND AVAILABILITY FROM SOME TROPICAL FOODS.

Implementing agency: IFS.

Start date: 1988-00-00.

Country/countries: Nigeria:

Statement of objectives/abstract:

Anaemic conditions associated with iron deficiency are common and widespread in many developing countries, in contrast to the situation in developed countries. The present project will study the iron status of children and pregnant women in the Ogun State in Nigeria. Haematological evaluation will be included as well as analyses of several foods. The study will comprise legumes, cereals and meat, and total soluble, ionized complexed, ferrous and ferric components will be analyzed. Finally the total available iron content will be determined and related to the nutritional status of investigated groups.

Contact in research organization:

Dr Gladys LATUNDE-DADA; Department of Biochemistry; Ogun State University; P M B 2002; AGO-IWOYE; Ogun State; Nigeria

Record number (MFN): 03341

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Official project title: ANTIMALARIAL, ANTIMICROBIAL, ANTI-INFLAMMATORY AND CYTOTOXIC
ACTIVITY OF EXTRACTS FROM THREE NIGERIAN MEDICINAL PLANTS.

Implementing agency: IFS.

Start date: 1988-00-00.

Country/countries: Nigeria;

Statement of objectives/abstract:

Malaria is an immense problem, in Nigeria and in many other parts of the world. A significant proportion of Nigerians depend on herbal decoctions for the treatment of malaria and other diseases. The object of the proposed research is to investigate the medicinal potency of extracts from some tropical plants used in traditional medicine in Nigeria. Three tropical plants will be included; *Nauclea latifolia*, *Combretudendron africana* and *Baphia nitida*. Crude extracts and isolated compounds will be studied, and screened for potential antimalarial, cytotoxic and antimicrobial activity. The work is carried out in cooperation with Dr Ifeadike (F/1484-1), who will carry out chemical studies and chemical characterization of the active compounds.

Contact in research organization:

Dr Vincent OTOKUNEFOR; Department of Microbiology; University of Port Harcourt;
P M B 5323; PORT HARCOURT; Nigeria

Record number (MFN): 03342

Official project title: ISOLATION, CHARACTERIZATION OF THE BIOLOGICALLY ACTIVE SUBSTANCES
FROM TWO SPECIES OF NIGERIAN MEDICINAL PLANTS; NAUCLEA SPP. AND
BAPHIA SPP.

Implementing agency: IFS.

Start date: 1988-00-00.

Country/countries: Nigeria;

Statement of objectives/abstract:

The proposed research is based on screening for medicinal potency of different parts of three tropical plants growing in Nigeria; *Nauclea latifolia*, *Baphia nitida* and *Combretudendron africana*. Conditions such as malaria and microbial infections are problems of great severity, and large groups of the population depend on the use of herbal remedies to treat these diseases. Extracts from the plants will be screened to identify antimalarial, antibacterial and antifungal activity. The chemical components of the active fractions will then be isolated and chemically characterized and subsequently tested for desirable activity. The work is performed in cooperation with Dr Otokunefor (F/1483-1) who will perform pharmacology and biological activity studies.

Contact in research organization:

Dr Patience NGOZI IFEADIKE; Department of Chemistry; University of Port
Harcourt; P M B 5323; PORT HARCOURT; Nigeria

SPAAR Information System

Record number (MFN): 03343

Official project title: EXTRACTION OF MORINDA LUCIDA AND CASSIA SIAMEA. CHEMICAL AND PHARMACOLOGICAL STUDIES OF EXTRACTS.

Implementing agency: IFS.

Start date: 1988-00-00.

Country/countries: Togo;

Statement of objectives/abstract:

Herbal remedies are frequently of great significance in many developing countries. Two plants used in Togo in traditional medicine have effects on hypertension and malaria. The objects of this project comprise extraction of different parts of *Morinda lucida* and *Cassia Siamea*, in order to chemically isolate and characterize components carrying pharmacological activity. From previous studies the plants are known to contain several groups of pharmacologically active substances such as quinones, sterols and polysaccharides. Parallel to and in cooperation with this project, Dr Gbeassor of Université du Bénin (F/1486-1) will carry out pharmacological studies of all fractions and isolates produced through extraction and other procedures used.

Contact in research organization:

Dr Kossi KOUMAGLO; Département de Chimie; Ecole des Sciences; Université du Bénin; B P 1515; LOME; Togo

Record number (MFN): 03344

Official project title: STUDY OF ANTIHYPERTENSIVE AND ANTIMALARIAL EFFECTS IN EXTRACTS FROM MORINDA LUCIDA AND CASSIA SIAMEA.

Implementing agency: IFS.

Start date: 1988-00-00.

Country/countries: Togo;

Statement of objectives/abstract:

In Africa and in particular in Togo, almost eighty per cent of the population depends on herbal medicine to treat diseases of different origin. The focus of this project is to study the pharmacological activity of extracts derived from *Morinda lucida* and *Cassia siamea*. They are widely used in traditional medicine to treat essential hypertension and malaria, two diseases officially classified as diseases of high priority. Previous studies have revealed antihypertensive, tranquilizing and diuretic effects in extracts from *Morinda lucida*, whereas *Cassia siamea* exerts antitumor activity. Parallel to and in cooperation with this project, Dr Koumaglo of the Université de Bénin will perform chemical studies and characterization of components of extracts. (F/1485-1)

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Contact in research organization:

Mr Messarvi GBEASSOR: Ecole des Sciences: Universite du Benin: B P 1515: LOME:
Togo

Record number (MFN): 03346

Official project title: PHYTOCHEMICAL AND PHARMACOLOGICAL INVESTIGATION INTO THE LEAVES OF
ALCHORNEA CORDIFOLIA AS USED IN TRADITIONAL MEDICINE

Implementing agency: IFS.

Start date: 1988-00-00.

Country/countries: Nigeria.

Statement of objectives/abstract:

The plant *Alchornea cordifolia* grows throughout tropical Africa, where it is used extensively to treat a large variety of diseases. Among the claimed effects are antimicrobial activity and a relaxation activity on smooth muscles. In spite of its extensive use very little is actually known as to what particular substances can be isolated, and the chemistry and pharmacology involved. Therefore this project will be devoted to a study of extracts from leaves of the plant, and a study of different fractions of the extracts will follow. Hitherto it has been shown that a marked antimicrobial activity resides in the acidic fraction of the extract, whereas a muscle relaxation activity has been shown to be due to alkaloids. The proposed research allows for a further fractionation of the extracts, and chemical characterization of isolated compounds, in order to improve the use of the plant.

Contact in research organization:

Dr Francis Omosoyin OGUNGBAMLA: Department of Pharmaceutical Chemistry: Faculty
of Pharmacy: Obafemi Awolowo University: ILE-IFE: Nigeria

Record number (MFN): 03349

Official project title: STUDIES ON THE PHYSICO-MECHANICAL PROPERTIES AND MOISTURE
RELATIONS OF COCOA BEANS.

Implementing agency: IFS.

Start date: 1988-00-00.

Country/countries: Nigeria:

Statement of objectives/abstract:

In spite of the socio-economic importance of cocoa production, all stages of its management and especially post-harvest processing remain largely unmechanized. Dr Faborode's overall objective is to develop mechanical and improved alternatives for cocoa post-harvest primary processing. This research will attempt to gain basic understanding of the behaviour of the cocoa pod composite. Physical properties of

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cocoa pods, deformation behaviour under crushing, frictional characteristics, moisture effects on physico-mechanical properties will be evaluated. This data will provide a basis to design appropriate machines for pod breaking and bean separation. These machines will reduce the drudgery and hard labour and improve the added value of cocoa production.

Contact in research organization:

Dr Michael Oladimeji FABORODE; Department of Agricultural Engineering; Obafemi Awolowo University; ILE-IFE; Nigeria

Record number (MFN): 03350

Official project title: OPTIMIZATION OF A SOLAR POWERED SOLID ABSORPTION REFRIGERATION SYSTEM FOR RURAL AGRICULTURAL APPLICATIONS.

Implementing agency: IFS.

Start date: 1988-00-00.

Country/countries: Nigeria:

Statement of objectives/abstract:

The great advantage of using solar energy in refrigeration and cooling applications is that the maximum amount of solar energy is available when the demand is also at a maximum. Mr Emibe intends to further test and optimize a solar powered solid absorption refrigeration system that has been constructed at Nsukka by his group. The system uses CaCl_2 as absorbent and NH_3 as refrigerant. Mathematical simulation models will be developed for the generation and absorption processes as well as for each major component of the refrigeration system, including the collector/absorber/generator, the evaporator and the condenser. Results of these studies and local climatic data will be applied in the design of prototypes of the refrigerator for two major applications: food preservation, storage of vaccines/drugs for medical purposes, and cooling of rural buildings.

Contact in research organization:

Mr Samuel Ogbonna ENIBE; Department of Mechanical Engineering; University of Nigeria; NSUKKA; Anambra State; Nigeria

Record number (MFN): 03351

Official project title: CORROSION IN TROPICAL AGRICULTURE--CORROSION AND METALS/MATERIALS DEGRADATION IN CASSAVA ROOT PROCESSING INDUSTRIES.

Implementing agency: IFS.

Start date: 1988-00-00.

Country/countries: Nigeria:

Statement of objectives/abstract:

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In many tropical countries, cassava tubers are a source of major staple foods. They are also used in the manufacture of ethyl alcohol and the production of starch used as a binder in tablet making and as an animal feed and are being proposed for use as an addition to wheat flour for bread making. Corrosion of mild steel machinery, storage facilities and agricultural implements used in cassava tuber processing has been widely reported. Dr Loto's objective is to monitor the corrosion behaviour of a range of alloys in the extracted cassava juice environment by electrochemical and electro-optical techniques. Mechanisms and mode of corrosion will be determined. The best corrosion resistant alloys for making machineries and storage facilities will be identified. Materials that can provide effective surface coating protection to the metallic parts of the machinery and storage facilities will also be tested.

Contact in research organization:

Dr Cleophas Akintoye LOTO: Department of Metallurgical and Materials Engineering; Obafemi Awolowo University; ILE-IFE; Nigeria

Record number (MFN): 03352

Official project title: RESEARCH AND DEVELOPMENT OF WASTE WATER TREATMENT TECHNOLOGY FOR IRRIGATION IN RURAL NIGERIA.

Implementing agency: IFS.

Start date: 1988-00-00.

Country/countries: Nigeria:

Statement of objectives/abstract:

Waste water constitutes about 72 per cent of the water usage in Nigeria and its harvesting for reuse is not popular. This resource, although identified as a source of environmental pollution, can be used gainfully in agriculture. However, before waste water can be popularized for irrigation, appropriate low technology treatment is required. Dr Okereke will investigate the performance of multi-compartment septic tank as an alternative low cost technology. The efficiency of this technology for adequate treatment of waste waters will be investigated. In a second stage, using the treated effluent, supplemental irrigation experiments will be conducted in the field on soya beans and appropriate management practices will be developed for farmers.

Contact in research organization:

Mr Chidi OKEREKE: School of Engineering and Engineering Technology; Federal University of Technology; P M B 1526; OWERRI; Nigeria

Record number (MFN): 03356

Official project title: THE DEVELOPMENT OF PRACTICAL DIETS FROM LOCAL FEEDSTUFFS AND INDUSTRIAL WASTES FOR THE CULTURE OF TILAPIA (OREOCHROMIS NILOTICUS).

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Implementing agency: IFS.

Start date: 1989-06-01.

Country/countries: Nigeria:

Statement of objectives/abstract:

Dr Adikwu will study the development of practical diets from local feed stuffs and industrial wastes for the culture of tilapia (*Oreochromis niloticus*) in Nigeria. Wastes from food and drink industries in Kano will be used to substitute the macro nutrients in a reference diet containing fish meal protein and other nutrients. Nutrient substitution will range from partial to complete in test diets, using in the first instance, wastes from vegetable oil milling and brewing industries. Small fish (approximately 3-5.0 g mean initial weight) will be used in the dietary trials, each of which will be in triplicate. Fish holding facilities will be circular 10 liter capacity polypropylene tanks constituted into a warm water recirculating system in the aquarium.

Contact in research organization:

Dr Innocent Agbo ADIKWU: Department of Biological Sciences: Bayero University: P M B 3011: KANO: Nigeria

Record number (MFN): 03357

Official project title: UTILIZATION OF COCOA-POD HUSKS IN LOW-COST DIET AND NUTRITION OF THE DWARF AFRICAN CATFISH, *CLARIAS ISHERIENSIS*.

Implementing agency: IFS.

Start date: 1989-06-01.

Country/countries: Nigeria:

Statement of objectives/abstract:

Cocoa-pod husks (CPH) will be incorporated as carbohydrate component to replace maize at 0, 15, 30 and 45 per cent substitution levels in the formulation of a low-cost diet for raising *Clarias isheriensis* from fingerlings to food fish size. Mr Fagbenro will then test the most effective CPH dietary level treatment, based on Feed Conversion Ratio (FCR) values, at a variable feeding regime (two to five per cent of body weight per day) to determine the effects on the survival, growth and yield of the experimental fish stocked in small concrete tanks. The capability of *C. isheriensis* to digest the CPH diets will also be investigated by Mr Fagbenro, using chemical analysis methods on faeces collected from the experimental fishes during the nutrition experiments described above. CPH is then evaluated as a cheap source of carbohydrate in low-cost fish diets and therefore as a replacement for expensive cereal grains (maize) in fish diets. The duration of each feeding (nutrition) experiment will be 150 days.

Contact in research organization:

Mr Oyedapo FAGBENRO: Department of Fisheries and Wildlife: Federal University of Technology: P M B 704: AKURE: Ondo State: Nigeria

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Record number (MFN): 03360

Official project title: STUDY OF THE PRIMARY PRODUCTION IN THE 'ACADJA-ENCLOS' SYSTEM.

Implementing agency: IFS.

Start date: 1989-12-01.

Country/countries: Côte d'Ivoire:

Statement of objectives/abstract:

The "acadja-enclos" system consists of bamboo planted in shallow water to provide an artificial habitat for fish. Ms Konan Amon will study the primary productivity in this system. The work will be done in the Ebrie lagoon at the aquaculture station at Layo. The study will include: (1) estimation of the chlorophyllic biomass and identification of algae species and (2) evaluation of the primary productivity (oxygen method) and the control parameters by a survey of the abiotic environmental parameters: temperature, salinity, oxygen, light, pH, nutritive salts. It is hoped that the study will lead to a better understanding of the phenomena behind the increased productivity in these systems.

Contact in research organization:

Ms Amon KONAN; Laboratoire d'Ecologie Benthique/Aquaculture; Centre de Recherches Oceanographiques; B P V 18; ABIDJAN; Cote d'Ivoire

Record number (MFN): 03362

Official project title: INDUCED REPRODUCTION OF CLARIAS GARIEPINUS USING ARTIFICIAL HORMONES: NUTRITIONAL STUDY OF LOCAL BY-PRODUCTS IN POND CULTURE OF FINGERLINGS.

Implementing agency: IFS.

Start date: 1989-12-01.

Country/countries: Zaire:

Statement of objectives/abstract:

Mr Ulyel will do a study on cultivation and stocking of fry of *Clarias gariepinus*. The methodology contains four important points to establish: (1) Artificial reproduction induced by injection of either artificial reproduction hormones: LRHa and Dopamine antagonists, or by injection of suspensions of pituitary extracts from the same species or from carp (commercial); (2) Establishment of hatcheries and fry management techniques; Improving survival rate of fry by the use of improved local products and by-products for feeding; Control of environmental conditions (physico-chemical water factors, diseases, mortality causes etc); (3) Fry culture in monoculture systems in ponds; Selection of sites and construction of experimental ponds for culturing; Fertilization of ponds and supplementary feeding of fish; Control of culture conditions; Dissemination of information to local population; Supply of fry to fish culturists; Recommendations concerning improved techniques to

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increase production per surface unit.

Contact in research organization:

Mr Ali-Patho ULYEL: Universite de Kisangani; Faculte des Sciences; B P 1353;
KISANGANI; Zaire

Record number (MFN): 03365

Official project title: INDUCTION AND CONTROL OF OESTRUS IN NIGERIAN ZEBU COWS WITH
PROGESTERONE RELEASING INTRA-VAGINAL DEVICES (PRIDS).

Implementing agency: IFS.

Start date: 1989-06-01.

Country/countries: Nigeria:

Statement of objectives/abstract:

Dr Voh will study the feasibility of a combined Progesterone Releasing Intervaginal Device (PRID)- Prostaglandin F2 alpha (PGF2&) treatment in inducing and controlling oestrus in post-partum suckled zebu cows in Nigeria. Suckled cows 60-90 days post-partum balanced for parity and post-partum interval will be allocated to two groups: (1) control- no treatment; and (2) treated- PRID for seven days and PGF2& injection on the day of PRID withdrawal (PRID- 7 + PGF- 7). All the animals will be observed and inseminated at detected oestrus over a study period of three months. Progesterone profiles will be determined by radio-immunoassay and used to comparatively evaluate reproductive efficiency. It is expected that PRID-PGF2& treatment will effectively shorten the post-partum anoestrus period and control oestrus and thereby widen the scope of AI and improve the reproductive performance of cattle in Nigeria.

Contact in research organization:

Dr Ambrose A VOH: National Animal Production Research Institute; Ahmadu Bello
University; P M B 1096; ZARIA; Nigeria

Record number (MFN): 03368

Official project title: MANAGING THE AFRICAN HONEY BEE.

Implementing agency: IFS.

Start date: 1989-12-01.

Country/countries: Ghana:

Statement of objectives/abstract:

Mr Adjare will conduct several trials to establish methods for managing the aggressive African honey bee *Apis mellifera* var *adansonii*. He will also study

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different available and cheap materials for the construction of appropriate beehives for the different geographical regions such as the forest and the savannah within Ghana. This work is expected to provide documented management practices for use by beekeepers in West Africa.

Contact in research organization:

Mr Stephen Cpoku ADJARE: Apiculture Promotion Unit, Technology Consultancy
Centre: University of Science and Technology, KUMASI: Ghana

Record number (MFN): 03370

Official project title: BREED AND SEASONAL INFLUENCES ON THE REPRODUCTIVE POTENTIAL OF THE
COCK IN A HUMID TROPICAL ENVIRONMENT.

Implementing agency: IFS.

Start date: 1989-12-01.

Country/countries: Nigeria:

Statement of objectives/abstract:

With increasing population in Nigeria, demand for animal products is also increasing and poultry meat and eggs constitute the cheapest means of meeting the daily animal protein requirement. For effective production of chicks for the local poultry farmers, a thorough understanding of the reproductive physiology of the cock is invaluable. Ms Nkanga will evaluate the sperm production and reserve potentials in two breeds of the male domestic fowl (barred Plymouth Rock and Nigerian indigenous breeds) by: (1) histology; (2) enumeration of mature spermatid and spermatozoa in testicular homogenates; and (3) assessment of the daily sperm output with the exhaustion technique. The effect of season on sperm production, physical and biochemical characteristics of ejaculated semen will be evaluated. The assessment of fertility will be made by natural mating and by artificial insemination. Fertilized eggs collected will be hatched and the performance of the chicks monitored for eight weeks.

Contact in research organization:

Ms EfiowanEme NKANGA: Department of Biological Sciences; University of
Calabar; P M B 1115: CALABAR; Nigeria

Record number (MFN): 03371

Official project title: STUDY OF CAPRINE PULMONARY MYCOPLASMOSES IN NIGERIA WITH
PARTICULAR REFERENCE TO CONTAGIOUS CAPRINE PLEUROPNEUMONIA (CCPP).

Implementing agency: IFS.

Start date: 1989-12-01.

Country/countries: Nigeria;

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Statement of objectives/abstract:

This study is intended to re-assess the status of caprine pneumonia with a view to determine whether classical contagious caprine pleuropneumonia (CCPP) exists in Nigeria. It will involve serological screening of goats all over Nigeria; and the isolation and identification of mycoplasma species involved in caprine pleuropneumonia. Dr Shoyinka will subject pure colonies of mycoplasma isolates to different biochemical tests while the more reliable serological methods of identification will be carried out at IEMVT-CIRAD in France. The results will confirm the presence or absence of mycoplasma "biotype F38" in Nigeria and so affirm the status of classical CCPP.

Contact in research organization:

Dr Vincent Olumuyiwa SHOYINKA; Department of Veterinary Pathology and Microbiology; University of Nigeria; NSUKKA; Nigeria

Record number (MFN): 03372

Official project title: EFFECTS OF SEASON ON TESTICULAR DEVELOPMENT, SEMEN QUALITY AND SEMINAL BIOCHEMISTRY OF TROPICAL BOARS.

Implementing agency: IFS.

Start date: 1989-12-01.

Country/countries: Nigeria;

Statement of objectives/abstract:

This study will be undertaken by Mr Ugwu at Abakaliki Campus, Anambra State University of Technology, Nigeria, using 75 weaner boars (25 from each population of local, large white pigs, and local x large white pigs). These will be subjected to routine studies for testicular development, libido and ejaculation characteristics with dummy and artificial vaginas; and basic semen quality tests including acrosome morphology. Some biochemical constituents of whole semen, seminal plasma and sperm will be determined to further assess quality of ejaculated semen and accessory competence. The investigation will cover four seasons of the year for three years using conventional methods. Results will elucidate interaction effects of season, breed, and genotype/environment on parameters studied.

Contact in research organization:

Mr Simeon UGWU; Department of Animal Production; Anambra State University of Technology; Abakaliki Campus; P M B 01660; ENUGU; Nigeria

Record number (MFN): 03377

Official project title: STUDY ON THE REGENERATION OF EFFICIENT WOODY SPECIES OF THE NATURAL SEMI-DECIDUOUS FOREST OF POBE.

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Implementing agency: IFS.

Start date: 1989-12-01.

Country/countries: Benin:

Statement of objectives/abstract:

The natural forest of Pobe, one of the rare natural resources of South Benin, constitutes a reserve of seeds and genetic material regarding botanical composition and variety in economically important species. Mr Sokpon will characterize the different micro-climatic conditions existing in the forest. He will also study the phenological rhythm of those species that are most important from the silvicultural point of view. These are *Terminalia superba*, *Triplochiton seleroxylon*, *Autiaris africana*, *Itoloptelea grandis*, and *Sterculia tragacantha*. The quantity and quality of seeds produced by these species as well as the growth conditions for the seedlings will be investigated. Observations and trials on the natural regeneration are part of the project.

Contact in research organization:

Mr Nestor SOKPON; Departement Production Vegetale; Faculte des Sciences Agronomiques; Universite Nationale du Benin; B P 526; COTONGU; Benin

Record number (MFN): 03378

Official project title: COMPARISON OF INDIGENOUS AND AUSTRALIAN FUNGI FOR CONTROLLED MYCORRHIZA OF EUCALYPTUS IN THE CONGO.

Implementing agency: IFS.

Start date: 1989-12-01.

Country/countries: Congo.

Statement of objectives/abstract:

In his investigations in the humid tropical zone Dr N'Zala will inventory and describe the natural ectomycorrhiza associations present in the forests of Congo. After isolation of the respective fungi, *Eucalyptus* will be inoculated with these different indigenous isolates in tree nurseries. The obtained mycorrhizal infections will be evaluated and after transplanting the effectiveness and competitiveness of the indigenous fungi will be compared to that of the introduced Australian fungi. This study will enable the selection of efficient and competitive strains of indigenous mycorrhiza fungi compatible with the *Eucalyptus* introduced to Congo.

Contact in research organization:

Dr Donatien NZALA; Universite Marien Ngouabi; Institut de Developpement Rural; B P 69; BRAZZAVILLE; Congo

Record number (MFN): 03379

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Official project title: ECOLOGICAL INCIDENCE OF AFFORESTATION IN EUCALYPTUS IN THE SAVANNAH IN THE REGION SURROUNDING BRAZZAVILLE.

Implementing agency: IFS.
Start date: 1989-12-01.
Country/countries: Congo:

Statement of objectives/abstract:

Dr Loumeto will study different ecological parameters for a better understanding of the changes caused by Eucalyptus on spontaneous vegetation and on soil in Congo and especially in the region of Brazzaville. Four experimental plots will be installed: savannah Loudetia, savannah Hyparrhenia, Eucalyptus of around 15 years of age and Eucalyptus of between six to seven years. The following observations and measurements will be made: botanical inventory, the annual productivity of the herbaceous layer, the effect of the organic matter on the soil, the litter decomposition, and a fertility test. The comparative study will give information about the development of the vegetation and the soil.

Contact in research organization:

Dr Jean Joel LOUMETO: Departement de Biologie et Physiologie Vegetales; Faculte des Sciences; B P 69: BRAZZAVILLE: Congo

Record number (MFN): 03381

Official project title: STUDY ON THE IMPACT OF THE VARIETY AND THE MATURITY AT HARVEST ON THE EFFECT OF CHLORINATION, PACKAGING AND CURING OF COCOYAM IN STORAGE.

Implementing agency: IFS.
Start date: 1989-06-01.
Country/countries: Cameroon:

Statement of objectives/abstract:

In an attempt to control the heavy post-harvest losses of cocoyam, a staple food in Cameroon, Mr Bikomo will test the efficiency of chlorination with one per cent sodium hypochlorite, followed by packaging with polyethylene bags and curing at 35 degrees Centigrade and 100 per cent relative humidity for seven days. Treatment application on cocoyam from different varieties and at different stages of maturity will be organized in a randomized complete block design. The storage of treated cocoyam will be under ambient conditions. Quality evaluation on stored corms will consider discoloration, decay, weight loss, moisture content, dry matter/dry weight content, cooking properties and taste. Post-harvest loss reduction, storage quality improvement and shelf-life extension are expected.

Contact in research organization:

Mr René BIKOMO MBONOMO; University Centre of Dschang; P O Box 96; DSCHANG; Cameroon

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Record number (MFN): 03382

Official project title: DEVELOPMENT OF SOY-BASED EVAPORATED COW MILK ANALOG.

Implementing agency: IFS.

Start date: 1989-06-01.

Country/countries: Nigeria:

Statement of objectives/abstract:

Dairy products are essential food commodities imported to Nigeria, and their widespread consumption is limited by exorbitant prices. Dr Nsofor will develop an inexpensive analog of evaporated cow milk, a popular dairy product in Nigeria, from ultrafiltered/diafiltered soy milk with added vegetable oil, sucrose, corn syrup solids and lecithin. The milk analog will be chemically analyzed for per cent protein, fat, carbohydrate, minerals and moisture, and its consumer acceptance evaluated to insure elimination of objectionable odour and flavour of soy products.

Contact in research organization:

Dr Leslie M NSOFOR: Department of Food Science and Technology: Imo State University: P M B 2000: OKIGWE: Imo State: Nigeria

Record number (MFN): 03384

Official project title: SOLID SUBSTRATE FERMENTATION OF BAMBARA GROUNDNUT (VIGNEA SUBTERRANEA).

Implementing agency: IFS.

Start date: 1989-12-01.

Country/countries: Nigeria:

Statement of objectives/abstract:

Mr Barimalaa will study the solid substrate fermentation of Bambara groundnut by simulating a dawadawa-type product. Main focus of the study is the optimization of different conditions such as time, temperature and relative humidity in the fermentation process. The indices of the evaluation will be aroma development, total aerobic count, pH, total soluble amino acids and moisture content of product. Changes in proximate composition will be evaluated by AOAC methods. Minor nutritional components like phytate, raffinose, oligosaccharides, saponins and polyphenols as well as trypsin inhibitory activities will be determined using standard methods. Speciation of microorganisms will be done according to Bergey's Manual of Determination Bacteriology. The research will be carried out at the Rivers State University of Science and Technology, Port Harcourt, Nigeria.

Contact in research organization:

Mr Iminabo Samuel BARIMALAA: Department of Food Science and Technology, Rivers

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State University of Science and Technology: P M B 5080: Nkpolu: PORT HARCOURT:
Nigeria

Record number (MFN): 03385

Official project title: CHEMICAL AND BIOLOGICAL STUDIES ON GARRI TOXICITY SYNDROME WITH
PARTICULAR REFERENCE TO THE FREE AND BOUND HYDROCYANIC ACID
CONTENT.

Implementing agency: IFS.

Start date: 1989-12-01

Country/countries: Nigeria:

Statement of objectives/abstract:

Garri will be randomly sampled for the free and bound HCN content. This would be followed by an evaluation of the effect of fermentation time on the concentration of these parameters in garri produced from each of the sweet, bitter and a mixture of sweet and bitter cassava varieties in simulation of the current local production methods. The garri produced from varying fermentation times will be used in rat assay studies to evaluate the nutritional and biochemical implications using performance, nutrient utilization, organ measurements, urinary thiocyanate and tissue rhodanese activity as the response criteria. Based on the results, Dr Aletor will make suggestions that can be incorporated into an educational programme for improved garri production.

Contact in research organization:

Dr Valentine Ayobore ALETOR; Department of Animal Production and Health; Federal
University of Technology: P M B 704; AKURE: Nigeria

Record number (MFN): 03386

Official project title: STUDIES ON SPOILAGE AND SHELF-LIFE EXTENSION OF KWOKA, A NIGERIAN
TRADITIONAL MAIZE DISH.

Implementing agency: IFS.

Start date: 1989-12-01.

Country/countries: Nigeria;

Statement of objectives/abstract:

Studies on spoilage and shelf-life extension of kwoka (a popular but highly perishable traditional maize meal in Southern Nigeria) will be carried out. Dr Efiuvwevwe will study the effects of various composition formulations; maize: ripe plantain/sugar: palm nut fruit extract: condiments: preservatives and processing parameters (steaming durations and packaging) on quality attributes and storage-stability. Chemical, microbiological and physical indicators including organoleptic assessment will be used to evaluate quality changes. Supplementation of

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maize with soybean will also be evaluated. The work is therefore aimed at establishing optimal composition formulations and processing parameters with a view to improving wholesomeness and shelf-life stability.

Contact in research organization:

Dr Bernard J O EFIUVWEVWERE; Department of Microbiology; University of Port Harcourt; P M B 5323; PORT HARCOURT; Nigeria

Record number (MFN): 03387

Official project title: PHYTOCHEMICAL, CHEMOTAXONOMICAL AND BIOLOGICAL STUDIES OF CAMEROONIAN SPECIES OF THE FAMILY CECROPIACEAE.

Implementing agency: IFS.

Start date: 1989-06-01.

Country/countries: Cameroon:

Statement of objectives/abstract:

Dr Lontsi will study the phytochemistry, chemotaxonomy and bioactivities of certain members of the family Cecropiaceae. The first aspect of the study will consist of a field trip for sample collection, organic solvents extraction of resulting powders of the different samples, purification of resulting extracts by plate and column chromatography and structure elucidation of the different compounds by spectroscopic methods. The second aspect will consist of testing the purified compounds or derivatives for antifungal, herbicidal, anticancer and antibacterial activities. The third aspect will deal with chemotaxonomy of the family using the results found in the chemical literature and those obtained from the first part of our study.

Contact in research organization:

Dr David LONTSI; Department of Organic Chemistry; Faculty of Science; University of Yaounde; B P 812; YAOUNDE; Cameroon

Record number (MFN): 03388

Official project title: EXTRACTION OF FUNGAL TOXICANTS FROM THREE GHANIAN PLANTS AND UTILIZATION OF SUCH IN CONTROLLING FOLIAR PLANT PATHOGENS.

Implementing agency: IFS.

Start date: 1989-06-01.

Country/countries: Ghana:

Statement of objectives/abstract:

The objective of the study is to identify West African plants with fungitoxic properties to serve as candidates in the development of botanical fungicides. The works will be conducted at the Crop Science Department of the University of Science and Technology in Kumasi. Dr Awuah will study, on culture media, the fungitoxic

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spectrum of steam distillates from leaves of *Ocimum gratissimum*, *Cymbopogon citratus* and fruits of *Xylocopa aethiopia* using fungi from different taxonomic groups. Effective extracts will further be tested for control of selected foliar/aerial fungal pathogens in a screenhouse pot experiment. Inhibition of fungal growth and in vivo control of diseases with extracts from some of the plants is anticipated.

Contact in research organization:

Dr Richard Tuyee AWUAH; University of Science and Technology; Department of Crop Science; KUMASI; Ghana

Record number (MFN): 03391

Official project title: BIOLOGICAL CONTROL OF STEM-BORERS OF CEREALS BY USE OF PLANT EXTRACTS FOUND IN THE IVORIAN PHARMACOPEIA.

Implementing agency: IFS.

Start date: 1989-06-01.

Country/countries: Côte d'Ivoire:

Statement of objectives/abstract:

Cereals such as rice, maize and sorghum constitute important and basic food in the Ivory Coast. In spite of encouragement from the government, production of cereals is far below needs. The harvest of cereals also suffers from great losses due to attack from insects. The proposed project is devoted to the study of particular insects namely *Chilo partellus*, *Eldana saccharina* and *Spodoptera exempta*. The research will comprise an electrophysiological study of the alimentary behaviour of the larvae of the insects in combination with a study of the chemistry of resistant and susceptible plants of cereals. Natural insecticides will be screened, based on extracts defined in the Ivorian pharmacopeia.

Contact in research organization:

Dr Ehouan Etienne EHILE; Faculte des Sciences et Techniques; Universite Nationale de Cote d'Ivoire; 22 B P 582; ABIDJAN 22; Cote d'Ivoire

Record number (MFN): 03393

Official project title: ANTI-HYPERTENSIVE ACTIONS OF SOME NIGERIAN NATURAL PRODUCTS.

Implementing agency: IFS.

Start date: 1989-12-01.

Country/countries: Nigeria;

Contact in research organization:

Dr Olanrewaju Olusegun ADENEKAN; Department of Pharmacology; Obafemi Awolowo College of Health Sciences; Ogun State University; P M B 2001; SAGAMU; Nigeria

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Record number (MFN): 03394

Official project title: EVALUATION OF GELATIN SPHERES-IN-OIL-IN-WATER EMULSIONS AS CONTROLLED RELEASE DRUG DELIVERY SYSTEMS IN MALARIAL CHEMOTHERAPY.

Implementing agency: IFS.
Start date: 1989-12-01.
Country/countries: Nigeria:

Statement of objectives/abstract:

The development of resistant strains to antimalarial agents offers a fresh challenge in malaria chemotherapy. In the past, efforts have been directed toward structural modification of the drug molecule and screening of plants for new antimalarial agents. A useful alternative approach would be the development of drug delivery systems which could improve the chemotherapeutic effectiveness of these agents by controlling their rates of release. The project will be carried out at Obafemi Awolowo University, Ile-Ife, Nigeria. Dr Omotosho will study formation, characterization and stability of G/O-W systems. In order to elucidate the competence of this system as controlled delivery systems, both in vitro and in vivo release experiments are planned.

Contact in research organization:

Dr J A OMOTOSHO: Department of Pharmaceutics: Faculty of Pharmacy: Obafemi Awolowo University: ILE-IFE: Nigeria

Record number (MFN): 03395

Official project title: UTILIZATION OF AQUATIC PLANTS FOR THE PURIFICATION OF WASTE WATER (PHYTOPURIFICATION).

Implementing agency: IFS.
Start date: 1989-06-01.
Country/countries: Cameroon:

Statement of objectives/abstract:

Mr Agendia will undertake to select, test, and characterize aquatic plants suitable in phytoc purification. Plants selected will be those showing regular and rapid growth, and easy cultivation and harvesting in waste water. Plants will be tested through cultivation in waste water effluent and characterized by growth and productivity measurements (biomass production), pollutant removal and photosynthetic activity. Spectroscopic methods will be used in nutrient analyses and photosynthetic activity will be evaluated by gaseous exchange. A plant species will be considered as having a potential in phytoc purification if it shows high productivity, photosynthetic response and is efficient in the elimination of pollutants in the waste water.

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Contact in research organization:

Mr Philip Lekeanyi AGENDIA; Department of Plant Biology and Physiology;
University of Yaounde; B P 812; YAOUNDE; Cameroon;

Record number (MFN): 03397

Official project title: SOIL ACIDITY, P-FORMS, P-FIXATION AND CORRELATION WITH SELECTED
SOIL PROPERTIES OF OXISOL AND ULTISOL IN CAMEROON.

Implementing agency: IFS.

Start date: 1989-06-01.

Country/countries: Cameroon;

Statement of objectives/abstract:

Demographic pressures and exploitation of the inherently poor Oxisol and Ultisol-dominated western highland savanna region of Cameroon (mean annual rainfall is 2,000 millimeters; mean annual temperature is 20 degrees centigrade) have led to consistently low crop yields. Dr Yenima will study soil acidity, P-forms, and P-fixation in these soils and correlate them with selected soil physico-chemical properties to better understand the interactive mechanisms and derive appropriate soil management practices.

Contact in research organization:

Dr Bernard Palmer Kfuban YERIMA; Soil Science Department; University Centre of
Dschang; P O Box 222; DSCHANG; Cameroon

Record number (MFN): 03401

Official project title: NITROGEN FIXATION, UTILIZATION AND BRADYRHIZOBIUM INTERSTRAIN
COMPETITION IN INTERCROPPING SYSTEMS.

Implementing agency: IFS.

Start date: 1989-12-01.

Country/countries: Ghana;

Statement of objectives/abstract:

Mr Abaidoo will study and establish the suitability of some cultivars of maize and sorghum grown in Ghana as reference crops in the assessment of biological nitrogen fixation using the ^{15}N -dilution method. This method will be used to measure biological nitrogen fixation in intercropping systems of *Vigna unguiculata* and *Arachis hypogaea* as legumes and *Zea mays* and *Sorghum* spp. as cereal components. The antibiotic resistance strain selection technique will be used to develop *Bradyrhizobium* strains for evaluation of the stability of interstrain competition patterns under intercropping management systems. Benefits of biological nitrogen fixation in intercropping systems to subsequent non-legume cultivation will also be assessed.

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Contact in research organization:

Mr Robert Clement ABAIDOO: Department of Biological Sciences: University of Science and Technology. Private Mail Bag: KUMASI: Ghana

Record number (MFN): 03407

Official project title: REGIONAL PROGRAMME FOR THE IMPROVEMENT OF MILLET, SORGHUM, COWPEAS, AND MAIZE (TRANSITIONAL PHASE).

Implementing agency: CILSS-Sahel Institute.

Start date: 1981-00-00.

Country/countries: Africa: Burkina Faso: Mali: Mauritania: Niger: Senegal: Chad: Cape Verde: Gambia: Guinea-Bissau:

Statement of objectives/abstract:

The objective of the programme is to put seeds of improved varieties at the disposal of Sahelian farmers. The implementation of Phase I from 1981 to 1984, allowed the identification of a restricted group of varieties of millet, sorghum, cowpeas, and maize adapted to the various ecological zones. The present phase would consolidate these results and transfer the results obtained to farmers' fields. At the regional level, the research activities would involve: (a) trials in the farmers' fields of the varieties identified at the end of the cooperative trials conducted between 1981 and 1984; (b) survey of farmers to evaluate the results and determine varieties suited for diffusion; (c) support the production of prebase and base seeds to meet the needs of the trials, large-scale multiplication and diffusion, including seed technology; and (d) development of information in order to: (i) facilitate information exchange; (ii) disseminate research results through fact-sheets on varieties; and (iii) promote the publication of scientific work. At the national level, the programme would initiate concertation involving decision-makers and technicians for the elaboration and cost estimation of a programme for the multiplication and diffusion of the varieties retained. Upon completion, the programme is expected to: (1) provide varieties and technologies suitable to the conditions of the environment, and a substantial increase in production; and (2) permit actual multiplication and diffusion of varieties through national multiplication and diffusion programmes.

Contact in research organization:

National Research Institutions

Record number (MFN): 03408

Official project title: RESEARCH PROGRAMME ON PHYTOGENETIC RESOURCES.

Implementing agency: CILSS-Sahel Institute.

Start date: 1990-00-00. End date: 1994-00-00.

Country/countries: Africa: Burkina Faso: Mali: Mauritania: Niger: Senegal: Chad: Cape

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Verde: Gambia; Guinea-Bissau:

Statement of objectives/abstract:

The objectives of the proposed programme are to: (a) establish national phylogenetic resources units—each responsible for collecting, assessing and conserving crop resources; and (b) a regional phylogenetic resources data bank in the long-term. The programme consists of five components: (1) national research institutes—provision of equipment for the conservation of collections under adequate conditions; (2) inventory of existing collections and exchange of materials with ICRISAT, IITA, ORSTOM and others; (3) evaluation of the accessions collected on the basis of uniform types of observation, using the descriptors of IBPGR as reference; (4) establishment of a regional data-bank on the basis of the results of the evaluation in (3); and (5) training or improvement courses for national researchers and technicians, in collaboration with institutions specialized in phylogenetic resources. At country level, a national unit for phylogenetic resources will be responsible for the management of the genotypes and at regional level, a Coordination Team will be responsible for the animation, the coordination and the control of the on-field activities. Upon completion, the programme would allow the: (i) safeguarding of the Sahelian crop-genotypes; (ii) establishment of a distribution system which would make it possible for researchers to have easy access to the stored crop-materials; (iii) improvement of the efficiency of varietal selection programmes; and (iv) establishment of a phylogenetic resources data-bank.

Contact in research organization:

National Research Institutions

Record number (MFN): 03409

Official project title: CROP PROTECTION PROGRAMME.

Implementing agency: CILSS-Sahel Institute.

Start date: 1990-00-00. End date: 1994-00-00.

Country/countries: Africa: Burkina Faso; Mali; Mauritania; Niger; Senegal; Chad; Cape Verde; Gambia; Guinea-Bissau;

Statement of objectives/abstract:

The objectives of the proposed programme are to: (1) increase crop production through the reduction in losses caused by crop pests; (2) consolidate the achievements of the Project on Research on Integrated Control, by pursuing and strengthening the research already undertaken for the development of integrated control systems for pests of food crops; (3) strengthen national crop protection services, especially through the strengthening of the monitoring network, the phytosanitary control, and the training of farmers; and (4) strengthen inter-Sahelian collaboration in crop protection, already established by the Sahel Institute. The programme will consist of three components: (a) research in integrated control; (b) strengthening of national crop-protection services; and (c) regional technical coordination. Upon completion, the programme would provide: (i) integrated control methods for the main food crop pests that will not be harmful to the environment and

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are applicable by Sahelian farmers; (ii) a functional monitoring network to provide early warning on the behavior of pests and treatments to be used when the need arises; (iii) phytosanitary control at entry ports, sea-ports and airports; (iv) a better trained and better informed producers who will participate actively in the protection of their crops and of their environment; (v) stronger inter-Saharan collaboration for more efficient control of crop-pests; (vi) a reduction in the utilization of pesticides; and (vii) a reduction in crop-losses.

Contact in research organization:
National Research Institutions

Record number (MFN): 03410

Official project title: INCREASE OF PRODUCTIVITY AND CONTROL OF DISEASES OF SMALL RUMINANTS.

Implementing agency: CILSS-Sahel Institute.

Start date: 1990-00-00. End date: 1994-00-00.

Country/countries: Africa: Burkina Faso; Mali; Mauritania; Niger; Senegal; Chad; Cape Verde; Gambia; Guinea-Bissau;

Statement of objectives/abstract:

Under the Research/Development Programme on Small Ruminants (SR) in the CILSS Countries, the objectives of the proposed project are the: (1) assessment and effective exploitation of the available knowledge on the management of pasturelands in Sahelian countries; (2) evaluation of the impact of a methodical health coverage (vaccination and anthelmintic treatment) on the productivity of small ruminants; (3) analysis of cost/benefit ratio and socio-economic incidence; and (4) determination of the incidence of increased small ruminants population on the Sahelian ecology. The major research activities would involve: (a) standardized identification of herds and localization of sites and itineraries of observations—zones of transhumance, of sedentary livestock-breeding; (b) development of a uniform system for multidisciplinary intervention on the selected animal material—periods, types of vaccines used, nature of anthelmintics used, rate of interventions, types of blood-taking and laboratory analyses; (c) testing of rapid, efficient and cheap screening methods, including blood-taking for analysis and diagnosis of diseases in goats and sheep; (d) permanent control of the quality of vaccines and monitoring of the rate of immunization of the animals treated; (e) data collection—composition and evolution of herds, reproduction (fertility, abortions, mortality of young animals), marketing at family and village levels and local consumption; (f) evaluation of the impact of the project on the development of small ruminants breeding and the evolution of the ecology in the zones involved; and (g) utilization of the results in national and regional policies for the development of small ruminants breeding in the Sahel. Upon completion, the project would provide: (i) a Research/Development Network on the breeding of small ruminants (pathology, productivity and equilibrium of the agro-sylvo-pastoral ecosystem); (ii) knowledge of the risks of overstocking of animals; (iii) reliable and comparative data for strategies for the control of diseases of small ruminants at national and regional

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levels, and efficient plans for vaccination and anthelmintic treatment campaigns; (iv) knowledge on the behaviour of agro-cattle breeders vis-a-vis the methodical introduction of a system for the improvement of small ruminants through health coverage (vaccination and anthelmintic treatment); and (v) increase in the productivity of small livestock, in the income of the pastoral families, and in the consumption of animal products.

Contact in research organization:
National Institutes, Centres, and Laboratories

Record number (MFN): 03411

Official project title: PATHOLOGY OF SMALL RUMINANTS: ETIOLOGY, VACCINES AND PROPHYLAXIS.

Implementing agency: CILSS-Sahel Institute.
Start date: 1990-00-00. End date: 1992-00-00.
Country/countries: Africa: Burkina Faso; Mali; Mauritania; Niger; Senegal; Chad; Cape Verde; Gambia; Guinea-Bissau;

Statement of objectives/abstract:

Under the Research/Development Programme on Small Ruminants (SR) in CILSS Countries, the objectives of the proposed project are to: (a) assert the etiology of the "pneumonic diseases" syndrome (one of the main causes of mortality in sheep and goats) in small ruminants with a view to produce appropriate vaccines; (b) train researchers in active immunization against the pseudorinderpest of small ruminants with a view to produce a heterologous anti-rinderpest vaccine which is better tolerated by the breeds of sheep and goats in the guinean and sudano-sahelian zones; and (c) proceed to an etiological dismembering of "pox" (poxviruses) in sheep and goats for the establishment of a rational prophylaxis. The research activities would involve virology--serological survey, diagnosis methods and testing of vaccinal strains; bacteriology--determination of precise period of intervention of germs and experimental diagnosis; and mycoplasmal studies--identification of the action of mycoplasma. Upon completion the project would permit: (i) the identification of the main pathogenic agents of the "pneumonic diseases" of small ruminants; (ii) the evaluation of their level of pathogenicity; (iii) the creation of simple and/or combined efficient and innocuous vaccines; and (iv) the recommendations of appropriate prophylaxis measures.

Contact in research organization:
Central Veterinary Laboratory; Bamako; Mali; National Laboratory for Livestock and Veterinary Research; Farcha; Ndjamena; Chad

Record number (MFN): 03412

Official project title: RESEARCH AND STUDY PROGRAMME ON THE IMPROVED MANAGEMENT OF EXTENSIVE NATIONAL RANGELANDS IN THE SAHEL (PGENES).

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Implementing agency: CILSS-Sahel Institute.

Start date: 1990-00-00. End date: 1994-00-00.

Country/countries: Africa; Burkina Faso; Mali; Mauritania; Niger; Senegal; Chad; Cape Verde; Gambia; Guinea-Bissau;

Statement of objectives/abstract:

The objective of the proposed programme is to improve the standard of living of livestock-breeders by: (i) securing, in the Sahel, practices of extensive livestock-breeding, correlative with a better management of pastoral resources; (ii) increasing the potentialities of primary production with the help of the Association of Pastoralists--restoration of rangelands, bush-fire control; (iii) increasing the availability of and accessibility to resources by optimizing the utilization of pastoral water supply infrastructure; and (iv) safeguarding the ecosystem by giving more responsibilities to its users and by organizing the system. The project would elaborate a rural code for enacting a line of conduct during transhumance and train technical staff as well as livestock-breeders in the techniques for better management of natural rangelands.

Contact in research organization:

National Institutes, Centres, and Laboratories

Record number (MFN): 03413

Official project title: RESEARCH AND STUDY PROGRAMME ON THE POSSIBILITY OF INTENSIFICATION OF FODDER AND ANIMAL PRODUCTION IN THE FRAMEWORK OF AN ASSOCIATION OF AGRICULTURE AND LIVESTOCK BREEDING IN SUB-SAHELIAN, SUDANIAN AND GUINEAN ZONES.

Implementing agency: CILSS-Sahel Institute.

Start date: 1990-00-00. End date: 1994-00-00.

Country/countries: Africa; Burkina Faso; Mali; Mauritania; Niger; Senegal; Chad; Cape Verde; Gambia; Guinea-Bissau;

Statement of objectives/abstract:

Deep changes--increased cultivation and fallows, increased livestock population in the cotton zone, systematic utilization of crop-residues, integration of livestock-breeding into agricultural practices--which occurred in the farming systems of the Sudanian, Guinean and Sahelian zones during the last twenty years have led the traditional extensive livestock-breeders to adopt sedentary livestock-breeding. The proposed programme would offer sedentary "new livestock-breeders" the possibility to rationally organize their style of exploitation so as to ensure the fertility of their lands and the intensification of their livestock-breeding through the utilization of cultivated pastures and agro-industrial by-products. To achieve these objectives, the programme would: (a) promote the development of fodder crops in Sub-Saharan (irrigated zones), Sudanian and Guinean zones through the development of appropriate and more productive farming techniques; and (b) organize, and sensitize "livestock-breeders farmers" for initiation and training in the techniques for the

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conduct of animals compatible with crops grown in the zones. The programme would develop models of exploitation adapted to the various ecological situations of the Sub-region to optimize the animal and agricultural production of the sector in harmony with the concepts of preservation of the environment and of desertification control, and establish a Research/Development Network that would integrate agriculture and livestock-breeding for soil erosion control and improvement of animal feeds.

Contact in research organization:

National Institutes and Centres for Research on Animal Production Systems

Record number (MFN): 03415

Official project title: ECOLOGICAL MONITORING OF THE DYNAMICS OF DESERTIFICATION.

Implementing agency: CILSS-Sahel Institute.

Start date: 1990-00-00. End date: 1994-00-00.

Country/countries: Africa: Burkina Faso; Mali; Mauritania; Niger; Senegal; Chad; Cape Verde; Gambia; Guinea-Bissau;

Statement of objectives/abstract:

The objectives of the proposed programme are to: (1) develop an effective methodology for monitoring the dynamics of desertification and establish a data-bank to provide information services to the political authorities of Sahelian research and development institutions as well as to the cooperating partners; (2) promote research in Sahelian countries for improving continuously the quality of the data-bank on desertification; (3) support research institutions for increasing their contribution to the implementation of National Plans for desertification control; (4) contribute, through information and training, to a greater diffusion of efficient desertification control techniques developed in the various parts of the Sahel and in other parts of arid and semi-arid zones of the world; and (5) elaborate actions for controlling some aspects of the degradation of the environment.

Contact in research organization:

National Institutions and Environment/Ecology Centers Regional Remote Sensing Center, Ouagadougou; Burkina Faso/UNEP; Mali

Record number (MFN): 03416

Official project title: ECOLOGY/ENVIRONMENT PROGRAMME: REFORESTATION AND CONSERVATION OF THE FORESTRY RESOURCES.

Implementing agency: CILSS-Sahel Institute.

Start date: 1990-00-00. End date: 1994-00-00.

Country/countries: Africa: Burkina Faso; Mali; Mauritania; Niger; Senegal; Chad; Cape Verde; Gambia; Guinea-Bissau;

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Statement of objectives/abstract:

Reforestation in the Sahel is associated with the rational management of natural forests. The Sahelian countries have readjusted their policies toward: (1) the silviculture of local species which are of prime importance to the rural populations—gum-trees and shea-trees are a top priority in most of the States; (2) the silviculture of species which could increase substantially the exports of products (more specifically, cashew-tree); and (3) the development of natural stands for their restoration through rational exploitation. The major focus of the research programme would be on Gum-trees, Shea-trees and Cashew-trees. The research activities would involve: (i) inventory of research and assessment of the achievements for each of the three crops, as well as evaluation and redynamization of research wherever necessary in order to meet the regional preoccupation of better efficiency in the utilization of resources; (ii) address the problems of desertification control, supply of fuelwood, lumber, fruits and medical products as well as soil and water conservation and crop protection; and (iii) stimulate sub-regional concertation, coordinate the actions undertaken or to be undertaken, and ensure the diffusion of research results.

Contact in research organization:

National Institutions and Environment/Ecology Centers

Record number (MFN): 03417

Official project title: RESEARCH PROGRAMME ON FOOD SECURITY, STRATEGIES AND POLICIES.

Implementing agency: CILSS-Sahel Institute.

Start date: 1990-00-00. End date: 1994-00-00.

Country/countries: Africa; Burkina Faso; Mali; Mauritania; Niger; Senegal; Chad; Cape Verde; Gambia; Guineé-Bissau;

Statement of objectives/abstract:

The objectives of the proposed programme are to: (1) promote and develop the capability of CILSS countries to carry out prospective studies and research, in the follow-up and evaluation of the efforts of their on-going or planned policies on the production (availability), the distribution (accessibility) and the consumption (utilization) of products essential for attaining food security for the population; (2) provide reliable and opportune scientific information to decision makers of the Sahelian countries and Donors to guide them in the formulation and adjustments required in policy making to improve the food security situation of the population; (3) stimulate concertation, collaboration and exchange between Sahelian and non-Sahelian researchers on federating research themes relating to the harmonization of macro-economic policies for better sub-regional and regional agro-industrial integration; and (4) ensure, through the inter-active process of the concertation, collaboration and exchanges in (3), efficient and operational vocational training of competent experienced Sahelian researchers in the field of agricultural and food policies analysis.

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five year period would be focused on the strengthening of the RESADOC Network and the INSAH Documentation Center for qualitative, quantitative and efficient services: (b) Information Division--the objectives of the Information Division during the five year period would be focused on the strengthening of information support to research workers, extension workers and farmers through the diffusion of research results, training, audio-visual aids, rural radio programmes, video-reporting and films, as well as the sensitization of the populations to the problems of drought and desertification; and (c) Training Division--the objectives of the Training Division during the five year period would be focused on the conducting of: (a) improvement training of research cadres and technicians (applied research, research management and administration); (b) regular training assistance for member states (short and long duration scholarships, refresher courses); and action-oriented training through technical workshops.

Contact in research organization:
INSAH; Bamako; Mali

Record number (MFN): 03420

Official project title: NATIONAL AGRICULTURAL TECHNOLOGY SUPPORT.

Implementing agency: World Bank; Nigeria.
Start date: 1992-00-00.
Country/countries: Nigeria;

Statement of objectives/abstract:
Strengthen the institutional environment and operational activities to adapt improved technology packages and their delivery system to meet location-specific needs of farmers.

Contact in research organization:
Ministry of Agriculture; Federal Department of Agriculture and Rural Development; Nigeria
State Ministries of Agriculture; Nigeria

Record number (MFN): 03421

Official project title: LIVESTOCK (FORMERLY LIVESTOCK SERVICES).

Implementing agency: World Bank; Ghana.
Start date: 1993-00-00.
Country/countries: Ghana;

Statement of objectives/abstract:
To strengthen livestock production through improvement of animal health, provision of animal watering points, dry season feeding, breed improvement, and strengthening of the institutional framework for livestock production. Proposed actions: (a) the

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establishment of herders' associations to regulate use of water and forage resources; (b) introduction of pasture legumes into grazing areas and a range of herbaceous and tree legumes into mixed livestock/crop farming systems to increase availability and improve quality of forage; and (c) the establishment of a range improvement and monitoring unit in the Department of Animal Health and Production to assist herders' associations in regulating water and forage utilization and to improve range productivity.

Contact in research organization:

Ministry of Agriculture; Department of Animal Health and Production; Accra;
Ghana

Record number (MFN): 03422

Official project title: LIVESTOCK III.

Implementing agency: World Bank; Nigeria.

Start date: 1994-00-00.

Country/countries: Nigeria;

Statement of objectives/abstract:

The major project components are: (i) dairying; (ii) animal health; (iii) research; (iv) extension; (v) institutional strengthening; (vi) grazing reserves development; (vii) credit; and (viii) input supply.

Record number (MFN): 03429

Official project title: AGRICULTURAL EXTENSION (FORMERLY NATIONAL AGRICULTURAL EXTENSION PROJECT).

Implementing agency: World Bank; Ghana.

Start date: 1992-00-00. End date: 1997-00-00.

Country/countries: Ghana;

Statement of objectives/abstract:

The project would initiate and develop a unified agricultural extension system with strong research linkages in order to promote the wide use of proven agricultural technologies and farming practices that would increase farm output, improve the efficiency of labor, conserve soil and water resources and contribute to environmental protection. Emphasis would be given to institutions and human resource development and reaching more women farmers. The project would include three components: (i) strengthening the extension service in all the ten regions; (ii) strengthening the technical departments of the Ministry of Agriculture to expand sectoral capacity to test the relevance of technologies generated by research institutes to farmers' conditions; and (iii) supporting human resource development

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through pre-service and in-service training.

Contact in research organization:
Ministry of Agriculture: Accra: Ghana

Record number (MFN): 03434

Official project title: SEEDS II.

Implementing agency: World Bank: Zaire.
Country/countries: Zaire;

Record number (MFN): 03435

Official project title: NATIONAL EXTENSION PROJECT.

Implementing agency: World Bank: Zaire.
Start date: 1993-00-00.
Country/countries: Zaire;

Statement of objectives/abstract:

The project would disseminate improved technology to the agricultural population at large, especially to poor subsistence smallholders. Increased agricultural productivity and the resulting wide distribution of incomes would broaden the base of domestic production as well as that of effective demand, thereby strengthening the base of sustained economic development. Project components would include: (a) management of agricultural extension services; (b) training of extension staff; (c) adaptive research to tailor broad-based existing recommendations to the requirements of specific agro-ecological and social environments; (d) monitoring and evaluation, specially the impact on women and child nutrition. Animal health services and agricultural education would also be rehabilitated in coordination with the extension services.

Record number (MFN): 03438

Official project title: FORESTRY.

Implementing agency: World Bank: Benin.
Start date: 1985-07-31. End date: 1990-06-30.
Country/countries: Benin;

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Record number (MFN): 03439

Official project title: BORGOU RURAL DEVELOPMENT II.

Implementing agency: World Bank; Benin.

Start date: 1988-12-13. End date: 1992-12-31.

Country/countries: Benin;

Record number (MFN): 03454

Official project title: HEVECAM RUBBER.

Implementing agency: World Bank; Cameroon.

Start date: 1985-08-30. End date: 1990-06-30.

Country/countries: Cameroon;

Record number (MFN): 03455

Official project title: LIVESTOCK SECTOR DEVELOPMENT.

Implementing agency: World Bank; Cameroon.

Start date: 1989-05-30. End date: 1995-06-30.

Country/countries: Cameroon;

Record number (MFN): 03456

Official project title: COCOA REHABILITATION.

Implementing agency: World Bank; Cameroon.

Start date: 1988-10-26. End date: 1995-12-31.

Country/countries: Cameroon;

Record number (MFN): 03463

Official project title: FORESTRY II.

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Implementing agency: World Bank; Cote d'Ivoire.
Start date: 1985-12-18. End date: 1990-06-30.
Country/countries: Côte d'Ivoire:

Record number (MFN): 03464

Official project title: RUBBER V.

Implementing agency: World Bank; Cote d'Ivoire.
Start date: 1988-10-18. End date: 1992-12-31.
Country/countries: Côte d'Ivoire:

Record number (MFN): 03465

Official project title: AGRICULTURAL EXTENSION.

Implementing agency: World Bank; Cote d'Ivoire.
Start date: 1987-12-18. End date: 1992-06-30.
Country/countries: Côte d'Ivoire:

Statement of objectives/abstract:

The project would be the first phase of a multi-phased development project effort which would introduce the main principles of the Training and Visit system in Cote d'Ivoire's three major extension agencies - Compagnie Ivoirienne pour le Developpement des Textiles (CIDT), Societe d'Assistance Technique pour la Modernisation Agricole de la Cote d'Ivoire (SATMACI) and Societe pour le Developpement du Palmier a Huile (SODEPALM) - and then improve the system operations and efficiency over time through a reorganization and better utilization of available resources. Experience gained in other parts of the world has demonstrated that 10 to 15 years are necessary to fully implement the institutional reforms needed for the full success of the Training and Visit system. The project would therefore be the first tranche of a major institution building effort and would place emphasis on: (a) increasing the production of farmers receiving assistance from extension services, from about 25 percent at present to about 50 percent by 1990; (b) extending simple crop husbandry improvements and better ways of using modern inputs where available; and (c) increasing collaboration between extension and research to develop technical innovations well adapted to farmers' needs.

Contact in research organization:

Compagnie Ivoirienne pour le Developpement des Textiles (CIDT), Societe
d'Assistance Technique pour la Modernisation Agricole (SATMACI), Societe pour le
Developpement du Palmier a Huile (SODEPALM)

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Record number (MFN): 03474

Official project title: OIL PALM DEVELOPMENT PROJECT - PHASE II.

Implementing agency: World Bank; Ghana.

Start date: 1989-11-14. End date: 1991-12-31.

Country/countries: Ghana.

Statement of objectives/abstract:

The project would provide for consolidation of Phase I development of the nucleus plantation and smallholder/outgrower plantings. It would also increase palm oil production through an additional 2 500 ha of outgrower plantings. The main components include: (1) vehicles, equipment, and building materials for housing for nucleus estate and oil mill employees; (2) inputs, extension services, and credit to smallholders and growers; (3) consultant services--eight man months of consultants services would be provided to help develop a program including training priorities; (4) training--eighteen man months of overseas training would be provided for the professional staff and technicians; and (5) development of an oil palm research program. In the framework of the research program, the project would assist by providing equipment, materials and imported seed for the artificial pollination, seed preparation and storage and bunch analysis units. The project would also finance laboratory equipment for entomology, physiology, pathology, soil and foliar analysis and agronomy.

Contact in research organization:

Ministry of Agriculture; Accra; Ghana
Dr. J.B. Wonkyi-Appiah; Director, Oil Palm
Research Centre (OPRC); P.O. Box 74; Kade; West Akim District; Eastern Region;
Ghana

Record number (MFN): 03514

Official project title: SOPHOTO STATE AGRICULTURAL DEVELOPMENT.

Implementing agency: World Bank; Nigeria.

Start date: 1983-04-28. End date: 1990-06-30.

Country/countries: Nigeria.

Record number (MFN): 03515

Official project title: LIVESTOCK II.

Implementing agency: World Bank; Nigeria.

Start date: 1987-04-10. End date: 1992-06-30.

Country/countries: Nigeria.

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Record number (MFN): 03516

Official project title: SOUTHERN BORNO AGRICULTURAL DEVELOPMENT PROJECT.

Implementing agency: World Bank; Nigeria.

Start date: 1987-03-13. End date: 1992-07-31.

Country/countries: Nigeria;

Record number (MFN): 03517

Official project title: MULTI-STATE AGRICULTURAL DEVELOPMENT PROJECT II.

Implementing agency: World Bank; Nigeria.

Start date: 1989-11-16. End date: 1993-06-30.

Country/countries: Nigeria;

Statement of objectives/abstract:

To identify locally adapted crop varieties.

Record number (MFN): 03549

Official project title: AGRICULTURAL EXTENSION.

Implementing agency: World Bank; Togo.

Start date: 1988-07-25. End date: 1993-12-31.

Country/countries: Togo;

Record number (MFN): 03550

Official project title: COTTON SECTOR DEVELOPMENT.

Implementing agency: World Bank; Togo.

Start date: 1989-08-17. End date: 1993-06-30.

Country/countries: Togo;

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Record number (MFN): 03554

Official project title: SMALLHOLDER MAIZE.

Implementing agency: World Bank; Zaire.

Start date: 1981-05-11. End date: 1990-06-30.

Country/countries: Zaire;

Record number (MFN): 03555

Official project title: NE R.D./ITURI II.

Implementing agency: World Bank; Zaire.

Start date: 1983-10-31. End date: 1990-12-31.

Country/countries: Zaire;

Record number (MFN): 03556

Official project title: SOUTH SHABA AGRICULTURAL DEVELOPMENT PROJECT.

Implementing agency: World Bank; Zaire; NGOs; BUNASEM; RAV; BCA; VCPD; OR.

Start date: 1988-05-02. End date: 1994-12-31.

Country/countries: Zaire;

Record number (MFN): 03625

Official project title: MANAGEMENT OF THE WEST AFRICAN DWARF GOAT IN THE HUMID TROPICS
(PHASE II AND III).

Implementing agency: Agricultural University Wageningen.

Start date: 1985-00-00. End date: 1992-00-00.

Country/countries: Nigeria;

Statement of objectives/abstract:

The long term goal would be to improve animal production in the humid tropics. The short term goal would be to develop management guidelines for economic use of dwarf goats in farming systems in the humid tropics. Research/capacity-building activities would involve: (a) Phase I—execution of on-station research on feeding requirements, health aspects and ways of keeping dwarf goats; development of guidelines for management; and (b) Phase II—on-farm testing and adapting of

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developed guidelines according to various farming systems.

Contact in research organization:

Obafemi Awolowo University; Department of Animal Science; Ile-Ife; Nigeria

Record number (MFN): 00629

Official project title: ASCOCHYTA BLIGHT RESEARCH.

Implementing agency: Centro Internacional de Agricultura Tropical (CIAT)/National Agricultural Research Institutes.

Start date: 1989-00-00. End date: 1991-00-00.

Country/countries: Global; Burundi; Rwanda; Zaire; Colombia;

Statement of objectives/abstract:

The long term goal would be to increase the production of beans (*Phaseolus*) by controlling ascochyta blight complex. The short term goal would be to clarify the relationship between the taxa of ascochyta and phoma, and give insight into the extent and nature of variation in the host-parasite relationship to provide guidance in breeding for resistance. Research/capacity building activities would involve collection of material in Africa and Latin America, and analysis.

Contact in research organization:

Centro Internacional de Agricultura Tropical (CIAT)

Record number (MFN): 03642

Official project title: OKRA MOSAIK VIRUS.

Implementing agency: Administration Générale de la Coopération au Développement.

Start date: 1990-03-00. End date: 1993-03-00.

Country/countries: Nigeria;

Statement of objectives/abstract:

Epidemiology of okra mosaik the virus and formulation of control policy.

Contact in research organization:

K.U.L. University; Labo Phyto Pathology; 330; Leuven; Tel: 016/22 09 31

Record number (MFN): 03651

Official project title: SUPPLEMENTAL IRRIGATION IN THE HUMID TROPICS.

Implementing agency: Administration Générale de la Coopération au Développement.

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Start date: 1990-12-00. End date: 1995-12-00.

Country/countries: Nigeria;

Statement of objectives/abstract:

Research on adapted irrigation methods.

Contact in research organization:

KUL University; 3030 Leuven; Tel: 016/22 09 31

Record number (MFN): 03659

Official project title: RURAL ENTERPRISE DEVELOPMENT.

Implementing agency: U.S. Agency for International Development/Africare.

Start date: 1986-00-00. End date: 1991-00-00.

Country/countries: Central African Republic;

Statement of objectives/abstract:

USAID has concentrated on improving marketing and distribution of agricultural production, especially food crops in order to diversify and increase rural incomes.

This project which will be implemented by Africare would collect and analyse marketing data.

Record number (MFN): 03660

Official project title: AGRICULTURE SECTOR RESTRUCTURING.

Implementing agency: U.S. Agency for International Development.

Start date: 1990-00-00. End date: 1995-00-00.

Country/countries: Guinea;

Statement of objectives/abstract:

Provide support to development of agricultural related markets.

Record number (MFN): 03661

Official project title: NATURAL RESOURCES MANAGEMENT.

Implementing agency: U.S. Agency for International Development.

Start date: 1990-00-00. End date: 1991-00-00.

Country/countries: Guinea;

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Record number (MFN): 03662

Official project title: PRIVATE VOLUNTARY AND NONGOVERNMENTAL ORGANIZATION SUPPORT
(PVO/NGO).

Implementing agency: U.S. Agency for International Development.

Start date: 1987-00-00. End date: 1991-00-00.

Country/countries: Liberia:

Statement of objectives/abstract:

Deliver assistance to local organizations involved in development or small and medium-sized enterprises thru U.S. private voluntary organizations.

Contact in research organization:

PVONGO

Record number (MFN): 03667

Official project title: CENTRAL SHABA AGRICULTURAL DEVELOPMENT.

Implementing agency: U.S. Agency for International Development.

Start date: 1986-00-00. End date: 1991-00-00.

Country/countries: Zaire:

Statement of objectives/abstract:

Carry out extension activities by both men and women agents with messages addressing specific production constraints, and promote soil fertility enhancement and erosion prevention techniques.

Record number (MFN): 03668

Official project title: AGRICULTURAL POLICY AND PLANNING.

Implementing agency: U.S. Agency for International Development.

Start date: 1986-00-00. End date: 1995-00-00.

Country/countries: Zaire:

Record number (MFN): 03669

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Official project title: APPLIED AGRICULTURAL RESEARCH II.

Implementing agency: U.S. Agency for International Development.

Start date: 1990-00-00. End date: 1995-00-00.

Country/countries: Zaire;

Record number (MFN): 03678

Official project title: UNIVERSITIES AND NATIONAL AGRICULTURAL RESEARCH IN SUB-SAHARAN AFRICA.

Implementing agency: International Service for National Agricultural Research.

Country/countries: Africa; Cameroon; Kenya; Burundi; Nigeria; Senegal; Botswana; Niger; United Republic of Tanzania;

Statement of objectives/abstract:

The main objective is to develop principles and guidelines for strengthening the capacity of sub-Saharan African universities to contribute more effectively to development-responsive research. This will be done by analyzing current situations and opportunities, and by identifying approaches and mechanisms that would help strengthen universities' contributions to national agricultural research. The rationale is that considerable resources are available or can be mobilized for university research in sub-Saharan Africa, and that it is imperative that these resources be utilized as effectively as possible as strategic contributions to solving problems of agricultural development. This involves the need to design models for more effective cooperation between national research institutions and higher agricultural education institutions in Africa. Such models should become part of a concrete framework for sustainable NARS in Africa.

Record number (MFN): 03700

Official project title: PROGRAMME 2B: ON-FARM RESEARCH - ANALYSIS OF INTERACTIONS AND IMPACT OF AGROFORESTRY PRACTICES.

Implementing agency: International Council for Research in Agroforestry.

Start date: 1991-00-00.

Country/countries: Africa; Kenya; Cameroon; Ghana; United Republic of Tanzania;

Statement of objectives/abstract:

The general objective is to develop "hard facts" on well known and established agroforestry practices and use of farmers knowledge for improved and new technology design. The major activities in this subproject will include a synthesis of local available information, multi visit surveys and technical monitoring and case-study systems and components on the following agroforestry practices: (i) scattered Acacia

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albida on crop land in southern Africa; (ii) home garden and live fencing in Kenya, Cameroon, and Ghana; (iii) banana/tree system; in three countries of eastern and central Africa AFRENA; (iv) boundary planting, live fencing, woodlots, fodder bank combinations in farming systems in Kenya; and (v) agroforestry/fodder systems in Tanzania.

Record number (MFN): 03710

Official project title: PROGRAMME 5: TRAINING - TRAINING FOR RESEARCHERS AND DEVELOPMENT PLANNERS.

Implementing agency: International Council for Research in Agroforestry.

Start date: 1991-00-00. End date: 1993-00-00.

Country/countries: Africa; Ethiopia; Kenya; Cameroon; United Republic of Tanzania;

Statement of objectives/abstract:

The objective is to increase knowledge and skills of scientists, development planners and policy makers in the formulation and implementation of agroforestry research leading to the generation of appropriate agroforestry technology. The expected outcomes are: (i) approximately 225 scientists directly trained by the subproject; (ii) development and testing of training materials for future wider dissemination and use; and (iii) a multiplying effect of (i) and (ii) in national institutions.

Record number (MFN): 03728

Official project title: PLANTAIN PHYSIOLOGIE: MATURATION AND STOCKAGE.

Implementing agency: International Network for the Improvement of Banana and Plantain.

Start date: 1989-01-00. End date: 1992-00-00.

Country/countries: Côte d'Ivoire;

Statement of objectives/abstract:

Maturation and stockage of usual and traditional types. Tests.

Contact in research organization:

Dicke, E.; Université d'Abidjan; Faculté des Sciences et Techniques; Côte d'Ivoire

Record number (MFN): 03729

Official project title: SELF SUFFICIENCY.

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Implementing agency: International Network for the Improvement of Banana and Plantain.
Start date: 1988-09-00.
Country/countries: Zaire:

Statement of objectives/abstract:
To teach self sufficiency with scientologic methodes.

Contact in research organization:
Missogo, Gifuti-A-Nguya; Eglise Internationale de Scientologie; Zaire

Record number (MFN): 03730

Official project title: PROSPECTING ON ROOT CROPS AND PLANTAINS. COLLECTION MAINTENANCE.

Implementing agency: International Network for the Improvement of Banana and Plantain.
Start date: 1988-01-00. End date: 1990-01-00.
Country/countries: Togo:

Statement of objectives/abstract:
Varietal maintenance and improvement.

Contact in research organization:
Tetevi, K.; Institut des Plantes a Tubercules; Togo

Record number (MFN): 03732

Official project title: INFLUENCES OF MINERAL AND ORGANIC DRESSING ON PLANTAIN CULTIVATION, IDENTIFICATION OF CULTIVARS AND PRODUCTION IN ARID ZONES.

Implementing agency: International Network for the Improvement of Banana and Plantain.
Start date: 1984-03-00. End date: 1994-00-00.
Country/countries: Guinea;

Statement of objectives/abstract:
To help small holders to increase their plantain production.

Contact in research organization:
Conde, L. II; Secretariat d'Etat a la Recherche Scientifique; Programme Plantain; Guinea

Record number (MFN): 03735

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Official project title: BANANA CLONAL CHARACTERIZATION IN YANGAMBI.

Implementing agency: International Network for the Improvement of Banana and Plantain.

Start date: 1990-01-00. End date: 1993-00-00.

Country/countries: Zaire;

Statement of objectives/abstract:

To evaluate the germplasm pest susceptibility.

Contact in research organization:

Beya, M.: INERA; Zaire

Record number (MFN): 03736

Official project title: CHARACTERIZATION, EVALUATION AND ESTIMATION OF THE DAMAGES DUE TO NEMATODES, PHYTOPARASITES OF BANANAS.

Implementing agency: International Network for the Improvement of Banana and Plantain.

Start date: 1984-00-00.

Country/countries: Africa; Côte d'Ivoire;

Contact in research organization:

Queneherve, P.; ORSTOM; FranceUNiversity of California; USA

Record number (MFN): 03737

Official project title: NUTRITION AND CROP PROTECTION.

Implementing agency: International Network for the Improvement of Banana and Plantain.

Start date: 1989-06-00. End date: 1994-00-00.

Country/countries: Guinea;

Statement of objectives/abstract:

Answering to small farmers needs.

Contact in research organization:

Camara, K.; Centre de Recherche Agronomique de Foulaya; Guinea

Record number (MFN): 03738

Official project title: CAMEROON BANANA PRODUCTION AND TRADE.

Implementing agency: International Network for the Improvement of Banana and Plantain.

Start date: 1990-01-00. End date: 1992-00-00.

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Country/countries: Cameroon;

Statement of objectives/abstract:
Ph.D. Dissertation.

Contact in research organization:
Fonsah, E.G.; Del Monte; Cameroon

Record number (MFN): 03739

Official project title: CONTROL OF THE BANANA BORER WEEVIL USING THE LOCAL INSECTICIDE PLANTS.

Implementing agency: International Network for the Improvement of Banana and Plantain.
Start date: 1987-01-00. End date: 1991-00-00.
Country/countries: Zaire:

Statement of objectives/abstract:
To increase the plantain productivity and longevity.

Contact in research organization:
Nku, M.; Faculte des Sciences Agronomiques; Zaire

Record number (MFN): 03742

Official project title: CONTROL OF BLACK CERCOSPORIOSIS ON PLANTAIN BY RESISTANT CULTIVARS.

Implementing agency: International Network for the Improvement of Banana and Plantain.
Start date: 1990-06-20. End date: 1993-07-00.
Country/countries: Nigeria;

Statement of objectives/abstract:
To obtain resistant cultivars.

Contact in research organization:
Mobambo, K.N.; IITA; Nigeria

Record number (MFN): 03743

Official project title: IMPACT OF IMPROVED TECHNOLOGY ON PLANTAIN PRODUCTION IN BENDEL STATE OF NIGERIA.

Implementing agency: International Network for the Improvement of Banana and Plantain.

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Start date: 1989-09-00. End date: 1990-12-00.

Country/countries: Nigeria;

Contact in research organization:

Imoudu, P.B.; Federal University of Technology; School of Agriculture and Technology; Nigeria

Record number (MFN): 03746

Official project title: AGRICULTURAL PRIVATIZATION AND SMALLHOLDER DEVELOPMENT (FORMERLY AGRICULTURAL SECTOR DEVELOPMENT).

Implementing agency: World Bank; Sao Tome & Principe.

Start date: 1992-05-00. End date: 1996-00-00.

Country/countries: Sao Tome and Principe;

Statement of objectives/abstract:

Support of government policy reforms in agriculture particularly promotion of small farmers through land tenure, and the promotion of food crops.

Contact in research organization:

Ministry of Agriculture & Fisheries; Av. 12 de Julho; Sao Tome; Sao Tome & Principe; Tel: 22714; Telex: 916-2300 Directorate of Agriculture and Fisheries; Sao Tome & Principe

Record number (MFN): 03772

Official project title: ECONOMICS OF POST HARVEST LOSS REDUCING MEASURES.

Implementing agency: University of Hohenheim.

Start date: 1986-00-00.

Country/countries: Togo;

Statement of objectives/abstract:

To make an economic evaluation of different storage methods in households in Togo and to analyse the decision-making in storage and use of the stored produce.

Contact in research organization:

Prof. Dr. W. Doppler; Inst. 490; Universitaet Hohenheim; Postfach 700562; 7000 Stuttgart 70; Federal Republic of Germany German Agency for Technical Cooperation (GTZ)/Project Allemand pour la Protection des Végétaux; B.P. 1263; Lomé; Togo

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Record number (MFN): 03779

Official project title: EVALUATION OF TROPICAL LOWLAND FORAGE LEGUMES FOR SUB-HUMID WEST AFRICA AT ILCA.

Implementing agency: Universitaet Giessen.

Start date: 1988-04-01. End date: 1991-03-31.

Country/countries: Africa; Nigeria; Cameroon; Côte d'Ivoire;

Statement of objectives/abstract:

The objectives of the project are: (1) development of a technique to evaluate the quality and quantity of promising forage legumes resulting from different establishment procedures; (2) to investigate the performance of promising legumes "in sward"; and (3) to use the technique developed in objective (1) to test the performance of promising forage legumes.

Contact in research organization:

Prof. Dr. J. Alkaemper; WZ Tropeninstitut; Abt. Pflanzenbau und Pflanzenzuechtung; Universitaet Giessen; Schottstr. 2; 6300 Giessen; Federal Republic of Germany; Tel: 0641/7028411ILCA; Subhumid Zone Programme; PMB 2248; Kaduna; Nigeria

Record number (MFN): 03785

Official project title: PRODUCTION OF BACTERIAL VACCINES IN A CONTINUOUS BIOREACTOR WITH SUBSEQUENT PURIFICATION OF ANTIGEN THROUGH ULTRAFILTRATION.

Implementing agency: Institute for Tropical Animal Health, University Goettingen.

Start date: 1980-00-00.

Country/countries: Africa; Madagascar; Ghana;

Statement of objectives/abstract:

In a bioreactor unit bacteria are grown continuously at their logarithmic peak of propagation and subsequently separated from broth and metabolites within a tangential filtration cascade.

Contact in research organization:

Prof. Dr. H. S. H. Seifert; Director; Institute for Tropical Animal Health; University Goettingen; Kellnerweg 6; 3400 Goettingen; Federal Republic of Germany

Record number (MFN): 03786

Official project title: IDENTIFICATION OF BACTERIA THROUGH ANALYSIS OF METABOLIC PRODUCTS AND CELL COMPONENTS BY MEANS OF GAS LIQUID CHROMATOGRAPHY (GLC).

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Implementing agency: Institute for Tropical Animal Health, University Goettingen.

Start date: 1976-00-00.

Country/countries: Africa; Madagascar; Ghana;

Statement of objectives/abstract:

By means of Gas Liquid Chromatography (GLC) metabolic products and cell components of bacteria are analyzed and obtained data statically compared with those from known reference strains in order to identify the organism.

Contact in research organization:

Prof. Dr. H. S. H. Seifert; Director; Institute for Tropical Animal Health;
University Goettingen; Keilnerweg 6; 3400 Goettingen; Federal Republic of
Germany

Record number (MFN): 03790

Official project title: NUTRIENT REQUIREMENTS OF THE GRASSCUTTER.

Implementing agency: German Agency for Technical Cooperation (GTZ).

Start date: 1988-10-01. End date: 1991-08-31.

Country/countries: Benin;

Statement of objectives/abstract:

Purpose of this project is to identify the nutrient requirements of the grasscutter as well as to derive optimal feeding systems for grasscutter husbandry.

Methodological approach: standard feeding trials under simulated tropical conditions.

Contact in research organization:

Prof. Dr. C. Gall; Institut fuer Tierproduktion in den Tropen und Subtropen
(480); Universitaet Hohenheim; Postfach 700562; 7000 Stuttgart 70; Federal
Republic of Germany; Tel: 0711/4593170; Grasscutter Breeding Station; Cotonou;
Benin

Record number (MFN): 03795

Official project title: ESTIMATION OF MONTHLY RUNOFF DATA ON THE BASIS OF MULTISPECTRAL SATELLITE IMAGERY.

Implementing agency: Universitaet Bruchm.

Start date: 1987-02-02. End date: 1991-02-02.

Country/countries: Africa; Ghana;

Statement of objectives/abstract:

A model will be developed especially for generating monthly runoff data on the basis of multispectral satellite imagery information. The model will be tested in the

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above defined geographical area. A sensitivity analysis will clarify to what extent satellite imagery are necessary for optimization in regard to temporal and spatial resolution.

Contact in research organization:

Prof. Dr. Ing. G. A. Schultz; Lehrstuhl fuer Hydrologie; Wasserwirtschaft und Umwelttechnik; Ruhr-Universitaet Bochum; Universitaetsstr. 150; 4630 Bochum; Federal Republic of Germany

Record number (MFN): 03799

Official project title: DYNAMICS OF THE ECONOMICALLY IMPORTANT MELIACEAE AFTER EXPLOITATION IN THE MOIST FOREST OF THE PEOPLE'S REPUBLIC OF CONGO.

Implementing agency: Universitaet Goettingen.

Start date: 1989-06-00. End date: 1991-12-00.

Country/countries: Congo;

Statement of objectives/abstract:

The regeneration behaviour of important Meliaceae presents problems to the silviculturist since this group is only little shade tolerant and smaller diameter classes are often underrepresented. The project will find answers for natural regeneration techniques of this group by investigating the silvicultural status of the gaps created by selective logging.

Contact in research organization:

Prof. Dr. H. J. Weidelt/Mr. Hermann Fickinger; Institut fuer Waldbau; Buesgenweg 1; 3400 Goettingen; Federal Republic of Germany; Tel: 0551/393651

Record number (MFN): 03802

Official project title: IMPROVING WATER MANAGEMENT IN THE SEMI-ARID REGION OF CAMEROON.

Implementing agency: Bundesministerium fuer Wirtschaftliche Zusammenarbeit/Federal Ministry for Economic Cooperation (BMZ).

Start date: 1987-12-01. End date: 1990-12-31.

Country/countries: Cameroon; Israel; Germany;

Statement of objectives/abstract:

Field measurements of infiltration and soil erosion are done on small plots on different soil types near Maroua (Cameroon) by three treatments (control, mulch, gypsum). Additional analysis are done in the laboratory in Israel (rain simulation, standard soil analysis) and Germany (mineralogical analysis). Factor influencing soil stability against erosion and sealing will be determined.

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Contact in research organization:

Prof. Dr. U. Schwertmann; Lehrstuhl fuer Bodenkunde; TU Muenchen; 8050
Freising-Weihenstephan; Federal Republic of Germany
Prof. Dr. I. Shainberg;
Volcani Institute; Bet Dagan; Israel
National Center for Soil Science (CNS);
Yaounde; Cameroon

Record number (MFN): 03806

Official project title: INVESTIGATION IN BIOLOGICAL PARAMETERS OF ACHATINA ACHATINA.

Implementing agency: Universitaet Goettingen.

Start date: 1989-10-00.

Country/countries: Africa; Côte d'Ivoire; Benin;

Statement of objectives/abstract:

Investigation on influencing the reproduction as well as the amelioration of the hatching rate. Evaluation of the phenotypic variation of the performance in growth and reproduction of *Achatina achatina* and *Achatina fulica*. Disponibility of culture- and wild-fodder plants and of agrc-industrial by-products and their acceptance by *Achatina achatina*.

Contact in research organization:

Dr. G. Morkramer; Institut fuer Tierzucht und Haustiergenetik;
Albrecht-Thaer-Weg 1; 3400 Goettingen; Federal Republic of Germany

Record number (MFN): 03811

Official project title: SITE EVALUATION IN THE RAIN FOREST OF EAST LIBERIA.

Implementing agency: Universitaet Bayreuth.

Start date: 1986-10-00.

Country/countries: Liberia;

Statement of objectives/abstract:

The project investigates into the interconnection between sites, growth and tree species in tropical rain forests to determine the growth dynamics of rain forests, it develops a basic site evaluation scheme.

Record number (MFN): 03813

Official project title: [SOILS AND ECOLOGICAL STUDIES OF THE KAZABOUA AGROFORESTRY SYSTEM

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IN THE CENTRAL REGION OF TOGO] ETUDES PEDOLOGIQUES ET ECOLOGIQUES
DANS LE SYSTEME AGROFORESTIER DE KAZABOUA, REGION CENTRALE TOGO.

Implementing agency: Univeritaet Bayreuth.

Start date: 1988-06-14.

Country/countrnes: Togo;

Statement of objectives/abstract:

Influence of forest-bands on soil fertility, soil water, erosion and micro-climate on associated fields. Rooting pattern of tree and shrub species; root competition between annual and perennial components of the agroforestry system. Influence of perennials on Mulch-decomposition and N-mineralization on the fields. Main perennial species: Cassia siamea, Leucaena.

Contact in research organization:

Prof. Dr. W. Zech, Goetz Schroth; Lehrstuhl fuer Bodenkunde und Bodengeographie; Universitaet Bayreuth; Postfach 101252; 8580 Bayreuth; Federal Republic of Germany; Tel: 0921/552-248 Institut National des Sois; BP. 1026; Lome; Togo

Record number (MFN): 03625

Official project title: CONTROL OF ZONOCERUS VARIEGATUS.

Implementing agency: Universitaet Freiburg.

Start date: 1990-01-00.

Country/countries: Germany; Benin;

Contact in research organization:

Prof. Dr. Michael Boppre; Forstzoologisches Institut; Universitaet Freiburg; Fohrenbuehl 27; D-7801 Stegen-Wittental; Federal Republic of Germany

Record number (MFN): 03847

Official project title: INFLUENCE OF NEEM (AZADIRACHTA INDICA) PRODUCTS ON LOCUSTS AND GRASSHOPPERS.

Implementing agency: Justus-Liebig Universitaet Giessen.

Start date: 1989-04-00. End date: 1993-07-00.

Country/countries: Africa; Benin; Niger;

Statement of objectives/abstract:

Environmentally sound locust and grasshopper control by means of botanicals available in Africa.

Contact in research organization:

Prof. Dr. H. Schmutterer; Institut fuer Phytopathologie und Angewandte Zoologie;

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Justus-Liebig Universitaet Giessen; Ludwigstr. 23; D-6300 Giessen; Federal Republic of Germany/International Institute of Tropical Agriculture (IITA), Cotonou; Benin/Crop Protection Service; Niamey; Niger/Max-Planck-Institute of Biochemistry; Martinsried; Federal Republic of Germany/Institut National de l'Agriculture; Paris-Grignon; France

Record number (MFN): 03848

Official project title: LOCUST AND GRASSHOPPER CONTROL BY APPLICATION OF NEEM PRODUCTS.

Implementing agency: Justus-Liebig Universitaet Giessen.

Start date: 1990-01-01. End date: 1993-07-30.

Country/countries: Germany; Benin;

Statement of objectives/abstract:

The aim of the project is to study the effects of neem (*Azadirachta indica*) products on locusts and grasshoppers as a possible basis for practical control of these pests by neem applications. Laboratory experiments in 1989 showed a high sensitivity of nymphs of *Schistocerca gregaria* and *Locusta migratoria migratoriorioes* against neem oil. Apart from a high mortality during moults (IGR effect) the treated nymphs lost the tarsi of their legs during moults and were unable to climb. Numerous individuals became green or brown like solitary locusts, others showed an intermediate colouration. Compared to the very active gregarious control specimens the treated nymphs were rather sluggish. Adults deriving from treated nymphs showed malformed wings and were unable to fly. The phenomena described above will be studied in detail in the laboratory and field during coming years.

Contact in research organization:

Prof. Dr. H. Schmutterer; Institut fuer Phytopathologie und Angewandte Zoologie; Justus-Liebig Universitaet Giessen; Ludwigstr. 23; D-6300 Giessen; Federal Republic of Germany

Record number (MFN): 03858

Official project title: STRUCTURE, GROWTH RESPONSE AND SYSTEM DYNAMICS OF VIRGIN AND SELECTIVELY LOGGED RAINFOREST TO SILVICULTURAL TREATMENTS: LIBERIA, THE PHILIPPINES, BORNEO AND SOUTH CHINA.

Implementing agency: Bundesanstalt fuer Forstliche Holzwirtschaft (BFH).

Start date: 1986-02-00. End date: 1992-00-00

Country/countries: Global; Liberia; Philippines; China;

Statement of objectives/abstract:

Data and knowledge of structure, physiology of growth and productivity of natural and selectively exploited rainforest are inadequate to manage these stands on a sustained yield basis. The project is an interdisciplinary ecosystem analysis approach to

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develop silvicultural management systems based on the principle of sustained yield. It compares the ecosystems of rainforests in Africa, America and Asia. The project contributes to solve global problems and cautious and sustainable utilization of natural and modified humid tropical forest ecosystems.

Contact in research organization:

Prof. Dr. E.F. Bruenig; Ordinarius fuer Weltforstwirtschaft; Universitaet Hamburg und Bundesanstalt fuer Forst- und Holzwirtschaft (BFH); Institut fuer Weltforstwirtschaft und Oekologie; Leuschnerstr. 91; D 2000 Hamburg 80; Tel: (0) 40/739 621

Record number (MFN): 03859

Official project title: AGROFORESTRY SYSTEMS IN THE TROPICS.

Implementing agency: Gesellschaft fuer Technische Zusammenarbeit (GTZ).

Start date: 1977-00-00.

Country/countries: Africa; Ghana; Kenya; Senegal;

Statement of objectives/abstract:

Agroforestry potential for regional development (ecology, economy, social impact) is assessed and criteria for evaluation of land use systems are developed in order to improve sustainable land use in tropical regions, especially on marginal land and for underprivileged rural people. Methodology: feedback between (basic) - strategic - applied and adaptive research and desk work. The project develops agroforestry system models for different ecological and socio-economic conditions.

Contact in research organization:

Institut fuer Weltforstwirtschaft und Oekologie; Bundesforschungsanstalt fuer Forst- und Holzwirtschaft; Leuschnerstr. 91; D-2050 Hamburg 80; Federal Republic of Germany; Tel: (0) 40/739 621; ICRAF; P.O. Box 30 677; Nairobi; Kenya

Record number (MFN): 03866

Official project title: FINANCING NEEDS OF FARM/HOUSEHOLDS AND FORMAL AND INFORMAL RURAL FINANCIAL MARKETS: A CASE STUDY OF BENIN.

Implementing agency: Universitaet Hohenheim.

Start date: 1987-06-00. End date: 1990-00-00.

Country/countries: Benin;

Statement of objectives/abstract:

Analysis of financing needs of small farms and the cost of supplying credit to small farmers. Field survey on the basis of farm/household questionnaires.

Contact in research organization:

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Prof. Dr. Heidhues; Institut fuer Agrar- und Sozialoekonomie in den Tropen und Subtropen; Universitaet Hohenheim; Postfach 70 05 62; 7000 Stuttgart 70; Federal Republic of Germany; Tel: 0711/459 25 81

Record number (MFN): 03870

Official project title: ORGANIZATION AND MANAGEMENT OF AGRICULTURAL EXTENSION SERVICES IN INTEGRATED RURAL DEVELOPMENT PROJECTS.

Implementing agency: Institut fuer Agrarsoziologie, Landwirtschaftliche Beratung und Angewandte Psychologie der Universitaet Hohenheim.

Start date: 1987-01-01.

Country/countries: Benin;

Statement of objectives/abstract:

The training and visit extension system has been criticized with regard to its basic contents, i.e., the top-down approach towards lower members of staff and farmers, the choice of contact farmers and others. The purpose of the project is to determine constraints that hinder effective extension work in order to find ways to raise performance of rural development projects by literature study and field analysis of extension organisations. It is expected to identify organisational forms that may improve communication within the extension organization and between extension organization and client. The organization and management of extension services in two provinces (Atlantique and Borgou) was analyzed and compared. The emphasis was put on the interaction between extension agents and peasants (what are their interests and what are the reasons for contact).

Contact in research organization:

Albrecht, H.; Institut fuer Agrarsoziologie; Landw. Beratung und Angewandte Psychologie; Fachgebiet Landw. Beratung; Universitaet Hohenheim; Postfach 70 05 62; D 7000 Stuttgart 70; Federal Republic of Germany; Tel: 0711/459 26 46
Direction de la Recherche Agronomique; Cotonou; Benin

Record number (MFN): 03885

Official project title: DEVELOPMENT OF ADAPTED FARMING SYSTEMS ON THE BASIS OF DRAUGHT ANIMAL UTILIZATION IN THE NORTH-WEST PROVINCE OF CAMEROON.

Implementing agency: Universitaet Goettingen.

Start date: 1980-00-00.

Country/countries: Cameroon;

Statement of objectives/abstract:

The traditional farming systems based on hand labour, a low integration of the males into food production and long fallow periods do not meet today's requirements. It is attempted to develop, essentially with local resources, ecologically stable and

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economically attractive farming systems. It is expected to develop a farming system characterized by alleviated work load, favourable energy balances, high soil fertility, erosion control and attractive yield levels.

Contact in research organization:

Dr. D. Prinz; F. Rauch; Institut fuer Pflanzenbau und Tierhygiene in den Tropen und Subtropen; Universitaet Goettingen; Griesebachstr. 6; 3400 Goettingen; Federal Republic of Germany; Tel: 0551/39 37 52 Institut fuer Agrartechnik; Universitaet Goettingen; Gutenbergstr. 33; 3400 Goettingen; Federal Republic of Germany

Record number (MFN): 03890

Official project title: NUTRIENT AND WATER-USE EFFICIENCY OF CROPS GROWN ON HIGHLY WEATHERED SOILS IN THE HUMID TROPICS.

Implementing agency: Landwirtschaftliche Forschungsanstalt Buentehof.

Start date: 1987-09-00. End date: 1990-09-00.

Country/countries: Nigeria;

Statement of objectives/abstract:

Changes of nutrient supply under different cropping systems are monitored to develop a fertilizing system with minimal losses by leaching.

Contact in research organization:

Dr. H. Grimme; Landwirtschaftliche Forschungsanstalt Buentehof; Kali und Salz AG; Buenteweg 8; D 3000 Hannover 71; Federal Republic of Germany; Tel: 0511/52 49-111TA; Oyo Road; P.O. Box 5320; Ibadan; Nigeria

Record number (MFN): 03897

Official project title: WEED PROBLEMS AND WEED MANAGEMENT IN CROPPING SYSTEMS.

Implementing agency: Universitaet Hohenheim.

Start date: 1975-00-00.

Country/countries: Global; Ethiopia; Yemen; Benin; Costa Rica; Turkey; Malaysia;

Statement of objectives/abstract:

Weeds are often a limiting factor in traditional cropping systems mainly as a result of socio-economic changes due to urbanization and population increase. The purpose is the provision of scientific background for improved weed management strategies by weed surveys; crop loss assessments; determining critical periods of weed-crop competition (field experiments, supplemented by greenhouse studies). The identification of weed species; evaluation of the importance of weed species; determination of the period during which the crop has to be kept free of weeds are the expected results of the project.

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Contact in research organization:

Prof. Dr. W. Koch; Institut fuer Pflanzenproduktion in den Tropen und Subtropen;
Universitaet Hohenheim; Postfach 70 05 62; D 7000 Stuttgart 70; Federal Republic
of Germany; Tel: 0711/459 23 85/ITA Substation Cotonou; Cotonou; Benin/MAG: San
Jose; Costa Rica/Cukurova University; Adana; Turkey

Record number (MFN): 03907

Official project title: BIOLOGICAL INTEGRATED CONTROL OF THE LARGER GRAIN BORER.
PROSTEPHANUS TRUNCATUS HORN.

Implementing agency: Institut fuer Phytopathologie, Arbeitsgruppe Vorrat. Universitaet
Kiel

Start date: 1983-00-00. End date: 1990-00-00.

Country/countries: Global; Mexico; United Republic of Tanzania; Togo;

Statement of objectives/abstract:

Following its introduction into Africa, *Prostephanus truncatus* is causing considerable losses in farm-stored corn and cassava. The strategy of the project is to elaborate a biological or bio-integrated control of the pest. Investigation of the original biological habitat of the pest in Central America. Besides *Metarrhizium anisopliae* several protozoa and the predator *Terebrionoma nigrescens* are antagonists of *Prostephanus truncatus* of considerable efficiency.

Contact in research organization:

Prof. Dr. F.A. Schulz/Dr. G.A. Laborius; Institut fuer Phytopathologie;
Arbeitsgruppe Vorrat; Universitaet Kiel; Olthausenstr. 40-60; 2300 Kiel; Federal
Republic of Germany; Tel: (0431) 880-2996

Record number (MFN): 03928

Official project title: IMPROVING WATER MANAGEMENT IN THE SEMIARID REGION OF CAMEROON.

Implementing agency: Institut fuer Pflanzenbau und Tierhygiene in den Tropen und
Subtropen, Universitaet Goettingen.

Start date: 1987-02-00. End date: 1990-00-00.

Country/countries: Cameroon;

Statement of objectives/abstract:

30-70 percent of the precipitation does not infiltrate into the soil, thus limited crop production and soil erosion problems are created. To increase the output and minimize the risk of crop production by full utilization of the local rainfall. Laboratory analyses of relevant soil parameters of three typical soils of the region; in situ exploration of soil compaction and of impermeable soil layers; on-station experiments. The development of techniques which can be applied by the local farmers

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to increase water infiltration rates and water-holding capacity of the soil.

Contact in research organization:

Prof. Dr. U. Schwertmann/Dr. D. Prinz: Institut fuer Pflanzenbau und Tierhygiene in den Tropen und Subtropen; Universitaet Goettingen; Grisebachstr. 6; 3400 Goettingen; Federal Republic of Germany; Tel: (0551) 393752Volcani Research Center, Bet Dagan; IsraelInstitut fuer Bodenkunde; Pflanzenernaehrung und Phytopathologie; TU Muenchen; Hohenbacherstr.; 8050 Freising; Federal Republic of Germany

Record number (MFN): 03932

Official project title: IMMUNITY AGAINST TRYPANOSOMIASIS AND MECHANISMS OF TRYPANOTOLERANCE IN ANIMALS.

Implementing agency: Institut fuer Parasitologie und Tropenveterinaermedizin, Freie Universitaet Berlin.

Start date: 1978-00-00.

Country/countries: Africa; Togo; Burkina Faso; Liberia; Kenya;

Statement of objectives/abstract:

Trypanosomiasis cause loss of more than 5 000 000 000 USD in African livestock annually. Mechanisms of trypanotolerance and parameters to select resistant animals. Research of humoral and cell-dependent immunity and testing the paraimmune factors. Breeding of tolerant animals.

Contact in research organization:

Prof. Dr. F. Hoerchner; Institut fuer Parasitologie und Tropenveterinaermedizin; Freie Universitaet Berlin; Koenigsweg 65; 1000 Berlin 37; Federal Republic of Germany; Tel: (030) 310-8310ILRAD; Nairobi, KenyaInstitut fuer Veterinaerbiochemie; FU Berlin; Federal Republic of Germany Bernhard-Nocht-Institut; Hamburg; Federal Republic of Germany

Record number (MFN): 03938

Official project title: DEVELOPMENT OF EQUIPMENT AND METHODS FOR CONTINUOUS PRODUCTION OF BACTERIAL ANTIGENS WITHIN A CLOSED BIOREACTOR SYSTEM.

Implementing agency: Institut fuer Pflanzenbau und Tierhygiene in den Tropen und Subtropen, Universitaet Goettingen.

Start date: 1979-00-00.

Country/countries: Global; Madagascar; Sudan; Mexico; Ghana; Pakistan;

Statement of objectives/abstract:

Batch production of bacterial antigens in tropical countries is prone to be contaminated and mostly of low antigenetic titer. Continuous mass production of

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bacterial antigens within compact microprocessor controlled equipment (bioreactor) by modern biotechnological means. Continuous bacterial growth within a bioreactor unit and separation of antigenetically relevant fractions through cascade filtration and ultrafiltration. Provision of functional methods and equipment for production of veterinary vaccines in developing countries.

Contact in research organization:

Prof. Dr. H.S.H. Seifert; Institut fuer Pflanzenbau und Tierhygiene in den Tropen und Subtropen; Universitaet Goettingen; Kellnerweg 6; 3400 Goettingen; Federal Republic of Germany; Tel: (0551) 393396
Facultad de Medicina Veterinaria y Zootecnia de la UANL; Monterrey; Nuevo Leon; Mexico
Soba Veterinary Research Institute; Khartoum; Sudan

Record number (MFN): 03943

Official project title: VETERINARY PROMOTION OF THE "GRASSCUTTER PROJECT".

Implementing agency: Institut fuer Tiermedizin und Tierhygiene, Universitaet Hohenheim.

Start date: 1985-00-00.

Country/countries: Benin;

Statement of objectives/abstract:

Domestication of the grasscutter, *Thryonomys swinderianus*. Veterinary supervision. Vaccination against *Clostridium nelchii* infections; monitoring manifestory hygiene. Significant reduction of losses caused by pathogens already observed.

Contact in research organization:

Prof. Dr. C. Gail/Dr. W. Mueller; Institut fuer Tiermedizin und Tierhygiene; Universitaet Hohenheim; Postfach 700562; 7000 Stuttgart 70; Federal Republic of Germany; Tel: (0711) 4590

Record number (MFN): 03958

Official project title: EFFECTS OF SOLAR RADIATION ON CYANOBACTERIA: EFFECTS OF INCREASED UV-B SOLAR RADIATION (OZONE DESTRUCTION) ON CYANOBACTERIA WHICH ARE IMPORTANT FOR NITROGEN FIXATION FOR HIGHER PLANTS.

Implementing agency: Universitaet Erlangen.

Start date: 1984-00-00. End date: 1994-00-00.

Country/countries: Global; Ghana;

Statement of objectives/abstract:

The effect of increased UV-B radiation on agriculturally important cyanobacteria which are capable of fixing atmospheric nitrogen will be studied. These organisms have been found to be extremely sensitive towards UV-B radiation making it necessary to determine the effects of increased solar radiation on the survival of these

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procaryotes. Methodology: the motility of microorganisms is taken as a measure for the survival; it is determined quantitatively using a fully automatic image analysis system. The effect of enhanced UV radiation under controlled conditions and under natural irradiation, both in mid Europe and in Africa will be studied.

Contact in research organization:

Prof. Dr.-P. Haeder, Institut fuer Botanik und Pharmazeutische Biologie;
Universitaet Erlangen; Staudtstr. 5; D-8520 Erlangen; Federal Republic of
Germany; Tel: 09131-858216; Telex: 629830 unier d; Fax: 09131-852131; Dr. Adubea
Donkor, Department of Botany, University of Cape Coast, Cape Coast, Ghana

Record number (MFN): 04143

Official project title: UREA INJECTOR TEST.

Implementing agency: Research Institute for Agrobiolgy and Soil Fertility (AB).

Start date: 1988-00-00. End date: 1995-00-00.

Country/countries: Global; Bangladesh; Indonesia; Philippines; Togo; Côte d'Ivoire;

Statement of objectives/abstract:

The objective of the project is to improve the efficiency of the use of urea-fertilizer in rice production by injecting the urea in the soil with a pneumatic hand injector. Tests were conducted on a pilot scale and not yet at scale of farm operations. Generally higher efficiency was indicated. Social acceptance of the urea injector under actual farm conditions needs to be tested. In addition, the industrial production of the injector to improve its capacities (reduced weight) are studied.

Contact in research organization:

AB-DLO (Research Institute for Agrobiolgy and Soil Fertility) formerly IB-DLO;
P.O. Box 30003; 9750 RA Haren; The Netherlands; Tel: (0)50-33 7777

Record number (MFN): 04157

Official project title: MANAGEMENT OF NATURAL RESOURCES.

Implementing agency: World Bank; Benin.

Start date: 1992-07-08.

Country/countries: Benin;

Statement of objectives/abstract:

Protecting, managing and developing natural resources with emphasis on forests and watersheds. Development of legislation with particular emphasis on an adequate land tenure system.

Contact in research organization:

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Ministere du Developpement Rural: Cotonou, Benin

Record number (MFN): 04160

Official project title: FOCQ SECURITY PROJECT.

Implementing agency: World Bank; Cameroon.
Start date: 1992-00-00. End date: 1999-00-00.
Country/countries: Cameroon;

Statement of objectives/abstract:

The project aims at: (a) improving food security by creating employment opportunities (self-help initiatives by community groups in micro-projects investments in retailing, food processing and transformation equipment, watering points for livestock, fish ponds and rural tracks) to raise the purchasing power of disadvantaged groups in rural areas, especially women, to enhance their access to food; (b) reducing the impact of locust attacks on food production through the strengthening of the Aerial Pest Control Unit (APCU) of the Crop Protection Service (provision of a grant to finance vehicles, equipment and training to enable APCU to provide anti-locust treatments through aerial spraying of some 60 percent of the area infested, and assist in ground treatment activities); (c) increasing efficiency in marketing and storage of foodstuffs through institutional support (early warning combined with a market information system and construction and renovation of market facilities in urban and rural areas); and (d) improving feeding and dietary practices through a pilot nutrition education program for high risk groups (children under five and pregnant and lactating women) and formulating a national nutrition education strategy.

Contact in research organization:

Ministry of Agriculture (MINAGRI); Yaounde; Cameroon
Ministry of Health (MINSANTE); Yaounde; Cameroon

Record number (MFN): 04172

Official project title: AGROFORESTRY SYSTEMS (CAMEROON) - PHASE I.

Implementing agency: International Development Research Centre.
Start date: 1990-01-03. End date: 1991-10-31.
Country/countries: Cameroon;

Statement of objectives/abstract:

Southern Cameroon, lying within the humid lowlands of the tropics, is facing a general steady environmental degradation characteristic of developing countries of the region. Productivity of small-scale farmers, both in terms of cash and food crops, is on the decline. The agroforestry approach of incorporating woody perennials (trees and shrubs) into existing farming systems constitutes a sound

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practice, given the potential of trees to increase soil fertility, build up organic matter, and buffer soil acidity. This project will develop agroforestry technologies, in collaboration with the Alley Farming Network for Tropical Africa (AFNETA) (3-P-88-0025) for adoption by small farmers aimed at improving soil fertility and hence crop production, while strengthening Cameroon scientists' ability to conduct agroforestry research. Specifically, researchers will screen multipurpose tree species; evaluate improved management regimes in tree/crop systems; design, test, and disseminate prototype systems and technologies to enhance the farmers' expected performance of existing land use systems; and provide training for national scientists.

Contact in research organization:

Dr. Ayuk-Takem; ICRAF, P.O. Box 30677; Nairobi; Kenya

Record number (MFN): 04176

Official project title: SMALL DAMS (COTE D'IVOIRE).

Implementing agency: International Development Research Centre.

Start date: 1990-03-14. End date: 1993-03-14.

Country/countries: Côte d'Ivoire;

Statement of objectives/abstract:

Many years of research and experimentation have proven that conventional intensive pond-culture is not yet an economically viable way of increasing fish production in Côte d'Ivoire. In searching for an alternative, it has been found that an obvious solution exists in the 1 000 small dams and reservoirs, which are so far used mainly for livestock watering and irrigation. These could produce, with appropriately selected methods, a valuable crop of table fish. This project will prepare an inventory of small and medium sized water resources in the country; formulate proposals for the proper exploitation of these resources; create a documentation centre on dam reservoirs to be located at the Institut des savanes (IDESSA); and strengthen the efficacy of IDESSA by helping it train required technical and professional personnel.

Contact in research organization:

Mr. A. Yé Wongbé; Ministère de la recherche scientifique et de la culture; PV 151; Abidjan; Côte d'Ivoire

Record number (MFN): 04178

Official project title: RURAL DEVELOPMENT AND NUTRITION (BENIN) - PHASE I.

Implementing agency: International Development Research Centre.

Start date: 1990-03-28. End date: 1991-04-30.

Country/countries: Benin;

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Statement of objectives/abstract:

In the district of Ouidah of Benin, widespread malnutrition persists along with poor public health conditions. The Centre Régional pour le Développement et la Santé (CREDESA) is leading an ongoing community health project in this area, which concentrates on help for needy people. A project aimed at improving the competence of the Centre in this activity is being granted financial support by the Health Sciences Division of IDRC (3-P-88-0205). To bring about lasting improvements in the health status and nutrition of the population, it is necessary that the food system's productivity be increased and job opportunities be created. This project will demonstrate the interrelationships between factors affecting the population's health and nutrition. Using the "Rapid Rural Appraisal" methodology it will study, with the involvement of the local population, the obstacles encountered and opportunities offered by increasing agricultural production and by an improvement in the post-harvest activities. Researchers will examine local markets; socioeconomic forces; the state of nutrition at the household level; and existing and potential management resources.

Contact in research organization:

Mr. Eusèbe Alihonou; Faculté des Sciences de la santé; Université nationale du Bénin; B.P. 188; Cotonou; République populaire nationale du Bénin

Record number (MFN): 04182

Official project title: SOYBEAN UTILIZATION (IITA) - PHASE II.

Implementing agency: International Development Research Centre.

Start date: 1990-05-01. End date: 1993-04-30.

Country/countries: Africa: Nigeria; Ghana:

Statement of objectives/abstract:

Soybean is a protein-rich crop that can be grown advantageously in Nigeria and Ghana. Although not traditionally used, it can easily be incorporated into local diets. Phase I of this project, carried out by the International Institute of Tropical Agriculture (IITA) and the Institute for Agricultural Research and Training (IAR&T) in Nigeria, has shown that soybean can augment traditional legumes and oilseeds, and fortify high carbohydrate foods. Soybean-based products are acceptable to rural and urban populations, and entrepreneurs are willing to produce soybean-based foods. This second phase will build on the results and experiences gained in the first phase to promote the production and use of soybean in three additional regions of Nigeria and begin introduction in Ghana. Institutions involved will be the IITA, IAR&T, the National Cereals Research Institute (NCRI), University of Nigeria Nsukka (UNN), National Agricultural Extension Research Liaison Services (NAERLS) in Nigeria, and the University of Ghana, Legon (UGL) in collaboration with the Women Extension Division of the Ministry of Agriculture in Ghana.

Contact in research organization:

Dr. Kenton Dashiell; IITA; Oyo Road; PMB 5320; Ibadan; Nigeria

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Record number (MFN): 04189

Official project title: SILVICULTURE (TOGO).

Implementing agency: International Development Research Centre.

Start date: 1990-11-28. End date: 1993-11-28.

Country/countries: Togo:

Statement of objectives/abstract:

In Togo, as in most developing countries of Africa, wood is the population's main source of fuel and energy. Given the accelerating urban demographic growth, the country's forest resources are in danger of being depleted. To reverse this trend, authorities initiated a plantation program, concentrating mostly on fast-growing tree species such as eucalyptus and teak. Also, a local variety of *Anogeissus leicarpus* has been planted under various yet comparable experimental conditions. This project will develop appropriate techniques for the rational exploitation of existing plantations and reforestation by fast-growing species.

Contact in research organization:

Mr. Koffi Agognon: Office de Développement et d'Exploitation des Forêts: B.P.
334: Lomé; Togo

Record number (MFN): 04192

Official project title: PLANTAIN (GHANA).

Implementing agency: International Development Research Centre.

Start date: 1991-03-14. End date: 1994-03-14.

Country/countries: Ghana:

Statement of objectives/abstract:

The production of plantain, an important staple in Ghana, has been declining for more than a decade while the 14 million population is increasing at a rate of 3 percent per annum. This downward trend in production is attributed to several factors including pests, diseases, poor management practices and above all, lack of improved production technology for plantain. The Crops Research Institute, Kumasi and the University of Ghana Agricultural Research Station, Kade, have jointly requested IDRC support to enable the two institutes to execute the present project aimed at finding solutions to production constraints. It is anticipated that improved technological packages for increasing production will be developed at the end of the project for transfer to small-scale farmers. Throughout the project, radio broadcasted programs targeting concerned communities will be aired to increase farmers' awareness about the improvement of plantain production.

Contact in research organization:

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Dr. O.B. Hemeng; Crops Research Institute; Council for Scientific and Industrial Research; P.O. Box M. 32; Accra; Ghana

Record number (MFN): 04193

Official project title: ACID SOILS (NIGERIA).

Implementing agency: International Development Research Centre.

Start date: 1991-04-23. End date: 1994-02-28.

Country/countries: Nigeria:

Statement of objectives/abstract:

A considerable portion of the agricultural soils in Nigeria are highly weathered, leached, and acidic; and have a low native fertility, medium to high P-fixing capacity, and low water holding capacity. This project on the management of Nigerian acid soils for optimum productivity will aim to incorporate soil management techniques on the acid soils of the country's humid tropical areas; test the sustainability of farming systems which can be adopted by small farmers with limited access to external inputs and other farming systems that will provide a continuous and higher level of output; and monitor the effect of farming systems and solid management procedures on the chemical and physical properties of soils under continuous cultivation. The project will form part of the research network on Management of Acid Soils in Humid and Sub-humid Africa of the International Board for Soil Research and Management (IBSRAM). Field experiments will be established near Ogere in the southwestern part of Nigeria.

Contact in research organization:

Dr. Otu Obi; Obafemi Awolowo University; Ile-Ife; Nigeria

Record number (MFN): 04206

Official project title: LOCAL PIG HUSBANDRY (CONGO).

Implementing agency: International Development Research Centre.

Start date: 1991-05-18. End date: 1993-05-18.

Country/countries: Congo;

Statement of objectives/abstract:

While the government of Congo has given high priority to its agricultural sector the latter's contribution to the national economy is only 10 percent. The contribution of animal husbandry is even smaller, namely 4 percent. To ensure food self-sufficiency, specifically in animal proteins, and to augment the peasants' income, a strategy has been adopted to increase the production of animals of short reproduction cycle, such as hogs. This project will improve local hog raising in a peasant environment by studying higher productivity. Specifically, it will evaluate the country's zoogeography from the point of view of hog raising; compile an inventory of

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agricultural products and by-products in different regions useful in this sector of animal husbandry; and disseminate the results.

Contact in research organization:

Mr. Victor Douliou; DGRST; B.P. 2499; Brazzaville; Congo

Record number (MFN): 04209

Official project title: PHOSPHORUS AVAILABILITY (SIP/GHANA/BRAZIL) - PHASE II.

Implementing agency: International Development Research Centre.

Start date: 1991-03-08. End date: 1993-12-31.

Country/countries: Global; Ghana; Brazil;

Statement of objectives/abstract:

Soils containing lateritic concretions are typical of the "middle belt" of West Africa, which represents an ecological zone of semi-arid savanna with pronounced dry seasons (4-5 months). Phosphorus (P) content of these soils is low and most of the native soil P is in the form of unavailable iron- or aluminium-bound phosphate. Using recent development soil P-fractionation procedures to assess the importance of organic P forms in the supply of P to plants in these soils, phase I results indicated that P added to soil fines alone, remains available but is rapidly exhausted, leading to a drastic drop in crop yield after the first year. Concretionary soils, on the other hand, sustain lower yields for several cropping cycles that eventually outyield the soil fines. An important preliminary conclusion from phase I was that the use of rapidly soluble inorganic P fertilizer is uneconomical in soils with high concretion content. Phase II will study to what extent P-sorption is reversible in the long-run to allow fertilization and how to use rock phosphate in situations of rapid P-sorption. Work will be undertaken in Ghana and Brazil.

Contact in research organization:

Mr. Holm Tiessen; Dept. of Soil Science; University of Saskatchewan; 50 Murray Building; Saskatoon; Saskatchewan; Canada S7N 0W0

Record number (MFN): 04232

Official project title: CHILD NUTRITION AND AGRICULTURE (NIGERIA).

Implementing agency: International Development Research Centre.

Start date: 1990-03-02. End date: 1991-12-31.

Country/countries: Nigeria;

Statement of objectives/abstract:

This project will assess the impact of the Oyo North Agricultural Development Project (ONADEP) on the nutritional and health status of young children in the 0-10 year age

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group. The study will generate nutritional data, as yet unavailable in Nigeria, and will provide an indication of the effects of structural adjustment and agricultural change on human wellbeing. Specifically the project aims to compare the health and nutritional status of the target group in ONADEP and a nonproject area; identify barriers to good health and nutrition among children and mothers in the study area; and devise and promote means to improve nutrition and health of children in rural areas. The results will be used to guide action and policy to improve nutritional status and maintain nutrition security of groups vulnerable to malnutrition. The project will be an important component of a network of Centre-supported community nutrition projects in West Africa.

Contact in research organization:

Mr. S.O. Olusi; Obafemi Awolowo University; Ile-Ife; Oyo State; Nigeria

Record number (MFN): 04246

Official project title: WEST AFRICAN RICE INFORMATION SYSTEM (WARIS).

Implementing agency: International Development Research Centre.

Start date: 1990-08-01. End date: 1993-07-31.

Country/countries: Africa; Côte d'Ivoire; Senegal; Sierra Leone; Liberia;

Statement of objectives/abstract:

The West Africa Rice Development Association (WARDA) was recently included among the organizations which form the Consultative Group on International Agricultural Research (CGIAR). This decision was made due to the importance of rice as a staple crop among countries of West Africa and the problems associated with its production in the region. In its medium-term plan for the period 1990-1994, WARDA identified as a high priority the setting up of an integrated information service to support the research and development activities of rice producers in the region. This project will help lay the groundwork for this function by upgrading existing information activities. The project will assist WARDA to establish a solid base for the library services at the headquarters at Bouaké, Côte d'Ivoire; set up initial links with national rice research organizations in member-states; bring together all documents on rice research performed in the region; decentralize basic information resources and services to its three stations in Senegal, Sierra Leone, and Liberia; and improve WARDA's ability to provide information services to its scientists and to the regional rice development community.

Contact in research organization:

Mr. Alassane Diallo; WARDA; 01 BP 2551; Bouaké; Côte d'Ivoire

Record number (MFN): 04254

Official project title: LIBERALIZATION OF AGRICULTURAL MARKETING (NIGERIA).

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Implementing agency: International Development Research Centre.

Start date: 1989-05-11. End date: 1991-05-11.

Country/countries: Nigeria:

Statement of objectives/abstract:

Among recent policies embarked upon by the government of Nigeria in favour of agriculture and non-oil sectors are the establishment of a market-determined regime of exchange rates, trade liberalization, and the abolition of agricultural commodity boards, which had hitherto exercised monopoly control over produce marketing and exports. Nigeria's liberalization policy recognizes the importance of pricing policies as a basis for agricultural development and increased production. However, the extent to which the new policy will adequately serve the needs of the small-scale farmer and help achieve national objectives (e.g. increased food sufficiency and commodity exports) with respect to the agricultural sector, remains still largely unclear. Consequently, the impact of the liberalization policy on the domestic marketing institutions, and their influence on producer prices and incentives deserve careful study. This project will examine the impact of liberalization policy on the agricultural marketing and pricing system. The research will involve a detailed study of marketing and pricing arrangements of three main agricultural commodities (i.e. cocoa, tobacco and palm oil).

Contact in research organization:

Mr. Ademola Oyejide, Faculty of the Social Sciences, University of Ibadan, Ibadan, Nigeria

Record number (MFN): 04259

Official project title: RURAL ORGANIZATIONS AND PARTICIPATION (SIERRA LEONE).

Implementing agency: International Development Research Centre.

Start date: 1989-11-30. End date: 1991-11-30.

Country/countries: Sierra Leone:

Statement of objectives/abstract:

Recent pronouncements of government officials in Sierra Leone emphasized the need to channel rural development programs through local rural organizations to ensure popular recipient participation. However, the limited research on rural organization in the country does not provide useful information for policymakers. This study will analyze the extent to which rural organizations in the country involve the rural poor in development. Since the goal of the project is to facilitate the involvement of the poor in development through their participation in rural organizations, the research will attempt to uncover the social, economic, and institutional factors that condition participation. Data, through interviews, participant observation, and questionnaires will be collected from members and nonmembers of 24 cooperatives and 24 farmer organizations in eight administrative districts. Results will be presented at a seminar involving donors and government agencies interested in promoting popular participation through support to local organizations.

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Contact in research organization:

Mr. Alpha Lakch; University of Sierra Leone; Njala University College; Private
Mail Bag; Freetown; Sierra Leone

Record number (MFN): 04261

Official project title: WOMEN'S KNOWLEDGE, MANAGEMENT AND CONTROL OF SEED GENETIC
RESOURCES.

Implementing agency: International Development Research Centre.

Start date: 1990-09-06. End date: 1992-01-06.

Country/countries: Ghana;

Statement of objectives/abstract:

It has been well-documented that women are major subsistence farmers in most African societies. It also is known that women usually play a significant role in seed selection and storage. However, little research actually has examined the nature of women's knowledge about seed genetic resources and management. This project will study the nature of Ghanaian women's knowledge of seed genetic resources and how this knowledge has been sustained across generations. The study also will address the extent to which women's knowledge continues to satisfy their production needs in the context of a changing environment. Specifically, the project will investigate women's knowledge of bambara beans, maize, and cowpeas and their ecological requirements; study practices with respect to seed selection, preservation, and multiplication; and examine the impact of patenting of new improved seeds by multinational companies on small-scale farmers. The project will be affiliated with WEDNET, an African network of researchers on women's role in natural resource management, currently being supported by the Gender and Development Unit of IDRC.

Contact in research organization:

Ms. Ellen Bortei-Doku; Institute of Statistical, Social and Economic Research;
University of Ghana; Legon; Ghana

Record number (MFN): 04262

Official project title: ECONOMIC ROLE OF WOMEN IN THE COCOA INDUSTRY (NIGERIA).

Implementing agency: International Development Research Centre.

Start date: 1990-10-20. End date: 1992-10-20.

Country/countries: Nigeria;

Statement of objectives/abstract:

The status of women in Nigeria involves a complex of economic, legal, and social factors. Women are regarded as inferior to men in virtually all fields. Nonetheless, women in the southern region of the country are the principal managers of the market economy in the villages. This project will identify the role of women

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in the production and marketing of cocoa in the region. It further will examine how this role can be enhanced to yield significant benefits to these women and their households. The researchers will develop a comprehensive labour profile for the production and processing of cocoa; assign economic value to the labour input; investigate the marketing operations performed by women cocoa traders; determine the impact of women's operations in cocoa production and trade on family income levels and on power distribution within the farming household; and suggest policy amendments, and new programs and projects to better integrate women into the agricultural planning framework in the country.

Contact in research organization:

Bola Akanji: Nigenan Institute of Social and Economic Research; P.M.B. 5. U.I.
Post Office: Ibadan; Nigeria

Record number (MFN): 04301

Official project title: FC:RESTRY III.

Implementing agency: World Bank; Nigeria.

Start date: 1993-00-00.

Country/countries: Nigeria;

Statement of objectives/abstract:

Most of the forest reserves have been logged and even cleared for farming and grazing and are now in poor secondary forest. The preservation of the remaining 3 percent of the original forest cover is urgent and important, and the recreation of natural forest cover and protection of river banks need urgent attention. The project would provide incentives for individuals for tree planting on private lands. Forest reserves will be subject to close and intensive management. Communities and farmers will be assisted to plant trees on environmentally sensitive areas and on farms. The project components are: (a) promotion of private sector tree plantations and intensive management of forest reserves for multiple use; and (b) protection and recreation of forest cover in environmentally sensitive areas.

Record number (MFN): 04302

Official project title: IRRIGATION: DEVELOPMENT.

Implementing agency: World Bank; Nigeria.

Start date: 1995-00-00.

Country/countries: Nigeria;

Statement of objectives/abstract:

No research component is identified yet but because of low level of irrigation technology it is probable that provision will be made for funding institutional work

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(adaptive research) which would be undertaken in part by research institutions with capacity for such work.

Record number (MFN): 04343

Official project title: FORESTRY/ENVIRONMENT.

Implementing agency: World Bank; Gabon.

Start date: 1996-00-00.

Country/countries: Gabon:

Statement of objectives/abstract:

Project would focus on: (a) better use of forestry resources through implementation of management plan in First Zone of forest area; (b) reinforce strategic planning, operational capability of Government institutions in the sector; (c) resume forestry and environment research; (d) make forestry and environment training more practical and relevant to needs of private sector; (e) prepare an environmental action plan; and (f) support Government in the creation and maintenance of wildlife reserves.

Contact in research organization:

Ministry of Fisheries & Forestry; Libreville; Gabon
Ministry of Environment, Tourism and National Parks; Libreville; Gabon; Tel: 76 14 44/76 61 82

Record number (MFN): 04344

Official project title: NATURAL RESOURCES MANAGEMENT (FORMERLY AGRICULTURAL NATURAL RESOURCES AND FORESTRY).

Implementing agency: World Bank; Guinea-Bissau.

Start date: 1994-00-00.

Country/countries: Guinea-Bissau;

Statement of objectives/abstract:

Project would lay foundation for improved management of natural resources to promote sustainable agriculture. Components would be: (a) policy reform in land tenure; (b) institutional strengthening; (c) a pilot program of community-based resource management; and (d) establishment and management of timber resources.

Contact in research organization:

Ministry of Rural Development and Agriculture; Bissau; Guinea-Bissau

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Record number (MFN): 04346

Official project title: FADAMA DEVELOPMENT (FORMERLY NATIONAL FADAMA DEVELOPMENT).

Implementing agency: World Bank; Nigeria.

Start date: 1992-09-00.

Country/countries: Nigeria;

Statement of objectives/abstract:

For developing 45 000 ha of fadama by small-scale irrigation. The research needs, mainly adaptive, are being supported under a parallel project on technology development (extension and adaptive research in crop production).

Contact in research organization:

Ministry of Agriculture: Federal Department of Agriculture and Rural Development; Lagos; Nigeria
State Ministries of Agriculture and Natural Resources; Nigeria

Record number (MFN): 04351

Official project title: SECOND FORESTRY PROJECT.

Implementing agency: World Bank; Nigeria.

Start date: 1987-09-25. End date: 1995-06-30.

Country/countries: Nigeria;

Statement of objectives/abstract:

The project has three objectives: (i) on a national level, to strengthen the structural base of the sector through improved policies, training, studies and research; (ii) in the northern and central regions of the country, to stabilize soil conditions in threatened areas and to increase the supply of fuelwood, poles and fodder through farm forestry and shelterbelt activities; and (iii) in the southern and central regions, to increase the supply of industrial wood by improving the management of existing forest reserves and plantations and establishing new plantations. Project activities would include: (a) an afforestation program which would include the supply of 41 million seedlings through farm forestry activities, covering an estimated 750 000 ha, and the establishment of 1 700 km of shelterbelts protecting an estimated 34 000 ha; (b) a forest management program which would include improved management of about 37 600 ha of existing plantations, and establishment of 3 150 ha of new plantations; and (c) assistance for management, training, policy analysis, research, and studies. Research activities would be concentrated largely on afforestation-related issues as significant work needs to be done to develop a comprehensive base to support afforestation activities over the longer term. Research activities would aim to: (1) improve farm forestry and shelterbelt establishment techniques, giving better tree survival and growth; (2) examine the acceptability and effectiveness of alternative farm forestry models; and (3) determine yields of wood and other tree products.

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Contact in research organization:

Federal Ministry of Agriculture, Water Resources and Rural Development; Nigeria

Record number (MFN): 04352

Official project title: ENVIRONMENTAL MANAGEMENT (FORMERLY ENVIRONMENT, FORMERLY ADJUSTMENT LOAN - ENVIRONMENT).

Implementing agency: World Bank; Nigeria.

Start date: 1993-00-00.

Country/countries: Nigeria;

Statement of objectives/abstract:

Support of government programs to preserve natural resource base especially national stocks of land, forest and water. Project will finance a "Care Program" of environmental activities that are critical for making Nigeria's environmental program operational.

Contact in research organization:

Ministry of Finance; Abuja; Nigeria

Record number (MFN): 04356

Official project title: RAINFED RICE DEVELOPMENT PROJECT.

Implementing agency: African Development Bank.

Country/countries: United Republic of Tanzania;

Statement of objectives/abstract:

The objective of the project is to increase rice production of small farmers in Zanzibar by improved land preparation and input supply, and so to reduce rice imports. The ancillary objectives are to: (a) improve the standard of living of participating farm families through increased yields and farm earnings; (b) create employment opportunities and develop skills in rural areas; (c) extend to 5 800 ha of rice production in stages; and (d) build an appropriate infrastructure of buildings and services. Achievements: by 1988/89 season the project had extended to 2 000 ha, with fortnightly T&V system visits to groups of 25 farmers. A seed unit has been established to screen and multiply rice seed for the scheme.

Record number (MFN): 04362

Official project title: ENVIRONMENTAL RESOURCE MANAGEMENT (FORMERLY ENVIRONMENT).

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Implementing agency: World Bank; Ghana.
Start date: 1993-00-00.
Country/countries: Ghana;

Statement of objectives/abstract:

Project would include: (a) institutional strengthening of the Environmental Protection Council (EPC); (b) promotion of improved land management practices through community and farmer involvement in planning and implementation of measures to minimize land degradation; and (c) sustainable management of five coastal wetland sites of international importance as habitat for migratory waterfowl.

Contact in research organization:

Environmental Protection Council (EPC); Ghana

Record number (MFN): 04363

Official project title: SMALL SCALE IRRIGATION.

Implementing agency: World Bank; Ghana.
Start date: 1994-00-00.
Country/countries: Ghana;

Record number (MFN): 04364

Official project title: FORESTRY.

Implementing agency: World Bank; Ghana.
Start date: 1995-00-00.
Country/countries: Ghana;

Record number (MFN): 04367

Official project title: NATURAL RESOURCES MANAGEMENT PROJECT.

Implementing agency: World Bank; Congo.
Start date: 1996-00-00.
Country/countries: Congo;

Statement of objectives/abstract:

The overall objective of the project is to assist the Government of Congo (GOC) to implement a national natural resource management plan, in order to assure both an optimal production level from the forest and conservation of the environment. The

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specific objectives would be to: (a) assist GOC to establish an action plan for natural resource management and land use, including dense forest management; (b) complete the inventory of biodiversity and forestry species; (c) strengthen the institutions (both public and community-oriented/private) in the forestry sector; and (d) set up pilot agro-forestry actions. In support of the objectives, the project would include the following components: (1) establishment of a national resource management and rural land use plan; (2) implementation of the first phase of this plan, with focus on: (i) preparation of required assessments studies; (ii) completion of cartographic base and inventories; and (iii) additional gazetting of wildlands as conservation areas; (3) strengthening of implementation capability (in particular of the Ministry of Forest Economy-MEF) both centrally and in the field, including organizational improvement and training; (4) implementation of special programs to promote grassroots activities by community organizations and NGOs, and undertake specific environmental actions (e.g., creation of agro-forestry and land titling zones in priority areas); and (5) development of relevant research.

Contact in research organization:

Ministry of Forest Economy (MEF); Congo

Record number (MFN): 04402

Official project title: FOREST MANAGEMENT PROJECT.

Implementing agency: World Bank; Zaire.

Start date: 1993-00-00.

Country/countries: Zaire.

Statement of objectives/abstract:

The objectives of the project would reflect those formulated at the Abidjan conference in November 1990 (WWF) to: (a) protect at least ten percent of tropical forests by the year 2000; (b) ensure that all tropical wood trade results from sustainable forest management by 1995; and (c) arrest net deforestation in tropical regions by the year 2000 (mainly by protecting existing forests). The project would include evaluations and programs to rationalize key forest institutions, including the Service Permanent d'Inventaire et d'Amenagement Forestier (SPIAF), the central forest service responsible for allocation of forest concessions, field forest services, the Forestry Fund, and forest training and research. The aim would be to: protect forest reserves effectively; control logging in production forests; introduce sustainable management techniques; collect revenue; recover costs and finance replanting; operate the forest service at a reasonable cost; ensure periodic and effective reporting; train an appropriate number of foresters; and implement an agreed forest research program.

Record number (MFN): 04409

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Official project title: ANIMAL HEALTH.

Implementing agency: World Bank; Zaire.

Start date: 1991-00-00.

Country/countries: Zaire:

Statement of objectives/abstract:

Project would assist Government of Zaire in animal health promotion, promote improved technology in animal husbandry, increase productivity of farmers, integrate livestock and agriculture and promote private veterinary services.

Record number (MFN): 04411

Official project title: FOOD SECURITY.

Implementing agency: World Bank; Benin.

Start date: 1993-00-00.

Country/countries: Benin:

Statement of objectives/abstract:

Improvement in access to food in rural and urban areas through poverty alleviation production, marketing and small scale processing interventions.

Record number (MFN): 04412

Official project title: ENVIRONMENTAL ACTION PROGRAM.

Implementing agency: World Bank; Benin.

Start date: 1994-00-00.

Country/countries: Benin:

Statement of objectives/abstract:

To prepare an Environmental Action Plan (EAP) aiming at the development of human resources capacity; the promotion of a sustainable development strategy; a better management of the bio-ecological diversity; the improvement of rural and urban standards of living.

Record number (MFN): 04413

Official project title: AGRICULTURE.

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Implementing agency: World Bank; Benin.
Start date: 1995-00-00.
Country/countries: Benin;

Statement of objectives/abstract:

Agricultural sector adjustment program to effect policy reforms in the sector and finance tranches of agricultural development plan to be prepared.

Record number (MFN): 04414

Official project title: AGRICULTURE.

Implementing agency: World Bank; Cameroon.
Start date: 1995-00-00.
Country/countries: Cameroon;

Statement of objectives/abstract:

Assist Government of Cameroon to establish and implement a natural resource management and forestry conservation project.

Record number (MFN): 04415

Official project title: NATIONAL LIVESTOCK DEVELOPMENT II.

Implementing agency: World Bank; Central African Republic.
Start date: 1993-00-00.
Country/countries: Central African Republic;

Statement of objectives/abstract:

Privatization of most livestock services; consolidation of technical achievements of the First Phase; improved management of pastoral areas.

Record number (MFN): 04416

Official project title: NATURAL RESOURCE MANAGEMENT AND CONSERVATION (FORMERLY LAND RESOURCES MANAGEMENT AND CONSERVATION).

Implementing agency: World Bank; Equatorial Guinea.
Start date: 1995-00-00.
Country/countries: Equatorial Guinea;

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Statement of objectives/abstract:

To strengthen the contribution of the forestry sector to the economy and to commence measures to protect the Hammid forest. Project would assist Government in implementing a natural resource management plan to assure both an optimal production level from the forest and conservation of the environment.

Contact in research organization:

Ministry of Agriculture and Forestry; Equatorial Guinea

Record number (MFN): 04417

Official project title: AGRICULTURAL SERVICES (FORMERLY AGRICULTURE).

Implementing agency: World Bank; Gabon.

Start date: 1995-00-00.

Country/countries: Gabon:

Statement of objectives/abstract:

Institutional strengthening of the Ministry of Agriculture's capacity for sector management; strengthening of the research and extension programs for agriculture.

Record number (MFN): 04418

Official project title: AGRICULTURAL EXPORT PROMOTION.

Implementing agency: World Bank; Cote d'Ivoire.

Start date: 1994-00-00. End date: 1999-00-00.

Country/countries: Côte d'Ivoire:

Statement of objectives/abstract:

The project would promote the sustained expansion of non traditional agricultural exports, including processed products, by (a) providing Ivorian producers with assistance in securing accurate and timely information about opportunities in foreign markets; (b) streamlining export procedures; and (c) financing the producers/exporters working capital and investment credit needs. Financing would be provided to private operators and to parastatals in which the State has less than majority ownership. The project would achieve two essential objectives: (a) mobilizing private domestic (and foreign) initiative and savings for the development of the agricultural sector; and (b) not making any claim on public funding at a time of severely constrained budgetary resources. The project would be implemented over a five year period and involve four main components: (a) a line of credit to finance the working capital and investment needs for the production and marketing of non-traditional agricultural and agro-industrial export products; (b) a program of reforms in the institutional environment including (i) the restructuring of the existing government-run Export Promotion Agency into an essentially private

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organization, managed and controlled by concerned operators and; (ii) the streamlining of agricultural export procedures (including quality controls); (c) training programs for agricultural producers/exporters and Government officials to improve their knowledge of production technologies, marketing techniques and market opportunities; and (d) studies of specific issues linked to the development of new export markets (market research for targeted products, quality standards and norms, etc.).

Record number (MFN): 04419

Official project title: RURAL LAND MANAGEMENT PROJECT (FORMERLY LAND TENURE).

Implementing agency: World Bank; Cote d'Ivoire.
Start date: 1995-00-00. End date: 2000-00-00.
Country/countries: Côte d'Ivoire;

Statement of objectives/abstract:

Establishment of a rural land registry system through aerial photography and land surveys. Full scale project to use the instruments developed under the pilot Land Tenure Project (previously funded). The project would solve specific problems in agriculture, livestock, and forestry development.

Contact in research organization:
MINAGRA; Cote d'Ivoire

Record number (MFN): 04420

Official project title: LIVESTOCK.

Implementing agency: World Bank; Cote d'Ivoire.
Start date: 1994-00-00.
Country/countries: Côte d'Ivoire;

Statement of objectives/abstract:

Hybrid operation which would finance: (a) specific investments for development of meat (beef, goat, pig and poultry) production and processing; and (b) actions to improve public services to producers (including research). The policy-based components would support reforms in: (a) institutional reforms; (b) privatization of services; and (c) pricing policies.

Contact in research organization:
Ministry of Agriculture and Animal Resources; Abidjan; Cote d'IvoireSONAPRA;
Cote d'Ivoire

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Record number (MFN): 04421

Official project title: NATIONAL ENVIRONMENT PROGRAM (FORMERLY AGRICULTURE).

Implementing agency: World Bank; Cote d'Ivoire.

Start date: 1995-00-00.

Country/countries: Côte d'Ivoire;

Statement of objectives/abstract:

Support a program of action to protect the natural environment. Actions would be determined as part of an environmental action plan to be developed.

Contact in research organization:

Ministry of Agriculture and Animal Resources; Cote d'Ivoire

Record number (MFN): 04422

Official project title: AGRICULTURE.

Implementing agency: World Bank; Cote d'Ivoire.

Start date: 1995-00-00.

Country/countries: Côte d'Ivoire;

Statement of objectives/abstract:

Second sector adjustment loan to effect policy changes in agriculture sector.

Record number (MFN): 04423

Official project title: ENVIRONMENTAL ACTION PROGRAM.

Implementing agency: World Bank; Togo.

Start date: 1997-00-00.

Country/countries: Togo;

Statement of objectives/abstract:

Environmental action plan will be prepared after consultation with a broad spectrum of government and non-government agencies in Togo. This will serve as spring board for project identification.

Record number (MFN): 04424

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Official project title: AGRICULTURAL SECTOR ADJUSTMENT (FORMERLY AGRICULTURAL SECAL).

Implementing agency: World Bank; Ghana.

Start date: 1992-00-00.

Country/countries: Ghana;

Statement of objectives/abstract:

To strengthen pricing and marketing reforms. Improve sector coordination, and strengthen public expenditure management.

Contact in research organization:

Ministry of Agriculture; Accra; Ghana

Record number (MFN): 04425

Official project title: AGRICULTURAL SECTOR.

Implementing agency: World Bank; Ghana.

Start date: 1995-00-00.

Country/countries: Ghana;

Record number (MFN): 04426

Official project title: AGRICULTURAL MARKETING.

Implementing agency: World Bank; Ghana.

Start date: 1991-00-00.

Country/countries: Ghana;

Statement of objectives/abstract:

The project would support the restructuring and institutional strengthening of agricultural marketing. In addition, it would support Ghana's food security program.

Record number (MFN): 04441

Official project title: FERTILIZER SECAL

Implementing agency: World Bank; Nigeria.

Start date: 1992-00-00.

Country/countries: Nigeria;

Statement of objectives/abstract:

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Based on the recommendation of a subsector study, this policy based lending would support reforms in fertilizer trade, marketing and pricing policies.

Record number (MFN): 04449

Official project title: FACILITIES OF NIGERIAN INSTITUTE FOR OCEANOGRAPHY AND MARINE RESEARCH.

Implementing agency: Ministry of Foreign Affairs.

Start date: 1986-00-00.

Country/countries: Nigeria;

Record number (MFN): 04461

Official project title: AGRICULTURAL EXTENSION NEEDS ASSESSMENT SURVEY.

Implementing agency: Food and Agriculture Organization of the United Nations.

Start date: 1989-00-00. End date: 1990-00-00.

Country/countries: Liberia;

Record number (MFN): 04482

Official project title: CONGO W!LDLANDS PROTECTION AND MANAGEMENT.

Implementing agency: Global Environmental Facility; Congo.

Country/countries: Congo;

Statement of objectives/abstract:

Preservation of six unique ecosystems through institutional support, inventories of reserves and management planning, technical assistance and studies.

Contact in research organization:

Ministry of Planning and Economy; Brazzaville; Congo

Record number (MFN): 04483

Official project title: ACQUISITION AND DISTRIBUTION OF COMPREHENSIVE LANDSAT TM SATELLITE IMAGERY.

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Implementing agency: Global Environment Facility; Central African Republic.
Country/countries: Central African Republic;

Statement of objectives/abstract:

Acquisition of Landsat TM data sets for monitoring land-use changes and evaluating effectiveness of environmental management and conservation efforts in the region.

Record number (MFN): 04510

Official project title: STRENGTHENING AGRICULTURAL EXTENSION.

Implementing agency: Food and Agriculture Organization of the United Nations (FAO).

Start date: 1988-00-00. End date: 1991-00-00.

Country/countries: Nigeria;

Record number (MFN): 04529

Official project title: INSTITUTE OF WATER RESOURCES.

Implementing agency: United Nations Educational, Scientific and Cultural Organization
(UNESCO).

Start date: 1978-00-00. End date: 1990-00-00.

Country/countries: Nigeria;

Record number (MFN): 04530

Official project title: ASSISTANCE TO THE NATIONAL WATER RESOURCES INSTITUTE - PHASE II.

Implementing agency: United Nations Educational, Scientific and Cultural Organization
(UNESCO).

Start date: 1988-00-00. End date: 1990-00-00.

Country/countries: Nigeria;

Record number (MFN): 04549

Official project title: ESTABLISHMENT OF AN AGRICULTURAL LABORATORY.

Implementing agency: International Atomic Energy Agency.

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Start date: 1986-00-00. End date: 1990-00-00.

Country/countries: Cameroon;

Record number (MFN): 04550

Official project title: STUDIES ON CYCLICITY OF INDIGENOUS CATTLE AND SHEEP ON THE RESEARCH STATION.

Implementing agency: International Atomic Energy Agency.

Start date: 1989-00-00. End date: 1990-00-00.

Country/countries: Côte d'Ivoire;

Record number (MFN): 04552

Official project title: NUCLEAR AGRICULTURE CENTRE.

Implementing agency: International Atomic Energy Agency.

Start date: 1981-00-00. End date: 1990-00-00.

Country/countries: Ghana;

Record number (MFN): 04604

Official project title: DYNAMICS OF INTENSIFICATION ON TRADITIONAL FARMS AND EFFICIENCY OF INNOVATIONS CONCERNING FARMING SYSTEMS AT SUB-HUMID SITES.

Implementing agency: Universitaet Hohenheim.

Start date: 1989-00-00. End date: 1993-00-00.

Country/countries: Benin;

Statement of objectives/abstract:

Considering the fact that farmers in the South were able to cope with highly changing political and economical conditions during more than two hundred years and that over time they have been integrated into a market economy, there is little reason to believe that they would not have adjusted also during the last period. We, therefore, postulate that the farming systems in South-Benin are in the process of adjusting to the changing environment. The research will study the "dynamics in the farming systems in the South of Benin", and will identify adjustments and indigenous innovations in cropping and farming systems and assess their economic impact.

Contact in research organization:

Prof. Dr. M. von Oppen; Universitaet Hohenheim; Institut fuer Agrar- und

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Cotonou; People's Republic of Benin

Record number (MFN): 04605

Official project title: MICRO-ECONOMIC POTENTIALS AND LIMITS TO THE INTRODUCTION OF ALLEY
CROPPING SYSTEMS IN TRADITIONAL FARMING SYSTEMS IN SOUTH BENIN.

Implementing agency: Universitaet Hohenheim.
Start date: 1991-00-00. End date: 1993-00-00.
Country/countries: Benin;

Contact in research organization:
Prof. Dr. Doppler; Universitaet Hohenheim; Institut fuer Agrar- und
Sozialökonomie in den Tropen und Subtropen (490); Postfach 700562; 7000
Stuttgart 70; Federal Republic of Germany|ITA; Benin Station; P.O. Box 04-0088;
Cotonou; People's Republic of Benin

Record number (MFN): 04606

Official project title: SOIL GENESIS IN THE HUMID TROPICAL LOWLANDS.

Implementing agency: Universitaet Kiel.
Start date: 1990-10-00. End date: 1991-09-00.
Country/countries: Nigeria;

Statement of objectives/abstract:
Chemical and mineralogical analyses of soil catena and correlations of the features
to soil genesis.

Contact in research organization:
Prof. Dr. H.P. Blume; Institut fuer Pflanzenernahrung und Bodenkunde;
Universitaet Kiel; Olshausenstr. 40; 2300 Kiel; Federal Republic of Germany;
Tel: 0431/8802503

Record number (MFN): 04607

Official project title: AGRICULTURAL CREDIT FOR DEVELOPMENT IN THE UPPER WEST REGION OF
GHANA.

Implementing agency: Universitaet Giessen.
Start date: 1990-05-00. End date: 1992-04-00.
Country/countries: Ghana;

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Statement of objectives/abstract:

To determine the appropriateness of agricultural credit as development instrument for small scale farmers under regional restrictions.

Contact in research organization:

Gyiele Kwaku Nurah; Zentrum fuer regionale Entwicklungsforschung; Justus Liebig Universitaet Giessen; Diezstrasse 15; 6300 Giessen; Federal Republic of Germany

Record number (MFN): 04608

Official project title: TARGET GROUP ORIENTED MANAGEMENT OF NATIONAL AGRICULTURAL RESEARCH.

Implementing agency: Zentrum fuer Regionale Entwicklungsforschung der Universitaet Giessen.

Start date: 1991-02-00. End date: 1993-12-31.

Country/countries: Benin;

Statement of objectives/abstract:

The objectives of the project are: (a) analysis of national agricultural research system's (NARS) structure, organization and communication flows; (b) analysis of linkages between NARS and producers, extension services and international agricultural research; and (c) recommendations for improving/creating institutionalized linkages between NARS, producers, extension services (and international agricultural research systems).

Contact in research organization:

Thimm, Hans-Joachim A. Preuss; Zentrum fuer regionale Entwicklungsforschung; Justus Liebig Universitaet Giessen; Diezstrasse 15; 6300 Giessen; Federal Republic of Germany; Tel: 06+1/7028407

Record number (MFN): 04620

Official project title: PHENOLICS INCLUDING TANNINS IN MULTIPURPOSE TREES AND BROWSE AND THEIR EFFECT ON RUMINANT NUTRITION AND HEALTH.

Implementing agency: Universitaet Hohenheim.

Start date: 1985-00-00.

Country/countries: Africa; Benin; Niger; Nigeria;

Statement of objectives/abstract:

Tenacity reducing effects of tannin containing plants on pathogenic bacteria, esp. Clostridium perfringens, in vitro and in vivo. Possibility of realizing and adequate prophylaxis against enterotoxaemia, in tropical countries by feeding certain plants as supplement.

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Contact in research organization:

Prof. Dr. W. Mueller, Dr. M. Younan, M. Baumann; Abteilung fuer Tierhygiene:
Institut fuer Tierproduktion in den Tropen und Subtropen (480); Universitaet
Hohenheim; Garbenstr. 17; 7000 Stuttgart 70; Federal Republic of Germany; Tel:
0711/45013170; Telex: 722959 uniho-d Institut fuer Tierernaehrung; Universitaet
Hohenheim; 7000 Stuttgart 70; Federal Republic of Germany

Record number (MFN): 04621

Official project title: INVESTIGATIONS ON THE INTERACTION BETWEEN TRYPANOSOMIASIS
CHALLENGE AND NUTRITIONAL STATUS OF DJALLONKE SHEEP IN THE
SUBHUMID SAVANNA OF WEST AFRICA.

Implementing agency: Universitaet Hohenheim.
Start date: 1989-01-00. End date: 1991-12-00.
Country/countries: Côte d'Ivoire;

Statement of objectives/abstract:

Interaction of genetic trypanosomiasis-tolerance with nutritional status of sheep.

Contact in research organization:

Prof. Dr. Chr. Gall; Institut fuer Tierproduktion in den Tropen und Subtropen
(480); Universitaet Hohenheim; Garbenstr. 17; 7000 Stuttgart 70; Federal
Republic of Germany; Tel: 0711/45013170; Telex: 722959 uniho-d

Record number (MFN): 04623

Official project title: STUDY ON REPRODUCTION CRITERIA OF THE GRASSCUTTER.

Implementing agency: Universitaet Hohenheim.
Start date: 1991-01-01. End date: 1993-07-31.
Country/countries: Benin;

Statement of objectives/abstract:

Analysis of reproduction characters of the grasscutter in order to derive techniques
of reproduction management for grasscutter husbandry. Purpose is also to identify
selection criteria for selective breeding of grasscutters.

Contact in research organization:

Prof. Dr. Chr. Gall; Institut fuer Tierproduktion in den Tropen und Subtropen
(480); Universitaet Hohenheim; Garbenstr. 17; 7000 Stuttgart 70; Federal
Republic of Germany; Tel: 0711/45013170; Telex: 722959 uniho-d

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Record number (MFN): 04625

Official project title: GENOTYPIC DIFFERENCES IN MANGANESE TOLERANCE OF COWPEA (VIGNA UNGUICULATA).

Implementing agency: Universitaet Hannover.

Start date: 1987-00-00.

Country/countries: Nigeria;

Statement of objectives/abstract:

Mn excess is an important factor limiting crop production on acid and waterlogged soils. The objective of the project is to identify cowpea genotypes with high tolerance against Mn excess. Based on the study of the physiological mechanisms of Mn toxicity and Mn tolerance rapid screening techniques for Mn tolerance are being developed. These techniques involve isolated leaf tissues and cell suspension-cultures and use biochemical parameters such as callose formation as marker for Mn injury.

Contact in research organization:

Prof. Dr. W. J. Horst: Institut fuer Pflanzenernaehrung; Universitaet Hannover; Herrenhaeuser Str. 2; 3000 Hannover 21; Federal Republic of Germany; Tel: 0511/7622626

Record number (MFN): 04626

Official project title: PUBLIC WORKS IN AFRICA TO IMPROVE FOOD-SECURITY.

Implementing agency: Deutsche Gesellschaft fuer technische Zusammenarbeit (GTZ).

Start date: 1990-01-01. End date: 1992-12-31.

Country/countries: Africa; Botswana; Burkina Faso; Cameroon; Ethiopia; Kenya; Mozambique; Niger; Nigeria; Rwanda; Senegal; Sudan; United Republic of Tanzania; Zimbabwe;

Statement of objectives/abstract:

Documentation of experiences with public works-programmes; comprehensive strategy for food security and nutritional improvement; identification of needs and potentials for labour intensive development programmes; identification of priorities specific types of public works programmes; impact of public works programmes. Phase I of the project will provide a detailed review of public works initiatives in 13 African countries: Botswana, Burkina Faso, Cameroon, Ethiopia, Kenya, Mozambique, Niger, Nigeria, Rwanda, Senegal, Sudan, Tanzania, and Zimbabwe. Experience with public works programs such as food-for-work programs in other countries and regions (for example, China, Bangladesh, India, and Central America) is also considered in the review. The review will synthesize the experience of ongoing or terminated programs according to the type of program. Programs considered in the review and impact analysis include labor intensive rural infrastructure (roads), water works (irrigation, water harvesting), agricultural resource conservation (terracing), reforestation, and community development (drinking water supply). In Phase II, an indepth study of the potential for, and impact of, public works programs for improved household food

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security is planned in four countries: Niger, Botswana, Tanzania, and Zimbabwe. This phase will involve data collection and analysis at the household level to assess the net-effects of public works programs (including food-for-work) on employment and consumption. The resulting analysis will provide guidance for program priorities in different settings, given location-specific development and food security goals. The country studies will be followed by a comparative analysis that brings together broader review findings and leads to policy conclusions and suggestions for strategy formulation.

Contact in research organization:

Dr. Joachim von Braun: Director of Food Consumption and Nutrition Division;
International Food Policy Research Institute; 1776 Massachusetts Avenue N.W.;
20036-1998; USA
Mr. Patrick Weeb: Research Fellow; IFPRI
Mr. Tesfaye Teklu:
Research Fellow; IFPRI

Record number (MFN): 04628

Official project title: PRODUCTIVITY OF AUTOCHTONES CATTLE BREEDS IN THE HUMID AND SUBHUMID ZONE OF WEST AFRICA.

Implementing agency: Gesellschaft fuer technische Zusammenarbeit (GTZ).
Start date: 1990-01-01.
Country/countries: Africa: Togo; Benin;

Statement of objectives/abstract:

Statistical analyses of existing data from developing projects concerning reproduction and growth of different autochtones cattle breeds in various production systems.

Contact in research organization:

Dr. G. Morkramer: Institut fuer Tierzucht und Haustiergenetik; Universitaet
Goettingen; Albrecht-Thaer-Weg 3; 3400 Goettingen; Federal Republic Germany

Record number (MFN): 04632

Official project title: PROMOTION AND FINANCING OF MICRO-INDUSTRIES. ESPECIALLY IN THE INFORMAL SECTOR OF NIGERIA/WEST AFRICA.

Implementing agency: Ruhr-Universitaet Bochum.
Start date: 1989-12-00. End date: 1992-09-00.
Country/countries: Nigeria;

Statement of objectives/abstract:

The study will evaluate the effectiveness of Nigerian economic policy for the promotion of micro-industries in Nsukka and Port Harcourt and analyse the self-help of small entrepreneurs.

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Contact in research organization:

Dr. Chr. Uhlig; Institut fuer Entwicklungsforschung und Entwicklungspolitik;
Ruhr-Universitaet Bochum; Postfach 102148; 6430 Bochum; Federal Republic of
Germany; Tel: 0234/7062418

Record number (MFN): 04633

Official project title: TIME-BUDGET-UTILIZATION OF RURAL HOUSEHOLDS IN SOUTH-BENIN.

Implementing agency: Universitaet Karlsruhe.

Start date: 1990-08-00. End date: 1993-02-00.

Country/countries: Benin;

Statement of objectives/abstract:

In smallholder farming systems the utilization of time devoted to farming, domestic, non-farming and other activities is of crucial importance in assuring self-sufficiency and well-being of rural households. In consideration of interactions between rural households and the socio-economic and agro-ecological settings the project investigates the daily activity programmes of all household members in order to reveal bottlenecks as well as leeway for change.

Contact in research organization:

Anke Rigbers; Institut fuer Regionalwissenschaft; Universitaet Karlsruhe;
Postfach 6980; 7500 Karlsruhe; Federal Republic of Germany; Tel: 0721/6082365

Record number (MFN): 04635

Official project title: THE EFFECT OF TANNINS ON NUTRIENT DIGESTIBILITY AND ANIMAL PERFORMANCE IN SMALL RUMINANTS.

Implementing agency: Universitaet Hohenheim.

Start date: 1991-00-00.

Country/countries: Africa; Benin; Niger; Nigeria;

Statement of objectives/abstract:

The aim of the intended studies is to quantify the effect of tannins on the digestibility of the nutrients of the feed, on the feed intake and on the animal performance.

Contact in research organization:

Prof. Dr. H.-M. Mueller, Priv. Doz. Dr. A. Susenbeth, Dr. H. Steingass; Institut fuer Tierernaehrung; Universitaet Hohenheim; Postfach 700562 (450); 7000 Stuttgart 70; Federal Republic of Germany

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Record number (MFN): 04637

Official project title: ECOLOGICAL SIDE-EFFECTS OF TSETSE CONTROL IN CENTRAL AND NORTHERN IVORY COAST.

Implementing agency: Universitaet des Saarlandes.

Start date: 1991-01-01; End date: 1992-12-31.

Country/countries: Côte d'Ivoire;

Statement of objectives/abstract:

Ecotoxicological risks of tsetse control, mainly side-effects on non-target organisms in relation to the various pesticides in use, have been extensively studied in recent years. Environmentally sound control strategies are now available and - at least locally - in practice. However, the impact of tsetse control on land-use systems remains a matter of discussion. The project aims at analyzing the role of tsetse control as a trigger for changes in land-use systems and concomitant negative environmental effects (e.g. degradation, erosion) as compared to synergistic causes (socioeconomic, cultural and demographical factors) which independantly contribute to a similar development. Ultimately, land-use development plans as well as conservation strategies for sensitive and vulnerable ecosystems will be outlined in order to develop and strengthen sustainable land-use systems which mitigate negative environmental consequences.

Contact in research organization:

Prof. Dr. Drs.h.c. P.Müller, Priv. Doz. Dr. P. Nagel, Dr. W. Erdelen, Dr. R. Peveling; Institut fuer Biogeographie; Zentrum fuer Umweltforschung; Oekotechnologische Task-Force; Universitaet des Saarlandes; 6600 Saarbruecken; Federal Republic of Germany; Tel: 06897/798-100(143,144); Fax: 06897/798155; Telex 6817533 unis

Record number (MFN): 04639

Official project title: CONDITIONS FOR DEVELOPING NON-FARM PRODUCTIVE ACTIVITIES IN RURAL AREAS OF AFRICA. A COMPARISON OF YATENGA/BURKINA FASO AND EXTREME-NORD/CAMEROUN.

Implementing agency: Universitaet Frankfurt.

Start date: 1990-02-00; End date: 1992-07-00.

Country/countries: Africa; Burkina Faso; Cameroon;

Statement of objectives/abstract:

The project analysis both the impact of economic policy and institutions on the nation state level and of social organisation on the local/regional state level in different regional and economic environments (Burkina Faso, Cameroun).

Contact in research organization:

Prof. Dr. E.W. Schamp; Institut fuer Wirtschafts- und Sozialgeographie;

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Universitaet Frankfurt, Dantestr. 9; 6000 Frankfurt/Main 1; Federal Republic of Germany; Tel: 069/7982325

Record number (MFN): 04641

Official project title: EVALUATION OF PRODUCTIVITY OF LOCAL HAIR SHEEP POPULATIONS AND INTRODUCTION OF HIGH YIELDING GENETIC MATERIAL THROUGH CROSSBREEDING.

Implementing agency: Institute of Animal Research, Cameroon.

Start date: 1990-10-00. End date: 1994-09-00.

Country/countries: Cameroon;

Statement of objectives/abstract:

The objectives of the project are: (1) systematic test of local hair sheep populations of humid tropical locations for their productive performance; and (2) simultaneous improvement in reproduction and growth under the local farm conditions in West Africa through crossing among the high yielding strains.

Contact in research organization:

Prof. Dr. P. Horst; Institut fuer Tierproduktion; Technische Universitaet Berlin; Lentzeallee 75; 1000 Berlin 33; Federal Republic of Germany; Tel: (030) 314-71321

Record number (MFN): 04642

Official project title: DEVELOPMENT OF BREEDING METHODS FOR IMPROVED UTILIZATION OF LOCAL GENE RESOURCES IN POULTRY FOR IMPROVING THE PRODUCTIVITY OF LIVESTOCK AND PRODUCTION OF ANIMAL PROTEIN IN CAMEROON.

Implementing agency: Institute of Animal Research; Cameroon.

Start date: 1991-04-00. End date: 1993-03-00.

Country/countries: Cameroon;

Statement of objectives/abstract:

The objectives of the project are: (1) efficiency test of the local chicken under station and small holder conditions; (2) development of optimum gene combination suitable for tropical conditions with a medium sized high yielding line for improving the productive adaptability; (3) significance of heterosis components and their modification through naked neck gene; and (4) development of breeding strategies for improving the genetic potential and efficiency of production of fowl in the rural sector.

Contact in research organization:

Prof. Dr. P. Horst; Institut fuer Tierproduktion; Technische Universitaet Berlin; Lentzeallee 75; 1000 Berlin 33; Federal Republic of Germany; Tel: (030)

SPAAR Information System

314-71321

Record number (MFN): 04643

Official project title: INVESTIGATIONS ON SIGNIFICANCE OF MAJOR GENES FOR BREEDING OF
LAYERS AND BROILERS IN TROPICAL LOCATIONS (CAMEROON).

Implementing agency: Institut of Animal Research; Cameroon.

Start date: 1990-01-00. End date: 1994-12-00.

Country/countries: Cameroon;

Statement of objectives/abstract:

Commercial fowl show a sharp reduction of performance due to poor thermoregulation; specific major genes can improve adaptability by influencing morphological appearance and physiological patterns. The project would: (1) introduce genes to high yielding poultry lines; (2) identify special breeding methods suitable for different tropical conditions; and (3) determine the best adaptable breeding methods for different tropical environments under medium size and small farm conditions.

Contact in research organization:

Prof. Dr. P. Horst; Institut fuer Tierproduktion; Technische Universitaet
Berlin; Lentzeallee 75; 1000 Berlin 33; Federal Republic of Germany; Tel: (030)
314-71321

Record number (MFN): 04644

Official project title: SIGNIFICANCE OF ROTATIONAL CROSSBREEDING FOR IMPROVING PRODUCTIVE
ADAPTABILITY OF PIGS AT TROPICAL LOCATIONS (CAMEROON).

Implementing agency: Institute of Animal Research; Cameroon.

Start date: 1990-10-00. End date: 1994-09-00.

Country/countries: Cameroon;

Statement of objectives/abstract:

The objectives of the project are: (1) utilization of genetic effects of heterosis through rotational breeding for improvement in performance with respect to reproductive, fattening and carcass quality; and (2) evolution of animals for marketing oriented production techniques.

Contact in research organization:

Prof. Dr. P. Horst; Institut fuer Tierproduktion; Technische Universitaet
Berlin; Lentzeallee 75; 1000 Berlin 33; Federal Republic of Germany; Tel: (030)
314-71321

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Record number (MFN): 04646

Official project title: THE EFFECT OF STRATEGIC SUPPLEMENTARY FEEDING ON GROWTH AND REPRODUCTION OF N'DAMA CATTLE.

Implementing agency: Justus von Liebig Universitaet Giessen.

Start date: 1986-00-00. End date: 1992-00-00.

Country/countries: Guinea;

Statement of objectives/abstract:

Supplementary feeding of crop residues and poultry manure during the dry or rainy seasons to different classes of stock (cows, calves, heifers and bulls) was evaluated on a station in Central Guinea over a period of two years. The results are currently analysed.

Contact in research organization:

Prof. Dr. J. Steinbach; Dept. of Livestock Ecology; Ludwigstr. 21; 6300 Giessen; Federal Republic Germany
Mr. Alseny Diaby, Mr. Jacques Souma; Direction Nationale de l'Elevage; Conakry; Guinea

Record number (MFN): 04648

Official project title: UNIVERSITY ENVIRONMENTAL LINKAGE: RANGE DEVELOPMENT AND CAMEL STUDIES.

Implementing agency: Justus von Liebig Universitaet Giessen.

Start date: 1991-10-00. End date: 1995-09-00.

Country/countries: Nigeria;

Statement of objectives/abstract:

The project aims at supporting the Sokoto environmental program through staff and curriculum development and improvement of the research facilities at the University of Sokoto and by development-related applied and adaptive research in the project area.

Contact in research organization:

Dr. H.P. Zervas; Dept. of Livestock Ecology; University Giessen; Ludwigstr. 21; 6300 Giessen; Federal Republic of Germany
Dr. Dogara Bashir; Faculty of Agriculture, Sokoto University; Sokoto; Nigeria

Record number (MFN): 04653

Official project title: RELATIONSHIPS BETWEEN TREE GROWTH, TREE NUTRITION AND SITE IN TECTONIA GRANDIS PLANTATION IN WEST AFRICA.

Implementing agency: Universitaet Bayreuth.

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and/or groundwater influence; ecological conditions of Ultisols.

Contact in research organization:

Prof. Dr. H.P. Blume; Institut fuer Pflanzenernaehrung und Bodenkunde;
Universitaet Kiel; Olshausenstr. 40; 2300 Kiel; Federal Republic of Germany;
Tel: 0431/8802503

Record number (MFN): 04656

Official project title: LITHO AND PEDOGENESE OF SOIL CATENAS IN THE HUMID TROPICS.

Implementing agency: Universitaet Kiel.

Start date: 1990-10-00. End date: 1991-09-00.

Country/countries: Nigeria.

Statement of objectives/abstract:

Investigation of the chemical and mineralogical structures of two different soil catenas in a gneiss landscape in South-West Nigeria. Soil classification and genesis.

Contact in research organization:

Prof. Dr. H.P. Blume; Institut fuer Pflanzenernaehrung und Bodenkunde;
Universitaet Kiel; Olshausenstr. 40; 2300 Kiel; Federal Republic of Germany;
Tel: 0431/8802503
Dr. T.A. Okosami; Dept. of Soil Science; IFE; Nigeria
Prof. Dr. F. Alaily; Fachgebiet Bodenkunde; TU Berlin; Federal Republic of Germany

Record number (MFN): 04657

Official project title: EFFECTS OF DUST DEPOSITES AND MICROVARIABILITY ON EDAPHICAL SITE CONDITIONS WITH REGARD TO SEMI-ARID AND SUB-HUMID LOCATIONS IN WEST AFRICA.

implementing agency: Universitaet Hohenheim.

Start date: 1985-00-00. End date: 1993-00-00.

Country/countries: Africa: Benin; Niger.

Statement of objectives/abstract:

The objectives of the project are to: (1) assess the regional distribution of dust deposits in SW-Niger and Benin and their influence on soil fertility; (2) find out the interrelations between soil properties and pearl millet growth; and (3) monitor soil chemical changes in soil during a rainy season.

Contact in research organization:

Tropenzentrum; Universitaet Hohenheim; Schwertstr. 33; 7000 Stuttgart 70;
Federal Republic Germany; Tel: 0711/4593201; Telex: 722959 uniho-dlITA; Benin
Station; P.O. Box 06-2523; Cotonou; People's Republic of Benin; CRISAT; Centre

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Sahelien; B.P. 12 404; Niamey; Niger

Record number (MFN): 04658

Official project title: RURAL FINANCING SYSTEMS AND AGRICULTURAL PRICE POLICY IN SUPPORT OF INNOVATIONS. F2.1: THE RURAL HOUSEHOLDS FINANCIAL REQUIREMENTS AND FORMAL AND INFORMAL FINANCIAL INSTITUTIONS ANALYSED IN THE PROVINCE OUEME IN THE PEOPLES REPUBLIC OF BENIN. F2.2: AGRICULTURAL PRICE POLICY AND ITS EFFECTS ON PRODUCTION, INCOME AND EMPLOYMENT.

Implementing agency: Universitaet Hohenheim.
Start date: *1987-00-00. End date: 1993-00-00.
Country/countries: Benin;

Statement of objectives/abstract:

F2.1: The objective of the study is to analyse the requirements of a functioning rural financial system including the formal and informal financial sector. F2.2: In two regions of Benin with different agro-ecological, socio-economic and institutional settings the dominating farming systems are investigated and reproduced in LP-models. These models allow to analyse effects of price policy measures on the different farm types. Single farm reactions as well as aggregated effects on employment, income and income distribution, etc. are estimated. An emphasis is given to the relation between food and cash crops and the comparison of the regions.

Contact in research organization:

Tropenzentrum; Universitaet Hohenheim; Schwertstr. 33; 7000 Stuttgart 70;
Federal Republic of Germany; Tel: 0711/4593201; Telex: 722959 unifo-dDRA; B.P.
884; Cotonou; Benin

Record number (MFN): 04659

Official project title: REDUCTION OF CLOSTRIDIOSIS RELATING TO PRODUCTIVE LIVESTOCK THROUGH SUPPLEMENTARY FEEDING OF FORAGE PLANTS CONTAINING TANNINS.

Implementing agency: Universitaet Hohenheim.
Start date: 1985-00-00. End date: 1993-00-00.
Country/countries: Benin;

Statement of objectives/abstract:

The effect of plant species containing tannins on the tenacity of different bacteria spp. (eg. Salmonella typhimurium, S. senftenberg, Escherichia coli, Clostridium perfringens) was elucidated. Trials were made in physiological saline solution and in a rumen-fluid-medium under anaerobic conditions. The results obtained show that within minutes the tenacity of Clostridium perfringens can be reduced by some of the tested plant material not only in physiological saline solution but also in

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rumen-fluid-medium. The tenacity of the germnegative bacteria species was only slightly affected. The results indicate that the reaction of some vegetable tannins and *Clostridium perfringens* germs is a specific one and could be used in controlling diseases caused by *Clostridium perfringens*.

Contact in research organization:

Prof. Dr. W. Mueller; Tropenzentrum; Universitaet Hohenheim; Schwertstr. 33; 7000 Stuttgart 70; Federal Republic of Germany; Tel: 0711/4593201; Telex: 722959 uniho-dILCA, P.O. Box 5689; Addis Abeba; EthiopiaDRA; B.P. 884; Cotonou; Benin ITTA; Benin Station; P.O. Box 04-0088; Cotonou; Benin

Record number (MFN): 04660

Official project title: IMPORTANCE OF SPONTANEOUS VEGETATION AND BIOTIC LIMITATION FACTORS IN TRADITIONAL CROPPING SYSTEMS AT A SUB-HUMID SITE.

Implementing agency: Universitaet Hohenheim.

Start date: 1985-00-00. End date: 1993-00-00.

Country/countries: Benin;

Statement of objectives/abstract:

Assessment of weed problems as basis for improved weed management strategies under special consideration of *Impertea cyindrica* and for beneficial woody (fallow) species.

Contact in research organization:

Tropenzentrum; Universitaet Hohenheim; Schwertstr. 33; 7000 Stuttgart 70; Federal Republic Germany; Tel: 0711/4593201; Telex: 722959 uniho-dIITA; Benin Station; P.O. Box 04-0088; Cotonou; Benin

Record number (MFN): 04661

Official project title: THE ROLE OF ORGANIC SUBSTANCE IN MAINTAINING SOIL FERTILITY OF DIFFERENT SITES IN SOUTH BENIN.

Implementing agency: Universitaet Hohenheim.

Start date: 1985-00-00. End date: 1993-00-00.

Country/countries: Benin;

Statement of objectives/abstract:

The objective of the project is the survey of water and nutrient supply, especially the behaviour of organic matter content under different cropping systems on representative soil types in South Benin. The aim is to develop alternative cropping systems, that allow permanent crop production with input.

Contact in research organization:

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Universitaet Hohenheim; Tropenzentrum; Schwertstr. 33; 7000 Stuttgart 70;
Federal Republic of Germany; Tel: 0711/4593201; Telex: 722959 uniho-dlITA; Benin
Station: P.O. Box 04-0088; Cotonou; Benin

Record number (MFN): 04665

Official project title: INVESTIGATIONS AND DEVELOPMENT OF SITE ADAPTIVE AGROFORESTRY
SYSTEMS.

Implementing agency: Universitaet Bayreuth.
Start date: 1990-04-00. End date: 1992-00-00.
Country/countries: Togo;

Statement of objectives/abstract:

Measurement of root, shoot and total competition in alley cropping with *Gliricidia*
sepium, *Cassia siamea* and *Calliandra calothyrsus*. Influence of soil tillage and
organic matter application on root competition.

Contact in research organization:

Mr. G. Schroth; Lehrstuhl Bodenkunde; Universitaet Bayreuth; Postfach 10 12 51;
8580 Bayreuth; Federal Republic of Germany

Record number (MFN): 04669

Official project title: IMPACT OF THE MOST IMPORTANT TREES FOR ALLEY-CROPPING ON SOIL
FERTILITY PROPERTIES IN THE IVORY COAST/WEST AFRICA.

Implementing agency: Universitaet Bayreuth.
Start date: 1990-05-00. End date: 1991-00-00.
Country/countries: Côte d'Ivoire;

Statement of objectives/abstract:

The soil under 10 species of 5 years old leguminous trees and shrubs and natural
fallow is compared for fertility parameters. Input of organic matter is assessed and
humus stability is measured by soil respiration and N-mineralisation. Comparison of
root mass and distribution.

Contact in research organization:

Prof. Dr. W. Zech, G. Schroth, D. Kolbe; Lehrstuhl fuer Bodenkunde; Universitaet
Bayreuth; Postfach 101251; 8580 Bayreuth; Federal Republic of Germany

Record number (MFN): 04675

Official project title: WEST AFRICA : POST HARVEST LOSSES OF RICE.

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Implementing agency: Overseas Development Administration (NRRD).

Start date: 1992-04-01. End date: 1995-03-31.

Country/countries: United Kingdom; Africa; Nigeria;

Statement of objectives/abstract:

The objective of the project is to reduce losses and improve the quality of locally produced rice in order to promote its acceptance and sale on a competitive basis into the urban markets.

Contact in research organization:

Mr. P. Clarke; Natural Resources Institute; Central Avenue; Chatham Maritime;
Chatham; Kent; ME4 4TB; United Kingdom; Tel 0634 880088; Fax 0634 880066/77;
Telex 263907/8

Record number (MFN): 04688

Official project title: INVESTIGATIONS ON STACKBURN IN SUB-SAHARAN AFRICA.

Implementing agency: Overseas Development Administration (NRRD).

Start date: 1992-04-01. End date: 1995-12-31.

Country/countries: United Kingdom; Global; Portugal; Ghana; Zimbabwe;

Statement of objectives/abstract:

The wider objective of this project is to increase the efficiency and effectiveness of grain stock. To determine the conditions under which stackburn develops and recommend procedures for its control. The immediate objectives are: To identify the causes of stackburn; To determine the relationship between sack material and stackburn; To examine methods for minimising stackburn; To develop management strategies for bagged maize and. To disseminate the strategies.

Contact in research organization:

Mr P.S. Tyler; Natural Resources Institute; Central Avenue; Chatham Maritime;
Chatham; Kent; ME4 4TB; United Kingdom; Tel 0634 880088; Fax 0634 880066/77;
Telex 263907/8

Record number (MFN): 04696

Official project title: THE IMPACT OF WEED MANAGEMENT ON REGULATION OF RICE INSECT PESTS BY NATURAL ENEMIES IN WEST AFRICA.

Implementing agency: Overseas Development Administration (NRRD).

Start date: 1994-04-01. End date: 1997-03-31.

Country/countries: United Kingdom; Côte d'Ivoire;

Statement of objectives/abstract:

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The project will design weed management strategies for upland rice cropping systems in West Africa which reduce weed competition to levels unacceptable to farmers and simultaneously optimise regulation of insect pests by natural enemies. The wider objectives of the project are: To determine the effects of weed management strategies on the natural enemy/insect pest complex in upland rice cropping systems; To determine management options for weeds which also optimise natural enemy regulation of insect pests in upland rice in West Africa. The immediate objectives are: To identify the principle predators of important insect pests and determine factors in the crop/weed which effect their abundance; To quantify the impact of predators on insect pest populations in specified upland rice cropping systems; To elucidate the relative effects of different weed densities on both yield loss due to competition with the crop and yielded grain due to enhanced natural enemy relation of insect pests; To determine the effects of a range of weed management strategies on insect pest/natural enemy populations and on subsequent crop loss.

Contact in research organization:

Dr. A. Russell-Smith; Natural Resources Institute; Central Avenue; Chatham Maritime; Chatham; Kent; ME4 4TB; United Kingdom; Tel 0634 880088; Fax 0634 880066/77; Telex 263907/8 LDN G

Record number (MFN): 04699

Official project title: IMPROVEMENTS TO RURAL OILSEED PROCESSING IN AFRICA.

Implementing agency: Overseas Development Administration (NRRD).

Start date: 1989-04-01. End date: 1995-03-31.

Country/countries: United Kingdom; Africa; Ghana:

Statement of objectives/abstract:

The wider objectives of the project are: To develop suitable procedures and equipment to allow maximum utilisation of edible nut and oilseed resources; To improve the nutritional status of rural populations; To increase national export earnings and/or reduce import requirements of this commodity group. The immediate objectives are: To collect information on oilseed processing by women (focusing on groundnuts), to reduce labour inputs, increase oil yields and generate higher income; To characterise user groups, identifying constraints and resources; To consider scope for adoption of technologies used elsewhere in Africa which may be attractive to women users; To use information collected from the above to develop manual extraction procedures to increase oil yields and reduce labour inputs.

Contact in research organization:

Dr. R.V. Harris/ Mr A. Swetman/ Mr TW Hammonds; Natural Resources Institute; Central Avenue; Chatham Maritime; Chatham; Kent; ME4 4TB; United Kingdom; Tel 0634 880088; Fax 0634 880066/77; Telex 263907/8 LDN G

Record number (MFN): 04701

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Official project title: EVALUATION OF PLANTING SPACED TREES IN CULTIVATED FIELDS ON VERTISOLIC SOILS UNDER LOW RAINFALL WITH SPECIAL REFERENCE TO SOIL CONDITIONS AND CROP YIELD.

Implementing agency: Overseas Development Administration (NRRD).

Start date: 1992-04-01. End date: 1995-04-30.

Country/countries: United Kingdom; Nigeria;

Statement of objectives/abstract:

The objectives of this project are: 1) To elicit farmer preferences for particular tree species, tree attributes within species and tree planting/retention strategies on cultivated land in the region. 2) To determine criteria used to value tree products where they are exchanged, in relation to an assessment of their variability and key characteristics. 3) To develop, by combination of above, guidelines for adoptable tree planting strategies on cultivated land in terms of: - selection of sites, tree species and individual trees for planting - arrangement, method and time of planting - priorities for production from established trees. 4) Evaluation of the effects of maintaining high densities of selected indigenous tree species on cultivated land on physical and chemical soil properties, including water infiltration and penetration. 5) Quantitative evaluation of the competitive effects of the same trees on water and nutrient use in an integrated tree-crop system comparing water use efficiency of individual components and the system as a whole with monocultural alternatives. 6) Evaluation of the impact of managing tree leaf area through pruning on water use, nutrient release, tree and crop productivity and soil characteristics. 7) Quantitative evaluation of the time course of production and the distribution of above and below ground biomass for spaced trees of different species in relation to: - objectives 4, 5, and 6 - the development of criteria for evaluating multipurpose trees for farm use. 8) Develop efficient tree establishment techniques utilising a broader range of provenances and species for areas of vertisolic soils subject to long periods of water-logging. 9) Disseminate the results of this research and other relevant information on the conservation and use of indigenous woody species in this region.

Contact in research organization:

Mr. H.L. Wright; Programme Manager; Forestry Research Programme; University of Oxford; Halifax House; 6 South Parks Road; Oxford; OX1 3UB; United Kingdom; Tel 0865 271036; Fax 0865 271035; Telex 83147 VIA OR G atn FOROX
Mr. F.L. Sinclair; University of Wales, Bangor; Bangor, Gwynedd; Wales LL57 2DG; United Kingdom; Tel 0248 351151; Fax 0248 361429; Telex 61100 UCNWSL G

Record number (MFN): 04707

Official project title: SOCIO-ECONOMIC ASSESSMENT OF BIOTECHNOLOGIES FOR SMALL FARMERS.

Implementing agency: Overseas Development Administration (NRRD).

Start date: 1991-04-00. End date: 1994-04-00.

Country/countries: United Kingdom; Global; Kenya; Nepal; Nigeria;

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Statement of objectives/abstract:

The objectives of the project are: To investigate opportunities for and, constraints on small farmer orientated biotechnology in collaboration with involved supply and demand side institutions and improve the availability of quantitative socio-economic data. To raise small farmer income and welfare by improving their access to agricultural biotechnology (BT), and promoting the identification and delivery of BT products which are appropriate to their needs. To improve availability of socio-economic data relevant to identification and delivery of small farmer orientated biotechnologies (BTs) by undertaking CASE Studies in collaboration with public and private sector, developed and developing country institutions, focusing on: NEEDS assessments using participatory approaches to evaluate demand for selected BTs by small farmers and socio-economic factors likely to influence their sustainable adoption; IMPACT assessments of selected BTs to evaluate i) social and economic costs and benefits for small farmers, ii) rates of return on projects to deliver BT products to them. To identify through the case studies, institutional, resource and information constraints on addressing small farmer demand for BT including, i) integration with existing research, extension and input delivery infrastructure, ii) approaches to public-private sector collaboration especially intellectual property management. To establish a flow of information on the economics and development impacts of BTs between case study participants. To draw on case study experience to assess and recommend i) specific TC-funded initiatives to address small farmer demand for BT, ii) NRI/ODA policy options to promote application of BT to small farmer needs.

Contact in research organization:

Mr S Joffe: Natural Resources Institute; Central Avenue; Chatham Maritime;
Chatham: Kent: ME4 4TB; United Kingdom: Tel 0634 880088; Fax 0634 880066/77;
Telex 263907/8 LDN G

Record number (MFN): 04720

Official project title: AFRICA REGIONAL: A COMPARATIVE STUDY OF THE PRODUCTIVITY OF TRADITIONAL TREECROPS AND INTRODUCED MULTIPURPOSE TREES WITH SPECIAL REFERENCE TO THE EFFECTS ON ASSOCIATED CROPS - A CASE STUDY.

Implementing agency: Overseas Development Administration (NRRD).

Start date: 1991-05-01. End date: 1994-04-30.

Country/countries: United Kingdom; Cameroon;

Statement of objectives/abstract:

The objectives of this project are: To improve the ecological and agronomic aspects of buffer zone agroforestry. The identification of ways of intercropping in partially cleared forests so as to conserve/increase tree cover. The preparation of design and management guide-lines for buffer zone agroforestry, criteria relating to choice of understorey species, and the selection of promising fruit and nut species of local importance.

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Contact in research organization:

Mr. H.L. Wright; Programme Manager; Forestry Research Programme; University of Oxford; Halifax House; 6 South Parks Road; Oxford; OX1 3UB; United Kingdom; Tel 0865 2710367; Fax 0865 271035; Telex 83147 VIA OR G attn FOROXDr. S.M. Newman; Fountain Renewable Resources Limited; The Bell Tower; 12 High Street; Brackley; Northamptonshire; NN13 5DT; United Kingdom; Tel 0280 705700; Fax 0280 706700; Telex 9312102202 G

Record number (MFN): 04726

Official project title: IDENTIFICATION AND MONITORING OF AFRICAN WEATHER REGIMES - PHASE I
WEST AFRICA.

Implementing agency: Overseas Development Administration (NRRD).

Start date: 1993-10-01. End date: 1994-03-31.

Country/countries: United Kingdom; Africa; Ghana; Gambia;

Statement of objectives/abstract:

The wider objectives of the project are: To develop a methodology that can be used to improve short to long-term forecasting of weather/climate regimes that have a significant effect on agriculture in Africa, with the aim of helping farmers increase agricultural productivity; To develop an efficient and effective means of identifying and monitoring weather regimes will be developed using satellite-derived data, supplemented by surface data and large-scale model outputs; To disseminate results to end-users through national meteorological departments and more widely through publications in the scientific literature. The immediate objectives are: To develop methods for identifying and monitoring synoptic and regional scale weather regions over Africa and assess how they can be applied locally in Africa. To investigate synoptic and larger-scale movements of the ITCZ over sub-Saharan West Africa and their interactions with surface and upper level synoptic disturbances; To identify changes of the ITCZ characteristic of wet and dry seasons to improve understanding of difference between such seasons.

Contact in research organization:

Mr. M.R. Tucker; Natural Resources Institute; Central Avenue; Chatham Maritime; Chatham; Kent; ME4 4TB; United Kingdom; Tel 0634 880088; Fax 0634 880066/77; Telex 263907/8 LDN G

Record number (MFN): 04727

Official project title: GHANA : EFFECT OF CLIMATE AND SOIL ON DISTRIBUTION AND REGENERATION OF TIMBER TREES.

Implementing agency: Overseas Development Administration (NRRD).

Start date: 1992-01-01. End date: 1994-12-31.

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Country/countries: United Kingdom; Ghana;

Statement of objectives/abstract:

The objective of the project is to examine the influence of drought and soil fertility on seedlings of a variety of timber tree species and to relate this to their regeneration and distribution in Ghana's forest zone.

Contact in research organization:

Mr. H. L. Wright; Programme Manager; Forestry Research Programme, University of Oxford; Halifax House; 6 South Parks Road; Oxford; OX1 3UB; United Kingdom; Tel 0865 271036; Fax 0865 271035; Telex 83147 VIA OR G attn FOROXDr. M. D. Swaine; University of Aberdeen; Aberdeen; Scotland AB9 1FX; Tel 0224 272000; Fax 0224 487048; Telex 73458

Record number (MIFN): 04737

Official project title: EFFECTS OF PROCESSING ON DISTRIBUTION AND DESTRUCTION OF MYCOTOXINS.

Implementing agency: Overseas Development Administration (NRRD).

Start date: 1992-04-01. End date: 1995-03-30

Country/countries: United Kingdom; Africa; Ghana; Nigeria;

Statement of objectives/abstract:

The objectives of the project are: To determine the extent and distribution of mycotoxins in cereal and pulse based processed foods; To investigate the effects of processing methods on the destruction and distribution of mycotoxins.

Contact in research organization:

Dr. B. D. Jones; Natural Resources Institute; Central Avenue; Chatham Maritime; Chatham; Kent; ME4 4TB; United Kingdom; Tel 0634 880088; Fax 0634 880066/77; Telex 263907 8

Record number (MIFN): 04739

Official project title: CAUSES, EFFECTS AND CONTROL OF BIODETERIORATION.

Implementing agency: Overseas Development Administration (NRRD).

Start date: 1992-04-01. End date: 1995-03-31.

Country/countries: United Kingdom; Global; India; Honduras; Ghana;

Statement of objectives/abstract:

The wider objectives of this project are: To reduce human health risks due to mycotoxins. To improve the quality of cereals and pulses, reduce losses and improve earnings. The immediate objectives are: To assess the economic importance of biodeterioration of cereals and pulses to resource poor farmers in West Africa and

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India and define properties for research. To identify causes and effects of biodeterioration of West African rice. To determine environmental, physical, chemical and biological factors associated with toxin production by *Fusarium* and *Alternaria* in maize and sorghum. To define deterioration and quality criteria attributable to chemical changes in grains. To provide recommendations for the control of biodeterioration in specific cereals.

Contact in research organization:

Ms. S. Phillips: Natural Resources Institute: Central Avenue: Chatham Maritime:
Chatham; Kent; ME4 4TB: United Kingdom; Tel 0634 880388; Fax 0634 880066/77;
Telex 263907/8

Record number (MFN): 04743

Official project title: CONTROL OF SOIL ACIDITY IN AGROFORESTRY.

Implementing agency: Overseas Development Administration (NRRD).

Start date: 1991-07-01. End date: 1994-06-30.

Country/countries: United Kingdom; Africa; Burundi; Zambia; Cameroon;

Statement of objectives/abstract:

The objective of the project is to ameliorate the soil acidity effect with residues of trees or manure. It is expected that the decomposition products of the organic materials will bind aluminium and decrease its phytotoxicity. The process will be modelled so as to facilitate its application to other regions. Field experiments set up in Zambia, Burundi and Cameroon will be made to test the model comprehensively.

Contact in research organization:

Mr. H.L. Wright: Programme Manager, Forestry Research Programme: University of Oxford: Halifax House: 6 South Parks Road: Oxford; OX1 3UB: United Kingdom: Tel 0865 2710367; Fax 0865 271035; Telex 83147 VIA OR G attn FOROXDr. M. Wong and Professor R.S. Swift: University of Reading: Whiteknights: P.O. Box 217: Reading; Berkshire: United Kingdom; RG6 2AH; Tel 0734 875123; Fax 0734 314404; telex 847813

Record number (MFN): 04753

Official project title: DRAUGHT ANIMALS FOR PRODUCTION/FEEDING AND WORKING STRATEGIES FOR DRAUGHT ANIMALS.

Implementing agency: Overseas Development Administration (NRRD).

Start date: 1991-04-01. End date: 1993-03-31.

Country/countries: United Kingdom; Global; Nepal; Colombia; Niger; Nigeria; Indonesia; France; Morocco; Chile;

Statement of objectives/abstract:

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The objectives of the project are to provide information to assist researchers and extension agents to provide appropriate advice to farmers. The aim is to help people make decisions on the type of animals which are best suited to their particular needs, and the most appropriate way of feeding and working them, given the local feed resources and implements available, the climatic conditions prevailing and the tillage and transport requirements needed.

Contact in research organization:

Dr. R. Anne Pearson: Centre for Tropical Veterinary Medicine: University of Edinburgh; Easter Bush; Roslin; Midlothian; EH25 9RG; United Kingdom; Tel 031 445 2001; Fax 031 445 5099; Telex 727442 (UNIVED G)

Record number (MFN): 04761

Official project title: STORAGE OF CEREALS BY PASTORALISTS.

Implementing agency: Overseas Development Administration (NRRD).

Start date: 1992-04-01. End date: 1994-11-00.

Country/countries: United Kingdom; Africa; Niger; Mali; Kenya; Ethiopia; Nigeria.

Statement of objectives/abstract:

The wider objective of this project is to improve the quality of seed available to small-scale farmers at planting time. The immediate objectives are: To identify the distribution methods, selection conditioning and storage practices of seed used by small-scale farmers. To identify three farmer groups where seed quality problems occur. At least two climatically different situations will be addressed. To set up three pilot projects to test improved seed quality from harvest to planting. To disseminate results and principles of seed storage to projects working in this field.

Contact in research organization:

Mr. T. Donaidson: Natural Resources Institute: Central Avenue: Chatham Maritime: Chatham; Kent: ME4 4TB: United Kingdom; Tel 0634 880088; Fax 0634 880066/77; Telex 263907/8Dr. D. Seddon: School of Development Studies; University of East Anglia; Norwich; NR4 7TJ; United Kingdom; Dr. J. Swift: Institute of Development Studies; University of Sussex; Brighton; BN1 9RE: United Kingdom

Record number (MFN): 04773

Official project title: COOKING BANANAS AND PLANTAINS.

Implementing agency: Overseas Development Administration (NRRD).

Start date: 1992-04-01. End date: 1995-03-31.

Country/countries: United Kingdom; Global; Honduras; Uganda; Nigeria; France:

Statement of objectives/abstract:

The wider objectives of this project are: To increase horticultural crop production

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and the availability of such crops and their products to local and export markets. To support programmes of agricultural expansion into horticultural crops especially cooking bananas and plantains. The immediate objectives are: To reduce post-harvest loss and improve utilisation of cooking bananas and plantains by evaluation of superior germplasm, developing non-destructive quality analysis, identification of factors influencing disorders and mechanical injury. Characterise the key properties of banana fruit for acceptable prepared and processed products. To develop socio-economic/technical methods for research needs assessment in cooking banana plantain.

Contact in research organization:

Dr. S. Woodhead: Natural Resources Institute: Central Avenue: Chatham Maritime:
Chatham: Kent: ME4 4TB: United Kingdom: Tel 0634 880088: Fax 0634 880066/77:
Telex 263907/8

Record number (MFN): 04777

Official project title: BIODETERIORATION OF WEST AFRICAN RICE.

Implementing agency: Overseas Development Administration (NRRD).

Start date: 1992-04-01. End date: 1995-03-31.

Country/countries: United Kingdom: Nigeria:

Statement of objectives/abstract:

The objectives of the project are: To assess the significance and magnitude of postharvest losses due to microorganisms in West African locally produced rice; To reduce losses and improve rice quality.

Contact in research organization:

Mr. W.H. Timmins: Natural Resources Institute: Central Avenue: Chatham Maritime:
Chatham: Kent: ME4 4TB: United Kingdom: Tel 0634 880088: Fax 0634 880066/77:
Telex 263907/8

Record number (MFN): 04782

Official project title: AN EXAMINATION OF DIOSCOREA SPP (YAM) FOR NEMATODE RESISTANCE.

Implementing agency: Overseas Development Administration (NRRD).

Start date: 1992-04-01. End date: 1995-03-31.

Country/countries: United Kingdom; Africa: Côte d'Ivoire; Nigeria:

Statement of objectives/abstract:

The wider objectives of this project are: To improve the diet and economy of resource poor farmers in yam growing regions of the world (South and Central America, W Africa, India and the Pacific). To improve breeding for pest and disease resistance in tropical crops by an increased understanding of mechanisms of resistance. The

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immediate objectives of the project are: To identify yam cultivars/somatic hybrids with nematode resistance; To elucidate the mechanisms of resistance and; To liaise with yam breeders so that the outputs are used in improvement programmes.

Contact in research organization:

Dr. S. Gowen/Dr. D.E. Padgham; Natural Resources Institute; Central Avenue;
Chatham Maritime; Chatham; Kent; ME4 4TB; United Kingdom; Tel 0634 880088; Fax
0634 880066/77; Telex 263907/8 LDN G

Record number (MFN): 04783

Official project title: METHODOLOGIES FOR BETTER TECHNOLOGY TRANSFER.

Implementing agency: Overseas Development Administration (NRRD).

Start date: 1991-04-01. End date: 1994-03-31.

Country/countries: United Kingdom; Africa; Ghana; Zambia; Malawi:

Statement of objectives/abstract:

The wider objective of the project is to increase opportunities for enhancing natural resource productivity in developing countries through use of improved technologies. The immediate objective is to test, adapt and evaluate approaches to improved technology dissemination.

Contact in research organization:

Mr. J.P. Coulter; Natural Resources Institute; Central Avenue; Chatham Maritime;
Chatham; Kent; ME4 4TB; United Kingdom; Tel 0634 880088; Fax 0634 880066/77;
Telex 263907/8 LDN G

Record number (MFN): 04804

Official project title: RESISTANCE MECHANISMS TO ANTHRACNOSE IN YAMS.

Implementing agency: Overseas Development Administration (NRRD).

Start date: 1992-04-01. End date: 1995-03-31.

Country/countries: United Kingdom; Côte d'Ivoire:

Statement of objectives/abstract:

The wider objective of this project is to improve breeding for resistance to yams through the identification of resistance mechanisms. The immediate objectives are: To identify and quantify antifungal compounds in yams. To develop protocols for the extraction and electrophoresis of yam leaf proteins.

Contact in research organization:

Dr. D.E. Padgham; Natural Resources Institute; Central Avenue; Chatham Maritime;
Chatham; Kent; ME4 4TB; United Kingdom; Tel 0634 880088; Fax 0634 880066/77;
Telex 263907/8 LDN G Dr. S.H. Mantell; Department of Agriculture, Horticulture

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and the Environment; Wye College; University of London; Ashford: Kent; TN25 5AH;
United Kingdom; Tel 0233 812401; Fax 0233 813140; Telex 94017832 WYECProf. T.T.
Bakary; Universite de Cote d'Ivoire; Faculte Des Sciences; 04 BP 322; Abidjan
04: Cote d'Ivoire; West Africa

Record number (MFN): 04805

Official project title: STRIGA RESISTANCE IN RICE.

Implementing agency: Overseas Development Administration (NRRD).

Start date: 1992-04-01. End date: 1995-03-31.

Country/countries: United Kingdom; Côte d'Ivoire;

Statement of objectives/abstract:

The wider objective of this project is to discover sources of resistance to Striga in rice. The immediate objectives are: To determine identification of Striga spp on rice on Cote d'Ivoire. Investigate optimum conditions for Striga susceptibility of rice cultivar groups species and wild relatives. Investigate Striga susceptibility of rice cultivar groups species and wild relatives. Examine host ranges of Striga samples from various geographic locations.

Contact in research organization:

Dr. D.E. Padgham; Natural Resources Institute; Central Avenue; Chatham Maritime;
Chatham; Kent; ME4 4TB; United Kingdom; Tel 0634 880088; Fax 0634 880066/77;
Telex 263907/8 LDN GDr. J. Terry / Dr. J.A. Bailey; AFRC Institute of Arable
Crops Research; Long Ashton Research Station; Bristol; BS18 9AF; United Kingdom;
Tel 0272 392181; Fax 0272 394007

Record number (MFN): 04830

Official project title: LABOUR INVESTMENT IN PERENNIAL CROP PRODUCTION.

Implementing agency: Overseas Development Administration (NRRD).

Start date: 1992-11-01. End date: 1995-03-31.

Country/countries: United Kingdom; Global; Indonesia; Ghana;

Statement of objectives/abstract:

The wider objectives of the project are: To improve the welfare of communities involved in smallholder perennial crop production; To improve the policy framework for smallholders involved in perennial crop production. The immediate objectives are: To examine and revise a range of explanatory models of individual and household decision making in relation to agricultural investment; To relate existing decision-making models to information on smallholder investment patterns in perennial crops; To characterise rural labour markets and relate these to investment decisions; To develop policy options relating to the revised decision-making models.

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Contact in research organization:

Mr. M. Blowfield; Natural Resources Institute; Central Avenue; Chatham Maritime;
Chatham; Kent; ME4 4TB; United Kingdom; Tel 0634 880088; Fax 0634 880066/77;
Telex 263907/8 LDN G

Record number (MFN): 04831

Official project title: INVESTMENT AND SURVIVAL STRATEGIES OF WOMEN.

Implementing agency: Overseas Development Administration (NRRD).

Start date: 1992-11-01. End date: 1995-03-31.

Country/countries: United Kingdom; Africa; Cameroon; Zambia:

Statement of objectives/abstract:

The wider objective of the project is to improve the targeting of interventions to low-income women. The immediate objectives are: To provide informations on poor women's priorities and constraints, and the process by which they decide how to invest (in particular, their labour); To develop conclusions which assist in the targeting of interventions towards such women.

Contact in research organization:

Ms. A. Gordon/Ms. C. O'Reilly; Natural Resources Institute; Central Avenue;
Chatham Maritime; Chatham; Kent; ME4 4TB; United Kingdom; Tel 0634 880088; Fax
0634 880066/77; Telex 263907/8 LDN G

Record number (MFN): 04834

Official project title: POST-HARVEST ASSESSMENT OF ROOT AND TUBER CROP STORAGE.

Implementing agency: Overseas Development Administration (NRRD).

Start date: 1992-04-01. End date: 1995-03-31.

Country/countries: United Kingdom; Global; Uganda; Nigeria; Bangladesh; Peru; Colombia;
Ghana; Nepal;

Statement of objectives/abstract:

The wider objectives of the project are: To reduce qualitative and quantitative post-harvest losses of fresh and processed roots and tubers; To improve the welfare of farmers and the rural poor, including root crop processors and consumers; To enhance the health status of rural poor through increased quantity and quality of root foods; To expand market outlets for fresh and processed roots. The immediate objectives of the project are: To evaluate the post-harvest biochemical and physiological characters of fresh and processed roots; To define quality attributes and their economic, nutritional and sociological importance to farmers, processors and consumers; To develop improved techniques to extend the storage life of fresh roots and tubers; To review the opportunities for the intervention of biotechnological methods to reduce qualitative and quantitative post-harvest losses

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of fresh roots.

Contact in research organization:

Dr. N. Poulter: Natural Resources Institute: Central Avenue: Chatham Maritime:
Chatham; Kent; ME4 4TB; United Kingdom; Tel 0634 880088; Fax 0634 880066/77:
Telex 263907/8 LDN G

Record number (MFN): 04845

Official project title: LOCAL APPLICATION OF REMOTE SENSING TECHNIQUES (LARST) FOR
FORESTRY MANAGEMENT.

Implementing agency: Overseas Development Administration (NRRD).

Start date: 1992-10-01. End date: 1994-03-31.

Country/countries: United Kingdom: Global; Côte d'Ivoire; Indonesia:

Statement of objectives/abstract:

The objective of the project is to produce a calibrated, easy-to-use forest fire risk, forest fire monitoring and forest state monitoring system based on local reception and processing of NOAA satellite data.

Contact in research organization:

Mr. H.L. Wright: Programme Manager: Forestry Research Programme; University of
Oxford; Halifax House: 6 South Parks Road; Oxford; OX1 3UB; United Kingdom. Tel
0865 271036; Fax 0865 271035; Telex 83147 VIA OR G atn FOROXDr. J.B. Williams:
Natural Resources Institute: Central Avenue: Chatham Maritime; Chatham; Kent:
ME4 4TB; United Kingdom; Tel 0634 880088; Fax 0634 880066/77; Telex 263907/8 LDN
G

Record number (MFN): 04858

Official project title: THE FEEDING BEHAVIOUR OF CICADULINA, VECTOR OF MAIZE STREAK VIRUS
DISEASE ON RESISTANT AND SUSCEPTIBLE MAIZE GENOTYPES.

Implementing agency: Overseas Development Administration (NRED).

Start date: 1991-04-01. End date: 1994-03-31.

Country/countries: United Kingdom; Africa: Nigeria; Uganda:

Statement of objectives/abstract:

The wider objective is to reduce the spread of maize virus disease (MSVD). The immediate objectives are: To maintain at NRI a culture of *Cicadulina triagula* and *C. mbila* on *Millet americanum*. To develop an electronic system. To monitor probing activities of *Cicadulina* spp on millet (1991/92). To monitor probing activities of *Cicadulina* spp. on millet, 3-4 grass hosts, resistant and susceptible maize genotypes (1992/93). To develop a rapid method for assessing host plant quality and hopper performance (1993/94).

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Contact in research organization:

Dr. R.J. Cooter; Natural Resources Institute; Central Avenue; Chatham Maritime;
Chatham; Kent; ME4 4TB; United Kingdom; Tel 0634 880088; Fax 0634 880066/77;
Telex 263907/8 LDN G

Record number (MFN): 04864

Official project title: MICROBIAL CONTROL OF ROOT KNOT NEMATODES.

Implementing agency: Overseas Development Administration (NRRD).

Start date: 1992-04-01. End date: 1995-03-31.

Country/countries: United Kingdom; Africa; Malawi; Zimbabwe; Côte d'Ivoire;

Statement of objectives/abstract:

The wider objective of this project is to reduce damage to vegetable crops in developing countries caused by root-knot nematodes below economic thresholds by environmentally-acceptable, appropriate technologies based on combination of biological control agents (BCAs) with improved cultural practices. The immediate objectives of this project are: To assess potential of *Pasteuria penetrans* (Pp) alone and in combination with *Verticillium chlamydosporium* (Vc) applied together as BCAs for root-knot nematodes in laboratory and field. To determine correct timing for BCAs in typical crop rotation and assess effect of host crop and organic soil amendments on these. To devise management systems for root-knot nematodes in vegetable crops suited to subsistence farmers.

Contact in research organization:

Dr. S.R. Gowen; Natural Resources Institute; Central Avenue; Chatham Maritime;
Chatham; Kent; ME4 4TB; United Kingdom; Tel 0634 880088; Fax 0634 880066/77;
Telex 263907/8 LDN G

Record number (MFN): 04866

Official project title: WEED MANAGEMENT IN UPLAND RICE IN WEST AFRICA.

Implementing agency: Overseas Development Administration (NRRD).

Start date: 1992-04-01. End date: 1995-02-28.

Country/countries: United Kingdom; Africa; Côte d'Ivoire;

Statement of objectives/abstract:

The wider objective of the project is to develop sustainable socio-economically acceptable weed management strategies for rainfed upland rice cropping systems in West Africa. The immediate objectives are: To assess the distribution and importance of weed problems in representative rainfed rice production areas of West Africa. To determine the level of rice yield loss due to weeds in upland areas and assess costs of current control measures. To investigate farmer's perceptions of weed problems and

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identify reasons for non-adoption of improved weed management recommendations; To initiate trials on the development of appropriate weed control options. This will include selection of well adapted competition rice varieties.

Contact in research organization:

Dr. D. Johnson: Natural Resources Institute: Central Avenue: Chatham Maritime:
Chatham; Kent: ME4 4TB: United Kingdom; Tel 0634 880088; Fax 0634 880066/77:
Telex 263907/8 LDN G

Record number (MFN): 04868

Official project title: GENOMIC VARIABILITY OF STRIGA AND CYNODON SPECIES

Implementing agency: Overseas Development Administration (NRRD).

Start date: 1992-04-01. End date: 1994-03-31.

Country/countries: United Kingdom; Nigeria:

Statement of objectives/abstract:

The wider objective of the project is to develop techniques for the extraction of genomic DNA suitable for RAPD analysis in *Cynodon dactylon* (L.) Pers. The immediate objectives are: Identification of appropriate DNA extraction methods. Comparison of selected range of different extraction techniques. Preliminary demonstration of extraction of RAPD method using *Cynodon* DNA.

Contact in research organization:

Dr. K. Shawe: Natural Resources Institute: Central Avenue: Chatham Maritime:
Chatham; Kent: ME4 4TB: United Kingdom; Tel 0634 880088; Fax 0634 880066/77:
Telex 263907/8 LDN G

Record number (MFN): 04881

Official project title: ASSESSING OPERATOR EXPOSURE.

Implementing agency: Overseas Development Administration.

Start date: 1991-04-01. End date: 1995-03-01.

Country/countries: United Kingdom; Ghana;

Statement of objectives/abstract:

The wider objectives of the project is to promote safer and more effective management of pesticides for pest, weed and disease control in developing countries. The immediate objective is a facility at NRI and techniques for measuring and analysing sprayer operator contamination during handling and application.

Contact in research organization:

Mr. W.J. King: Natural Resources Institute: Central Avenue: Chatham Maritime:
Chatham; Kent: ME4 4TB: United Kingdom; Tel 0634 880088; Fax 0634 880066/77:

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Telex 263907/8 LDN G

Record number (MFN): 04887

Official project title: BIOLOGY OF YAM ANTHRACNOSE (COLLETOTRICHUM).

Implementing agency: Overseas Development Administration (NRRD).

Start date: 1992-04-01. End date: 1995-03-31.

Country/countries: United Kingdom; Nigeria;

Statement of objectives/abstract:

The wider objective of the project is to identify the major disease of West African crops and to develop control strategies through knowledge of their biology and ecology. The immediate objective is to develop a project on the epidemiology of yams in West Africa.

Contact in research organization:

Dr. R.W. Gibson; Natural Resources Institute; Central Avenue; Chatham Maritime;
Chatham; Kent; ME4 4TB; United Kingdom; Tel 0634 880088; Fax 0634 880066/77;
Telex 263907/8 LDN G

Record number (MFN): 04893

Official project title: GHANA : SUSTAINABILITY OF ECONOMIC ACTIVITIES BASED ON NON-TIMBER FOREST PRODUCTS.

Implementing agency: Overseas Development Administration (NRRD).

Start date: 1993-05-01. End date: 1995-09-30.

Country/countries: United Kingdom; Ghana:

Statement of objectives/abstract:

The objective of the project is to identify factors that determine which local economic activities based on non-timber forest products have the potential for profitable and sustainable growth, and which do not, as an input to the design of forest management and small enterprise projects and programme.

Contact in research organization:

Mr. J.E.M. Arnold; Forestry Research Programme; University of Oxford; Halifax
House; 6 South Parks Road; Oxford; OX1 3UB; United Kingdom; Tel 0865 2710367;
Fax 0865 271035; Telex 83147 VIA OR G atn FOROX

Record number (MFN): 04896

Official project title: NIGERIA: ACCESS TO URBAN WASTE MARKETS BY NEAR-URBAN FARMERS.

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Implementing agency: Overseas Development Administration (NRRD).
Start date: 1993-12-23. End date: 1994-03-31.
Country/countries: United Kingdom; Nigeria;

Statement of objectives/abstract:

The objectives of the project are: To describe the network of physical flows of organic urban waste used in fertilising soil in agricultural regions neighbouring Kano; To establish the economic viability of urban waste as a source of organic fertiliser in this region; To describe the physical and economic constraints upon farmers (especially poor farmers) in gaining access to this waste; To assess any scope for, and possible management strategies to achieve, more efficient disposal of urban waste for use as fertiliser in near-urban areas; To identify suitable methods and measures for monitoring and policy evaluation purposes.

Contact in research organization:

Mr. C.P. Lewcock; Natural Resources Institute; Central Avenue; Chatham Maritime;
Chatham; Kent; ME4 4TB; United Kingdom; Tel 0634 880088; Fax 0634 880066/77;
Telex 263907/8 LDN G

Record number (MFN): 04900

Official project title: DEVELOPMENT OF RAPID TESTS FOR IDENTIFICATION AND DIFFERENTIATION OF YAM VIRUSES.

Implementing agency: Overseas Development Administration (NRRD).
Start date: 1993-09-01. End date: 1996-03-31.
Country/countries: United Kingdom; Africa; Nigeria; Global; Sri Lanka;

Statement of objectives/abstract:

The wider objective of the project is to improve health of yam planting material and reduce losses due to virus infection by improved diagnostic technology. The immediate objectives of the project are: To develop rapid method(s) for preparing yam extracts free of compounds that inhibit reverse transcription and amplification enzymes in polymerase chain reactions; To clone and sequence PCR products representing parts of the variable region of yam potyviruses from Africa and Asia and use this information to develop a rapid diagnostic test based on sequence diversity; use differential tests to investigate geographic variability to yam potyviruses; To produce a panel to monoclonal antibodies to yam badnavirus and use to develop diagnostic test and to assess the variability within the coat protein of yam badnavirus; To utilise detection methods for badnaviruses and potyviruses to assess occurrence and importance of viruses in yam in Nigeria and Sri Lanka, and to determine if alternative hosts exist.

Contact in research organization:

Dr. A. Isaac; Natural Resources Institute; Central Avenue; Chatham Maritime;
Chatham; Kent; ME4 4TB; United Kingdom; Tel 0634 880088; Fax 0634 880066/77;
Telex 263907/8 LDN G Dr. A. Blunt; Horticulture Research International; Worthing
Road; Littlehampton; West Sussex; BN17 GLP; Tel 0903 716123; Fax 0903 726780Sr.

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N. MacNamara; DDS; Nigeria; Dr Dharmawardene; SRI Sri Lanka

Record number (MFN): 04904

Official project title: CASSAVA CYANIDE: IMPROVED TECHNIQUES FOR ESTIMATION AND INFLUENCE OF ENVIRONMENT ON CONCENTRATION.

Implementing agency: Australian Centre for International Agricultural Research.
Start date: 1991-00-00. End date: 1993-00-00.
Country/countries: Nigeria.

Statement of objectives/abstract:

Cassava is the most important food source in tropical Africa, but its food value is marred by the presence of cyanide-containing compounds. This project aims to develop a simple method for measuring cyanide content, and to determine what environmental influences affect cyanide levels in cassava plants. The scientists will use the test to identify low-cyanide varieties to incorporate into breeding programs and high cyanide varieties to eliminate from country collections. Other studies will determine the relationship between bitterness/sweetness of cassava and high/low cyanide content, and also try to combine the desirable qualities of high beta-carotene content and low cyanide in new cassava varieties.

Record number (MFN): 04905

Official project title: PERI-URBAN VEGETABLE PRODUCTION AND CONSUMPTION IN SUB-SAHARAN AFRICA.

Implementing agency: The Asian Vegetable Research and Development Center (AVRDC).
Start date: 1993-01-00. End date: 1994-12-00.
Country/countries: Africa; Côte d'Ivoire; United Republic of Tanzania; Zambia.

Statement of objectives/abstract:

The proposed project would have the following specific objectives: (1) to describe the actual situation regarding vegetables in terms of production, consumption, prices (including seasonal and inter-year price fluctuations), availability and marketing. This information will be compiled into a comprehensive set of vegetable statistics for planning and research management purposes; (2) to compare the total vegetables currently reaching the urban market with the supplies needed to meet present and future nutritional requirements; (3) to identify and review relevant domestic research and development initiatives in the area of vegetable growing and marketing, with special emphasis on peri-urban and urban household vegetable production; (4) to identify major constraints to increased peri-urban vegetable production and suggest ways to develop vegetable delivery and production systems that closely link farm production capacity with market requirements; and (5) to identify constraints to urban household gardening and ways of promoting it as an efficient source of food and

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income security. The expected outputs for each of the three countries involved would be: (i) a reference database and reliable information on peri-urban vegetable production, consumption, marketing and prices at the national and regional levels; (ii) identification of constraints to increased peri-urban and urban household vegetable production and ways to overcome them; and (iii) improved knowledge among researchers and policy makers which can be used in the design of follow-up projects aimed at improving small-scale commercial peri-urban vegetable production and household gardening.

Contact in research organization:

Dr. Romeo T. Opena/Dr. Nameus Mnzava; HORTI Tengeru; Arusha; Tanzania

Record number (MFN): 04921

Official project title: DOCTORAL PROGRAM IN RURAL ECONOMICS AT CIRES (COTE D'IVOIRE).

Implementing agency: International Development Research Centre.

Start date: 1991-03-08. End date: 1993-03-08.

Country/countries: Côte d'Ivoire.

Statement of objectives/abstract:

This project will continue the collaborative support Winrock International and IDRC provide to Centre ivoirien de recherches économiques et sociales (CIRES). Between 1986 and 1990, IDRC focused on increasing the research capacity in francophone West Africa. One group of projects focused on supporting research for staff and students in CIRES while the other group used CIRES as a base for regional small grants. The need for a strong French language regional agricultural economics post graduate training center was demonstrated in July 1990 when 280 people applied for the nine first year places in CIRES even though the University was closed at the time. The objective of this project is to augment the thesis supervision and research capacity of CIRES.

Contact in research organization:

David Perthel; WINROCK International Institute for Agricultural Development;
Route 3, Morrilton; AR 72110; USA

Record number (MFN): 04929

Official project title: BY-PRODUCTS (GHANA).

Implementing agency: International Development Research Centre.

Start date: 1992-01-15. End date: 1994-12-31.

Country/countries: Ghana.

Statement of objectives/abstract:

Small ruminants, which utilize low quality forages and crop residues can provide the

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high quality proteins needed by the population of Ghana. The country has a high potential to increase small ruminant production which to date has been carried out within the traditional free roaming subsistence production system. This project will identify and estimate, in two regions of the country, the quantity and quality of the most important crop residues and agricultural by-products appropriate for livestock feeding; evaluate the relative importance of urban small ruminant produces; identify the major production constraints, and formulate and evaluate diets based on available crop residues and by-products to be used by village and urban producers in raising small ruminants.

Contact in research organization:

Mr. A.K. Tuah, Dept. of Animal Sciences, University of Science and Technology,
Kumasi, Ghana

Record number (MFN): 04933

Official project title: CIRCULATION OF SCIENTIFIC INFORMATION.

Implementing agency: International Development Research Centre.

Start date: 1991-06-18. End date: 1993-05-30.

Country/countries: Benin.

Statement of objectives/abstract:

The development of a rural radio and television network is one of the priorities of the government of Benin. This project will develop rural communications stressing scientific and technical information, and its utilization by the villagers. It will also develop the research and planning capacity of the Office de radiodiffusion et télévision de Bénin. Further, the project will measure the impact of attempts to disseminate technical and scientific information by radio and television; define an appropriate dissemination strategy and assess the usefulness of such information in the framework of Bénin's Development Plan; design and disseminate audiovisual pilot messages on agriculture, environment, and health; and train radio and television journalists specialized in the coverage of scientific and technological news.

Contact in research organization:

Michèle Akan-Badarou, Ministère de l'information et des communications, B.P.
336, Cotonou, Bénin

Record number (MFN): 04938

Official project title: SMALLHOLDER INFORMATION AND RESOURCES NEEDS FOR MAIZE PRODUCTION
IN NIGERIA.

Implementing agency: International Development Research Centre.

Start date: 1991-08-12. End date: 1993-02-12.

Country/countries: Nigeria.

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Statement of objectives/abstract:

In the development of Nigeria's agriculture, speedy and extensive introduction of technological change is one of the crucial concerns. This project will investigate dissemination and use patterns of agricultural technology information to maize farmers in three states in the country. The proposal postulates that one of the factors that influence improved production of maize among small farmers is access to information that exists on technologies that have been developed in the country. The project will examine the process of information transfer on agricultural technology with special reference to maize, through formal and informal channels including the role of town criers, village chiefs, etc. in information dissemination. It will also investigate the receptiveness of farmers to information disseminated through these sources and the extent to which this new information is integrated with farmers' existing practices.

Contact in research organization:

Francis C. Okafor: Faculty of Social Sciences: University of Benin: Private Mail Bag 1154: Benin City: Nigeria

Record number (MFN): 04946

Official project title: WOMEN AND ACCESS TO LAND IN RURAL AREAS (COTE D'IVOIRE).

Implementing agency: International Development Research Centre.

Start date: 1991-07-30. End date: 1993-01-30.

Country/countries: Côte d'Ivoire.

Statement of objectives/abstract:

Within Côte d'Ivoire, 80% of the population earns its living in agriculture, and 90% of the country's exports originate in this sector. Traditionally, land has been cultivated on lots allotted to families from communal land, yet some forms of property and possession rights have been slowly developing. While 80% of the agricultural labour force is supplied by women, their command over land, by property right or in any other form, is extremely limited and subject to discrimination. This project will address the problem of women's access to land within the written and the traditional legal framework. Attention will be given to the degree and the forms by which women have so far acquired access to land. The project will further study the access of women to financial loans required to improve existing or buy new farm land, as well as the preexisting socioeconomic conditions limiting land acquisition by women.

Contact in research organization:

Diaby Nissotti: Centre de recherche et d'études juridiques: Ministère de la recherche scientifique et de l'enseignement professionnel et technique: Abidjan: Côte d'Ivoire

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Record number (MFN): 04948

Official project title: SUSTAINABLE AGROFORESTRY (BRANDONGHANA/PHILIPPINES).

Implementing agency: International Development Research Centre.

Start date: 1991-06-03. End date: 1994-07-31.

Country/countries: Global; Canada; Ghana; Philippines;

Statement of objectives/abstract:

In eastern Ghana, pressure from population growth, indiscriminate burning, need for fuelwood, and land pressure have resulted in reduced forested area and soil erosion. A possible solution to soil erosion and deforestation is agroforestry. However, in many areas farmers have not readily adopted it. The Ghana Rural Reconstruction Movement (GhRRM), a nongovernmental organization, has successfully introduced agroforestry to 150 farmers using a "farmer-scholar" approach. The farmers have adopted the technology, and changed it to suit their needs and conditions. This project will be undertaken in the Mapong Valley to determine and document the farmers' constraints, adaptation, perceptions as well as the training methodology used; it will extend training to other farmers and evaluate their adoption of agroforestry; train extension workers and inform researchers; and carry out technological verification, refinement, and adaptation of agroforestry techniques. The project will also link with other alley cropping projects in Africa, and will offer a unique example of South-South transfer.

Contact in research organization:

Dr. Erasmus D. Monu; Dept. of Sociology and Anthropology; Brandon University;
Brandon; Manitoba; Canada R7A 6A9Mr. Alex K. Baah; International Institute of
Rural Reconstruction; Silang; Cavite; Philippines

Record number (MFN): 04952

Official project title: TABERSONINE (CAMEROON).

Implementing agency: International Development Research Centre.

Start date: 1991-08-30. End date: 1994-05-31.

Country/countries: Canada; Cameroon;

Statement of objectives/abstract:

Cameroon has a very rich flora, many of its plants being sources of raw materials for industrial chemicals. A very widespread one is the "Voacanga africana", the seeds of which are very rich in a substance used for the production of medicinal drugs. This project will develop a technology for the extraction of tabersonine from this plant at the small-enterprise level, instead of exporting the unprocessed seeds, as is presently the case. It will thus increase the economic value of a local produce; create employment opportunities in small-scale enterprises; provide more income for small peasant farmers and gatherers of this important crop; and open a new source of foreign currency for the country. Further, through the utilization of a local raw material, the project will contribute to a higher level of self-reliance.

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Contact in research organization:

Dr. William A. Ayer, Dept. of Chemistry, University of Alberta, Edmonton,
Alberta, Canada T6G 2G2 Dr. R.T. Ghogomu, Département de la chimie organique,
Université de Yaoundé, B.P. 812, Yaoundé, Cameroun

Record number (MFN): 04353

Official project title: AROMATIC EXTRACTS (GUINEA).

Implementing agency: International Development Research Centre.

Start date: 1991-11-05. End date: 1996-01-31.

Country/countries: Africa; Canada; Morocco; Guinea;

Statement of objectives/abstract:

Guinea is a coastal state in West Africa consisting of four natural regions with a diversity of climatic and ecological conditions that has given it a rich and varied flora. The potential for producing essential oils with commercial potential is, therefore, significant and during preliminary studies, a list of 35 plants that are currently the most interesting from this perspective was compiled. This project will study four plants of the Ocimum genus chosen for their scientific interest and commercial potential. It will determine the optimal conditions for the vegetative development of these plants and the production of essential oils from them. An inexpensive still will be developed locally as part of this project. The cultivation of these plants will provide the rural population with an additional source of income, while the distillation of essential oils will create new job opportunities.

Contact in research organization:

Mr. Sylvain Savard, Centre de recherche industrielle du Québec, 333 rue
Franquet, Case postale 9038, Sainte-Foy (Québec), Canada G1V 4C7 Mr. Bachir
Benjlali, Institut agronomique et vétérinaire Hassan II, B.P. 6202,
Rabat-Instituts, Maroc Mr. Malo Nianga, Université de Conakry, B.P. 1147,
Conakry, Guinée

Record number (MFN): 05047

Official project title: SUPPORT TO THE INTERNATIONAL INSTITUTE OF TROPICAL AGRICULTURE,
IITA.

Implementing agency: Swedish Agency for Research Cooperation with Developing Countries.
Country/countries: Nigeria;

Statement of objectives/abstract:

The objectives of IITA are to improve the quality and quantity of food production in
the humid and subhumid tropics through the improvement of important crops and the
evolution of appropriate farming systems as alternatives to traditional low-yielding

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systems of cultivation. SAREC's support to IITA is part of the total Swedish contribution to the CGIAR.

Contact in research organization:
International Institute of Tropical Agriculture (IITA); Ibadan

Record number (MFN): 05050

Official project title: SUPPORT TO THE WEST AFRICA RICE DEVELOPMENT ASSOCIATION, WARDA.

Implementing agency: Swedish Agency for Research Cooperation with Developing Countries.
Country/countries: Liberia:

Statement of objectives/abstract:

WARDA is an intergovernmental association of 15 West African countries that was set up with the objective of achieving self-sufficiency in rice production within the region as soon as possible. This is to be done by selection and promotion of improved varieties and practices through programmes of development, research, training, and dissemination of information. SAREC's support to WARDA is part of the total Swedish contribution to the CGIAR.

Contact in research organization:
West Africa Rice Development Association (WARDA); Monrovia

Record number (MFN): 05103

Official project title: LOWER ANAMBRA IRRIGATION PROJECT (LAIP).

Implementing agency: Japan International Cooperation Agency.
Start date: 1989-01-01. End date: 1993-12-31.
Country/countries: Nigeria:

Statement of objectives/abstract:

The project aims at the development of appropriate techniques for irrigated rice cultivation, and at the transfer of these techniques to the staff of LAIP, the State Ministry of Agriculture and participating farmers, thus contributing to the development of irrigated rice production in the Federal Republic of Nigeria. Japanese Technical Cooperation activities will be implemented mainly at LAIP, through technical guidance and advice in the following fields: (1) irrigation and drainage techniques: development of water management techniques, maintenance of irrigation and drainage facilities and promotion of water control organization; (2) irrigated rice cultivation techniques: selection of appropriate varieties, establishment of standard rice cultivation techniques and improvement of multiple cropping systems; (3) extension: planning of extension services, development of extension methods and

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materials, demonstration of cultivation techniques, and promotion of management formation; (4) training: planning of training courses and preparation of curriculum and teaching materials; (5) agricultural machinery: adaptability tests of agricultural machinery and operation and maintenance of agricultural machinery.

Contact in research organization:

N. Mgbemena; Anambra-Imo River Basin Development Authority; Onitsha; Nigeria

Record number (MFN): 05115

Official project title: CAGE FEEDING TO STUDY DIGESTIBILITY AND CONVERSION RATE OF SOME FORMULATED FEEDS FOR TILAPIA DISCOLOR IN LAKE BUSUMTWI.

Implementing agency: International Foundation for Science.

Start date: 1981-00-00.

Country/countries: Ghana;

Statement of objectives/abstract:

Mr Oduro-Boateng will study cage culture of *T. discolor* in the Lake Bosomtwi basin, Ghana. Using locally-available materials and commercial cages, he will culture three groups of *T. discolor* on differently composed diets. The conversion rate, digestibility, protein efficiency, specific growth rate, and costs will be evaluated and compared with diets developed in a previous research period. The most suitable diet for commercial use will be introduced to local fish farmers; socio-economic factors and constraints of the lake basin cage culture will also be studied.

Contact in research organization:

Mr Francis Oduro-Boateng; Technology Consultancy Centre; University of Science and Technology; KUMASI

Record number (MFN): 05134

Official project title: CATTLE BREEDING IN THE ITURI PROVINCE IN NORTHEAST ZAIRE.

Implementing agency: International Foundation for Science.

Start date: 1983-00-00.

Country/countries: Zaire;

Statement of objectives/abstract:

Cattle breeding is only partially recognized as a national asset for Zaire, inasmuch as ownership of cattle is a mark of affluence for the owners. As a consequence there has been little interest in developing cattle breeding and improving cattle production. Mr Bamahuga is going to make a socio-economic study of the cattle breeding in the province of Ituri in Northeastern Zaire. This survey will provide background information for plans to improve cattle breeding in Zaire and for pointing out the economic importance and possibilities of cattle in Zaire.

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Contact in research organization:

Mr Loni Buga Bamuhiga; Institut Supérieur Pédagogique; B P 106; BUTA

Record number (MFN): 05143

Official project title: BIOLOGICAL NITROGEN FIXATION STUDIES IN FAST-GROWING TREE LEGUMES
IN SIERRA LEONE.

Implementing agency: International Foundation for Science.

Start date: 1983-00-00.

Country/countries: Sierra Leone;

Statement of objectives/abstract:

Local and exotic species of *Leucaena* and *Gliricidia* will be propagated in representative upland soils of Sierra Leone. Their nodulation will be assessed, rhizobia isolated, and effectiveness tested according to established rhizobiological techniques. Studies will also be conducted to determine the effect of environmental factors on selected strains under conditions characteristic of Sierra Leone soils. Strains which demonstrate the best symbiosis and ability to survive in the soils will be used to inoculate tree legumes which will be introduced into the agroforestry systems of Sierra Leone.

Contact in research organization:

Dr Denis Amara; until 1991-12-15/ Laboratory of Agriculture; Unit of Soil
Science; IAEA; P O Box 100; A-1400 VIENNA; Austria

Record number (MFN): 05146

Official project title: EVALUATION OF THE TECHNOLOGICAL CHARACTERISTICS OF UNDERUTILIZED
TREE SPECIES IN CÔTE D'IVOIRE.

Implementing agency: International Foundation for Science.

Start date: 1983-00-00.

Country/countries: Côte d'Ivoire;

Statement of objectives/abstract:

The exploitation of the main forest species in Côte d'Ivoire has resulted in an extensive decrease in the quantity and quality of these species. Nevertheless, there still exists some thirty so-called secondary forest species that have a potential which should be developed. A rational development requires a better knowledge of their characteristics. The project to be carried out by Mr Edi Kouassi will focus on the mechanical properties of the species. The elasticity module is one of the fundamental mechanical characteristics which will be determined. It is of importance for the use of wood for construction purposes.

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Contact in research organization:

Mr Kouassi Achi Edi, Centre Technique Forestier Tropical, 08 B P 33; ABIDJAN 08

Record number (MFN): 05157

Official project title: ZONOSIS OF HUMAN SLEEPING SICKNESS IN CAMEROON: CATTLE, SHEEP, GOATS AND SWINE AS FACTORS.

Implementing agency: International Foundation for Science.

Start date: 1984-00-00.

Country/countries: Cameroon;

Statement of objectives/abstract:

Dr Asonganyi will examine the domestic animal population in the sleeping sickness endemic zones in Cameroon for possible infection with T gambiense-like trypanosomes. Since previous studies failed to identify such organisms in domestic animals in Cameroon using the thick stained film, the present study will include the identification of circulating trypanosome antigens in the animal serum using monoclonal antibodies specific for the different trypanosome sub-species. Blood from infected animals will be injected into laboratory animals for isolation and characterisation of the trypanosome species.

Contact in research organization:

Dr Tazocha Asonganyi, Department of Immunology, C U S S; University of Yaounde; YAOUNDE

Record number (MFN): 05161

Official project title: BIOECOLOGICAL STUDY OF PHENACOCCLUS MANIHOTI, AN INSECT ATTACKING CASSAVA IN GABON.

Implementing agency: International Foundation for Science.

Start date: 1984-00-00.

Country/countries: Gabon;

Statement of objectives/abstract:

Dr Boussienguet will study the control of the cassava mealybug (*Phenacoccus manihoti*) by its parasitoid *Epidinocarsis loezi*. The global efficiency of the parasitoid will be evaluated by experiments of exclusion. The influence of hyperparasitism by *Prochitonurus insolitus* will also be studied. The dynamics of insect populations in the field and at the laboratory will be monitored to evaluate the host-feeding influence and the mode of action of the parasitoid under varying densities of the cassava mealybug.

Contact in research organization:

Mr Juste-Lie Boussienguet, Departement de Biologie; Faculte des Sciences;

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Universite O Bongo; B P 1886; LIBREVILLE

Record number (MFN): 05164

Official project title: SEASONAL INFLUENCE ON THE REPRODUCTIVE EFFICIENCY OF THE WEST AFRICAN DWARF (WAD) GOAT: THE HORMONAL PROFILE DURING THE REPRODUCTIVE CYCLE.

Implementing agency: International Foundation for Science.

Start date: 1985-00-00.

Country/countries: Nigeria;

Statement of objectives/abstract:

Improved reproductive performance in Nigerian cattle is correlated with seasons when grazing pasture is abundant. Dr Akusu will study the effects of three nutritional levels on the seasonal variations on ovarian activities and reproductive performance of West African dwarf goats in the humid tropical environment of Ibadan. Treatment effects on oestrous cycles, thermorespiratory function, conception rate following natural mating, parturition, and the post-partum resumption of ovarian cyclicity will be determined. Birth and weaning weights, growth and survival rates of kids of does in the treatment groups will be determined. Progesterone will be assayed by the radioimmunoassay technique while thermorespiratory function will be determined clinically. Results will form the basis of research into further supplementation of WAD goats to maximize reproductive performance.

Contact in research organization:

Dr Matthew Akusu: Veterinary Surgery and Reproduction; University of Ibadan; IBADAN

Record number (MFN): 05173

Official project title: MICROPROPAGATION AND IN VITRO REJUVENATION OF TERMINALIA SUPERBA.

Implementing agency: International Foundation for Science.

Start date: 1986-00-00.

Country/countries: Congo;

Statement of objectives/abstract:

Terminalia superba is a tree species used in afforestation programmes in the Congo. Methods of propagation by cuttings of selected material have been developed in order to mass produce plants of high quality for an industrial plantation project of 25 000 hectares. As the level of rejuvenation reached is not satisfactory, Mr Miateo will use instead an in vitro culture technique. Methods will be developed to disinfect the vegetative material before it is used. The composition of a culture medium will be determined. Different in vitro culture methods will be carried out using buds, nodes, and principally meristems. Methods which entail less risk for genetic deviation will

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be carried out. The methods will be compared in terms of the risk for genetic deviation. Root formation and root penetration studies will be performed before the *in vitro* plants are transferred to the fields.

Contact in research organization:

Dr Sebastien Miateo: Centre Technique Forestier Tropical; B P 764; POINTE-NOIRE

Record number (MFN): 05174

Official project title: DEVELOPMENT AND UTILISATION OF PLANT DERIVED INSECTICIDES WITH SPECIAL REFERENCE TO COMPONENTS FROM THE NEEM TREE AND JATROPHA SPECIES.

Implementing agency: International Foundation for Science.

Start date: 1986-00-00.

Country/countries: Ghana:

Statement of objectives/abstract:

Dr Cobbinah will study the pesticidal potential of *Jatropha curcas* as part of a plant-derived insecticide program which aims at developing pesticides from indigenous plants. Effectiveness against a variety of pests and compatibility with other substances and storage characteristics will be determined. Active ingredients will be isolated and characterized. Four test animals will be used, as well as tried bioassay techniques and standard chemical characterization techniques. The research will be conducted in the laboratory and in the field, and will complement current research on the potential of indigenous plants for pest control.

Contact in research organization:

Dr J Cobbinah: Department of Entomology; Forest Products Research Institute; University of Kumasi; P O Box 63; KUMASI

Record number (MFN): 05175

Official project title: CONTROL OF CALLOSBRUCHUS MACULATUS WITH TWO INSECTICIDAL PLANTS AND IDENTIFICATION OF THEIR BIOACTIVE COMPONENTS.

Implementing agency: International Foundation for Science.

Start date: 1986-00-00.

Country/countries: Nigeria:

Statement of objectives/abstract:

Vigna unguiculata (cowpea) is the cheapest source of protein in Africa. While production is increasing, loss due to insect pests in storage is high. In preliminary studies, two Nigerian plants, *Petiveria alliacea* and *Piper quineense* have been shown to exhibit toxicity to the larval and adult stages respectively of the seed beetle *Callosobruchus maculatus*. The bioactive components will be identified and tested for

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toxicity in order to develop an effective formulation for pest control.

Contact in research organization:

Dr J Olaifa: Department of Plant Science; Obafemi Awolowo University; ILE-IFE

Record number (MFN): 05185

Official project title: STUDY ON THE DEVELOPMENT OF SEVERAL OIL PLANTS OF ZAIRE.

Implementing agency: International Foundation for Science.

Start date: 1986-00-00.

Country/countries: Zaire:

Statement of objectives/abstract:

Little is known about the plants of forests and savannas in Zaire and their commercial potential. Mr Malumba will investigate potential oil plants in Zaire, study the composition of their seeds, and develop small scale technologies for oil extraction and use of the waste products. The long-term objective is to encourage the cultivation of interesting species useful for food and food-related industries.

Contact in research organization:

Mr M Malumba: Faculte des Sciences; Universite de Kinshasa; B P 190; KINSHASA XI

Record number (MFN): 05195

Official project title: STUDIES ON BIOLOGICAL CONTROL OF THE BLACK COWPEA APHID, APHIS CRACCIVORA, BY TWO INDIGENOUS COCCINELLID SPECIES IN NIGERIA.

Implementing agency: International Foundation for Science.

Start date: 1987-00-00.

Country/countries: Nigeria:

Statement of objectives/abstract:

Despite the usual occurrence of the predators, Cheilomenes spp. in cowpea fields in Nigeria, the cowpea aphid, Aphis craccivora is sometimes problematic. Resistance to aphids seems to offer good potential for aphid control in cowpeas. Dr Ofuya will examine the interaction between A. craccivora, its major predators, C. lunata and C. vicina, and aphid resistant varieties in the field and screenhouse in Akure. Eight aphid resistant and two susceptible cowpea varieties will be used. Efficiency of predation in these varieties will be determined. The results may facilitate the combination of biological control using indigenous natural enemies and host plant resistance into a more efficient strategy for controlling A. craccivora.

Contact in research organization:

Dr Thomas Ofuya; Department of Crop Production; The Federal University of Technology; P M B 704; AKURE

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Record number (MFN): 05197

Official project title: THE DEVELOPMENT AND EVALUATION OF A NEW PROCESS LINE FOR GARRI PRODUCTION.

Implementing agency: International Foundation for Science.

Start date: 1987-00-00.

Country/countries: Nigeria;

Statement of objectives/abstract:

This project is designed to determine the effects of chip size, steaming pressure and time, bed depth, fermentation time, drying air temperature, air humidity and drying time on the quality of garri produced by steam gelatinization followed by air drying of deep bed of fermented cassava chips. Dr Ajibola intends to develop models to relate the quality parameters such as cyanide content, swelling characteristics, degree of gelatinization and moisture content of garri produced by the steam gelatinization technique to the processing factors. Optimum processing conditions for the production of good quality garri through this technique will be obtained.

Contact in research organization:

Dr Obafemi Ajibola: Department of Agricultural Engineering; Obafemi Awolowo University; ILE-IFE

Record number (MFN): 05206

Official project title: DEVELOPMENT OF SIMPLE METHODS TO IDENTIFY POTYVIRUS INFECTING YAMS (DIOSCOREA ALATA AND D. ROTUNDATA) FOR THE PRODUCTION OF VIRUS-FREE PLANTLETS.

Implementing agency: International Foundation for Science.

Start date: 1987-00-00.

Country/countries: Togo;

Statement of objectives/abstract:

Dr Gumedzoe will develop different methods for identifying poty viruses of yam (*Dioscorea* spp.), such as ELISA and DOT-ELISA methods. Monoclonal or polyclonal antibodies from international research centres or from commercial origin will be used in the serological tests. The objective is to identify resistant varieties of yam for the collection at the National Institute for Root Crops in Togo in order to produce virus-free plantlets.

Contact in research organization:

Dr Mawuena Gumedzoe; Ecole Supérieure d'Agronomie; Université du Bénin; B P 1515; LOME

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Record number (MFN): 05214

Official project title: RELATIONSHIP BETWEEN WATER QUALITY AND AEROMONAS HYDROPHILA INFECTIONS IN POND-REARED SPECIES OF TILAPIA IN NIGERIA.

Implementing agency: International Foundation for Science.

Start date: 1988-00-00.

Country/countries: Nigeria;

Statement of objectives/abstract:

Dr Okpokwasili will examine the relationship between water quality and Aeromonas hydrophila infections in pond-reared species of tilapia in Nigeria. His study will elucidate whether there is an association between disease outbreaks, particularly 'brown patch' disease, and the dry/wet seasons. Field studies will be carried out to examine the effectiveness of chemotherapeutic agents in bacterial disease control and to determine the survival of infected fish from the ponds after treatment with some of the chemicals. This would have useful implications for farmers in that chemical treatment could be recommended during harvesting to prevent or reduce disease outbreaks in tilapia fish farms.

Contact in research organization:

Dr Gideon Chijioke OKPOKWASILI; Department of Microbiology; University of Port Harcourt; P M B 5323; PORT HARCOURT

Record number (MFN): 05223

Official project title: THE EFFECT OF SOME LIVE MULCHES ON THE GROWTH AND YIELD OF INTERCROPPED OIL PALM, MAIZE AND CASSAVA, AND ON SOIL CONDITIONS.

Implementing agency: International Foundation for Science.

Start date: 1988-00-00.

Country/countries: Nigeria;

Statement of objectives/abstract:

Problems identified in continuous intercropping of oil palm with maize and cassava include fast depletion of soil nutrients, severe weed infestation and physical degradation of the soils, culminating in depressed growth and yield of the crops. There is need to develop a low input system based on oil palms that is not only sustainable but also meets the farmers' circumstances. Mr Okpala-Jose's study has the objective of improving and sustaining the growth and yield of the oil palm and associated food crops through spatial adjustment of the cassava around the palms, and utilization of compatible live mulches. The study involves planting cassava at various distances away from the palms and growing maize and cassava in live mulches established in the oil palm plantation.

Contact in research organization:

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Mr Anthony OKPALA-JOSE; Agronomy Division; Nigerian Institute for Oil Palm
Research; P M B 1030; BENIN CITY; Bendel State

Record number (MFN): 05257

Official project title: EPIDEMIOLOGY OF VIRAL GASTROENTERITIS IN NIGERIAN RUMINANTS AND
PIGS.

Implementing agency: International Foundation for Science.

Start date: 1990-06-01.

Country/countries: Nigeria;

Statement of objectives/abstract:

Rotaviruses continue to be the most important aetiological agents of gastroenteritis of neonatal animals and human infants the world over. In most countries, the different serogroups have been defined; but not in Nigeria. The objective of this project is to carry out an epidemiological survey of the aetiology of rotavirus gastroenteritis of young ruminants and pigs in Nigeria. Dr Ojeh will seek to define the different rotavirus electropherotypes from diarrhoeic faecal samples from these species from different geographical locations in the country, using the polyacrylamide gel electrophoresis (PAGE) method routinely. The results obtained from this work will form the basis for combating the diarrhoea of livestock in Nigeria caused by these very important viruses.

Contact in research organization:

Dr Clement OJEH; Department of Veterinary Microbiology and Parasitology;
University of Ibadan; IBADAN

Record number (MFN): 05258

Official project title: ADOPTION OF ANIMAL TRACTION AS FARM POWER SOURCE IN SOUTHERN
NIGERIA: SOCIO-ECONOMIC AND INSTITUTIONAL ANALYSIS.

Implementing agency: International Foundation for Science.

Start date: 1990-06-01.

Country/countries: Nigeria;

Statement of objectives/abstract:

Dr Daramola will study the factors militating against the introduction and adoption of animal traction as a farm power source in the rain forest region of Nigeria. By exploring socio-cultural, economic as well as institutional factors, the study will quantitatively analyze the primary data to be generated from the field survey. A multistage, stratified random sampling technique will be employed to select respondents. The analyses will involve both descriptive statistics and binary-choice model estimation. Expected results include the identification of relevant variables/factors militating against animal traction adoption. Based on the empirical

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results, necessary recommendations can be made.

Contact in research organization:

Dr Adebrin Gregory DARAMOLA; Department of Farm Management and Agricultural
Extension; Federal University of Technology; P M B 704; AKURE; Ondo State

Record number (MFN): 05265

Official project title: INVESTIGATIONS INTO THE PARASITIC INFESTATION AND HEALTH PROBLEMS
OF THE AFRICAN GIANT SNAIL, ARCHACHATINA MARGINATA.

Implementing agency: International Foundation for Science.

Start date: 1990-12-15

Country/countries: Nigeria;

Statement of objectives/abstract:

Dr Imevbore intends to identify, catalogue and study infective parasites of wild and farmed specimens of the African giant snail, Archachatina marginata as well as snail pathological conditions under different rearing systems. By collecting snails periodically in dry and rainy seasons, from different locations within the rain forest zone of Western Nigeria, the effects on season, rearing system, duration of rearing, and location differences on parasitic infestation and health of snails will be evaluated. The project is also designed to provide information of public health significance, through bacteriological studies on snail tissue culture. The results of the study should provide a good basis for formulating tentative guidelines on ensuring snail health care particularly in snail farming ventures.

Contact in research organization:

Mr Emmanuel IMEVBORE; Department of Fisheries and Wildlife, Federal University
of Technology, P M B 704, AKURE

Record number (MFN): 05269

Official project title: INTENSIFYING CULTIVATION OF GROUNDNUT AND PIGEON PEA, LEGUMINOUS
CROPS OF POTENTIAL VALUE FOR SMALL HOLDERS IN GUINEA.

Implementing agency: International Foundation for Science.

Start date: 1990-06-01.

Country/countries: Guinea;

Statement of objectives/abstract:

Mr Malick Soumah will study the intensification of groundnut culture in Guinea, near the Kikissi Agronomical Research Station. Local and imported varieties will be compared both in pure culture and intercropped with maize and sorghum. The objective is to increase the yield per hectare which is now at a low level, around 700 kg/ha.

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Contact in research organization:

Mr. Aslick SOUMAH; MARAVI R A G; Centre de Recherche Agronomique de Kilissi; B P
103 KANDIA

Record number (MFN): 05271

Official project title: CHARACTERIZATION OF SEMI-PERMANENT WATER-BEARING ZONES AND
ASSOCIATION WITH CULTURE DURING THE DRY SEASON.

Implementing agency: International Foundation for Science.

Start date: 1990-06-01.

Country/countries: Togo;

Statement of objectives/abstract:

During the course of his study of the soils developed on the granitogneiss in Togo,
Mr Worou evidenced permanent water tables associated with certain types of soils. It
has been possible to develop a cultivation system of maize during the dry season on
such soils. The research programme aims to find criteria to identify and locate such
zones, and to map soils with permanent water tables in Togo. In addition to maize,
other crops will also be used.

Contact in research organization:

Mr Kocja Koklou WOROU; Departement des Sols; Ministere du Developpement Rural;
Institut National des Sols; B P 1026; Cacaveli; LOME

Record number (MFN): 05272

Official project title: EVALUATION OF VARIABILITY IN COLLECTIONS OF C. CANEPHORA WITH
REGARDS TO A PROGRAMME FOR CROP IMPROVEMENT.

Implementing agency: International Foundation for Science.

Start date: 1990-12-15.

Country/countries: Côte d'Ivoire;

Statement of objectives/abstract:

Within a larger programme of selection of Coffea canephora in Cote d'Ivoire, Mr Yapou
will study the genotypic variability of the collection using enzymatic
electrophoresis. The objective of this research is to facilitate the classification
of genotypes between the two populations used in the breeding programme, and to
evaluate the variability within each group. The research will be carried out at the
IRCC research station of Divo. The electrophoretic screening will involve six
different enzymatic systems.

Contact in research organization:

Mr Abe YAPO; Institut de Recherche du Cafe et du Cacao; B P 808; DIVO

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Record number (MFN): 05275

Official project title: EPIDEMIOLOGY AND CONTROL OF CHOANEPHORA BLIGHTS AND DIEBACK OF AMARANTH (AMARANTHUS SPP.) IN THE NIGERIAN RAIN FOREST AND SAVANNA ZONES.

Implementing agency: International Foundation for Science.

Start date: 1990-12-15.

Country/countries: Nigeria;

Statement of objectives/abstract:

Dr. Adebajo will survey for incidence and prevalence of dieback and blights of *Amaranthus* spp. in the rain forest and savanna zones of Nigeria. Cultivars from Nigeria and elsewhere will be evaluated against the disease. Studies will be conducted on the biology and epidemiology of the disease. Sources of primary inoculum, disease spread, role of vector(s) and bioclimatic factors responsible for infection, disease development and severity in each zone will be elucidated. Chemical control studies of disease and or vector(s) will be carried out. The results will be a better knowledge of the pathogen complex dynamics, its determinism, a methodology for varietal screening, resistant lines suitable for each ecological zone backed up with chemical control of the disease and/or vector.

Contact in research organization:

Dr Afolabi ADEBANJO: Department of Biological Sciences; Ogun State University; P M B 2002; AGO-IWOYE

Record number (MFN): 05276

Official project title: LIPID PEROXIDATION AND ACTIVITIES OF SOME PHENOL-METABOLISING ENZYMES IN RELATION TO SEED VIGOUR IN STORED PUMPKIN (*TELFAIRIA OCCIDENTALIS*) SEEDS.

Implementing agency: International Foundation for Science.

Start date: 1990-12-15.

Country/countries: Nigeria;

Statement of objectives/abstract:

The inability to store and germinate at will the recalcitrant seeds of fluted pumpkin (*Telfairia occidentalis*) poses great economic and horticultural problems in Nigeria. Lipid peroxidation and the status of certain phenol-metabolising enzymes may play causal roles in seed deterioration. Dr Nkang will study lipid peroxidation (especially of the longer chain fatty acid unsaturates) and the activities of some phenol-metabolising enzymes (peroxidases and polyphenol oxidases) during desiccation and storage, at different temperatures, of pumpkin seeds. Activities of these enzymes will be assayed spectrophotometrically while fatty acid methyl esters will be separated by gas liquid chromatography. Experimental results will suggest suitable

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storage conditions and may establish whether an association between seed moisture content, peroxidation and vigour exists.

Contact in research organization:

Dr Ani Essien NKANG; Department of Biological Sciences; University of Calabar; P
M B 1115; CALABAR

Record number (MFN): 05280

Official project title: ASPECTS OF THE REPRODUCTIVE BIOLOGY OF IRVINGIA GABONENSIS IN
SOUTHERN NIGERIA.

Implementing agency: International Foundation for Science.

Start date: 1990-12-15.

Country/countries: Nigeria;

Contact in research organization:

Ms Gloria Chinwe UJOR; Department of Forest Resources Management; University of
Ibadan; IBADAN

Record number (MFN): 05283

Official project title: CERCOSPORA ANGOLENSIS, A DISEASE OF CITRUS: STUDIES ON THE
PATHOGEN AND INTERACTIONS OF CLIMATE/HOST/PARASITE IN YAOUNDE.

Implementing agency: International Foundation for Science.

Start date: 1990-12-15.

Country/countries: Cameroon;

Statement of objectives/abstract:

Cercosporiosis is a very serious citrus disease in Cameroon as well as in all humid zones of the same altitude in Africa. In the region of Yaounde, Mr Kuate will conduct research on the following aspects: (1) study of the evolution of the disease under natural conditions; (2) in vitro culture of the pathogen; (3) selection of less susceptible varieties; and (4) development of techniques of artificial inoculation of young plants for early varietal selection. The long-term objective of this project is to develop an efficient and economic control method (agroclimatological warning system) and the dissemination of resistant varieties.

Contact in research organization:

Mr Jean KUATE; Departement de Phytopathologie; Centre de Recherches Agronomiques
de Nkolbisson; B P 2067; YAOUNDE

Record number (MFN): 05284

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Official project title: FOREST REGENERATION; GERMINATION AND GROWTH OF FOREST SPECIES IN SOUTH CAMEROON.

Implementing agency: International Foundation for Science.

Start date: 1990-12-15.

Country/countries: Cameroon;

Statement of objectives/abstract:

The exploitation of economically important forestry species is very rapid in South Cameroon. Dr Amougou will establish a data bank about the artificial regeneration of these species. The characteristics to be recorded will cover the following aspects: phenology, germination, conservation of seeds, production and conservation of plantlets, growth parameters as well as agroforestry and silvicultural characteristics. The collected information will be made available to national institutions dealing with reforestation in order to avoid detrimental ecological incidence and to contribute to the maintenance of the natural and genetic resources of the forestry milieu.

Contact in research organization:

Dr Akoa AMOUGOU; Department de Biologie et Physiologie Vegetales; Faculte des Sciences; Universite de Yaounde; B P 812; YAOUNDE

Record number (MFN): 05285

Official project title: PROCESSING OF THE TRIFOLIATE YAM (DIOSCOREA DUMETORUM) INTO FLOUR WITH LOW SWELLING CAPACITY FOR THE PREPARATION OF WEANING GRUEL.

Implementing agency: International Foundation for Science.

Start date: 1990-12-15.

Country/countries: Cameroon;

Statement of objectives/abstract:

The trifoliate yam has a high crude protein content (10 per cent), balanced essential amino acid composition, easy digestibility and a high yield—all of which recommend its use in weaning food preparations. However, because of its high hot-paste viscosity in water, this project aims at processing it into a nutritive low-viscosity flour by fermentation, heat-moisture treatment and/or treatment with amylase-rich flour from the germinated yam itself or germinated local cereals. Composite flours for weaning will then be formulated by mixing with local pulses. They will be presented as gruel to a taste panel to judge their acceptability and subjected to animal feeding tests to evaluate their nutritional efficiency.

Contact in research organization:

Dr Israel MBOME; Centre of Nutrition; Institute of Medical Research and Medical Plant Studies; P O Box 6163; YAOUNDE

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Record number (MFN): 05286

Official project title: DEGRADATION OF SAWDUST AND THE POTENTIAL OF THE DEGRADED PRODUCT FOR GROWING VEGETABLES.

Implementing agency: International Foundation for Science.

Start date: 1990-06-01.

Country/countries: Ghana;

Statement of objectives/abstract:

Esi Awuah will study the potential of chicken droppings for hastening the rate of degradation of sawdust. This will be done by mixing in varying proportions in compost boxes and monitoring the C/N ratio over a 3-month period. The P, K and Mg levels of mixtures will also be determined after the 3-month period. The compost products will subsequently be bioassayed with tomato (*Lycopersicon esculentum*) plants or their utility as planting media in a greenhouse pot study.

Contact in research organization:

Mrs Esi AWUAH; Department of Civil Engineering; Environmental Quality Section;
University of Science and Technology; KUMASI

Record number (MFN): 05288

Official project title: PROCESSING, NUTRITIONAL AND SENSORY EVALUATION OF THE AFRICAN YAM BEAN (*SPHENOSTYLIS STERNOCARPA*) IN NIGERIA.

Implementing agency: International Foundation for Science.

Start date: 1990-12-15.

Country/countries: Nigeria;

Statement of objectives/abstract:

The African yam bean, *Sphenostylis stenocarpum* is an under-exploited seed legume which is very high in protein and energy. Constraints on the utilization of this bean as food by Nigerian consumers include laborious traditional methods of preparation, extended cooking times and possible presence of anti-nutrients. Dr Uzogara will study the speckled brown variety of the bean and determine the optimal method of processing which can be adapted to village or small-scale production levels in Nigeria. In addition she will investigate nutritive values of the flours from raw and heat-treated beans by chemical techniques while the sensory properties of the cooked beans will be studied using taste panels. The results will tell if this seed legume should be recommended as food for reducing protein energy malnutrition.

Contact in research organization:

Dr Stella Gladys UZOGARA; Department of Biochemistry; University of Port
Harcourt; P M B 5323; Choba; PORT HARCOURT

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Record number (MFN): 05289

Official project title: GENETIC STUDIES ON LACTOBACILLUS SPECIES ISOLATED FROM SOME NIGERIAN FERMENTED FOODS.

Implementing agency: International Foundation for Science.

Start date: 1990-12-15.

Country/countries: Nigeria;

Statement of objectives/abstract:

Dr Olukoya will conduct genetic investigations on lactobacillus species isolated from Nigerian locally fermented foods with the ultimate aim of improving the production of these foods. The fermented foods for initial focus will be cassava fufu, cassava lafun and ogi (fermented maize, millet or sorghum). Lactobacillus isolates will be screened for plasmids. Particular attention will be paid to plasmid-coded traits useful in fermentation, e.g., for production of alpha amylase, pectinase, linamarase and bio-antagonists. This is with the view of maximizing any useful function discovered. Attempts will also be made to improve the fermenting organisms by transferring useful characteristics into them. There is presently no data on the genetics of local lactobacilli; this project will aid gathering such information and putting such information to use.

Contact in research organization:

Dr Daniel Kolawole OLUKOYA; Department of Genetics; National Institute for Medical Research; P M B 2013; Yaba; LAGOS

Record number (MFN): 05290

Official project title: STUDIES ON LINAMARIN BREAKDOWN DURING PROCESSING OF CASSAVA INTO GARRI.

Implementing agency: International Foundation for Science.

Start date: 1990-12-15.

Country/countries: Nigeria;

Statement of objectives/abstract:

Present methods of processing cassava into garri may result in garri with a high content of residual cyanogen, the long-term ingestion of which may pose health problems. Ms Barber will conduct a comprehensive survey to determine the levels of residual cyanogen in garri produced by different methods. The effects of pH, temperature, fermentation periods and levels of pre-fermented cassava mash on the rate of linamarin breakdown, garri quality and types of micro-organisms which develop, will be investigated. Areas of modification of present processing methods for safe garri production will be identified.

Contact in research organization:

Ms Lucretia BARBER; Department of Food Science and Technology; Rivers State

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University of Science and Technology, P M B 5080, PORT HARCOURT

Record number (MFN): 05291

Official project title: DRYING, DRY-PRODUCT PROCESSING AND STUDY OF THE NUTRITIONAL STATUS OF THE WEANING FEEDS FROM ARTOCARPUS COMMUNIS.

Implementing agency: International Foundation for Science.

Start date: 1990-12-15.

Country/countries: Sierra Leone.

Statement of objectives/abstract:

Dr Kormoh's research is aimed at devising a simple and inexpensive technology for producing composite flour for bread-making from the tropical fruit *Artocarpus communis*. A cheap weaning food will be developed from a blend of this mainly carbohydrate food source with easily available protein-rich ones like benni-seed (*Sesamum indicum*) and jackfruit (*Artocarpus heterophyllum*). The research will initially involve a survey of the traditional methods and uses; solar and oven drying; heat processing - roasting; grinding; sieving; study of the methods and recipe for making bread; additives to improve its nutritional quality and a response test on the products. Proximate analysis on the weaning food will be done too.

Contact in research organization:

Dr Morie Kalilu KORMOH; Department of Chemistry; Fourah Bay College; FREETOWN

Record number (MFN): 05295

Official project title: INVESTIGATION, ISOLATION, AND CHARACTERIZATION OF LECTINS FROM LOCAL PLANTS.

Implementing agency: International Foundation for Science.

Start date: 1990-12-15.

Country/countries: Zaire.

Statement of objectives/abstract:

Dr Nsimba-Lubaki will investigate the isolation and characterization of a few lectins from local plants growing in the vicinity of Kisangani. These lectins purified by classical methods of protein purification (salt, acid and base-induced precipitation) combined with affinity, gel filtration, and ion-exchange chromatography will be characterized in relation to their protein content in the plant material, sugar specificity, MW, both subunit, amino acid and sugar composition, and to their responses under different physicochemical conditions. Immunodiffusion assays will serve to determine possible relationships between lectins from different species within a family. The lectins will be then examined as well for their possible biological and biochemical roles as for applications (mitogenicity, cell toxicity, blood typing).

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Contact in research organization:

Dr Makuta NSIMBA-LUBAKI; Department of Molecular Biology; Biochemistry Unit;
Faculty of Science; University of Kisangani; P O Box 2012; KISANGANI

Record number (MFN): 05317

Official project title: LOCAL-LEVEL MAPPING (NIGERIA) - PHASE II.

Implementing agency: International Development Research Centre.

Start date: 1990-01-05. End date: 1994-01-31.

Country/countries: Nigeria;

Statement of objectives/abstract:

Rural development is viewed as the foundation for national development in Nigeria. There is a pressing need for an adequate survey of agricultural and related resources at the local level. This project will expand on the results of an earlier phase of work through the development of a Geographic Information System (GIS)-based method for the construction of land capability mapping at the local scale in the northwest region of the country. It will involve the integration of high resolution remote sensing data with information from local farmers, and data on institutional arrangements for water and land resources management. A Local Government Area located in a semi-arid environment (Sokoto) will serve as the test site for the project, which is aimed at contributing to the Nigerian efforts for integrated rural development. The strengthening of the University of Lagos, research and training capacity in remote sensing and GIS is also an important aspect of this project.

Contact in research organization:

Mr. Ron Bullock; University of Waterloo; Waterloo; Ontario; Canada N2L 3G1Dr.
Peter Adeniyi; University of Lagos; Department of Geography; Lagos; Nigeria

Record number (MFN): 05318

Official project title: ONG INITIATIVES (COTE D'IVOIRE).

Implementing agency: International Development Research Centre.

Start date: 1991-07-16. End date: 1993-03-31.

Country/countries: Côte d'Ivoire;

Statement of objectives/abstract:

This project is the first step being taken by IDRC in support of local rural groups in Cote d'Ivoire. The objective of the project is to generate information about the participatory development activities of nongovernment organizations and local people's organizations aimed at improving conditions in the rural and peri-urban areas. The knowledge created is for the benefit of these organizations, which will be able to share each other's experiences and successes. The Centre de formation et

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de recherches en animation rurale (CFAR), which has been working with independent rural groups since 1981 will start developing a data base of rural groups and their successes. The work will start in three regions of the country: Abidjan, Bouake, and Korhogo. Independent local groups are becoming more visible since the national election in November 1990. This project will help such groups become more aware of each other. The project will link with another IDRC-supported project: "Local Organizations Support (West Africa)" (3-P-89-0279).

Contact in research organization:

Kraba Gnako; CFRAR; 27 boul. Carde 01 BP V291; Plateau Abidjan; Abidjan; Côte d'Ivoire

Record number (MFN): 05320

Official project title: VILLAGE SELF-HELP PROJECTS (GHANA).

Implementing agency: International Development Research Centre.

Start date: 1992-06-24. End date: 1994-06-24.

Country/countries: Ghana;

Statement of objectives/abstract:

Current strategies in rural development are being emphasized in Ghana that are based on community participation. This project will review the experience of village self-help projects undertaken under the auspices of the country's Programme of Actions to Mitigate the Social Costs of Adjustment. The main objective of the study is to investigate the factors which determine the relative success or failure of different experiences. Experiences in 70 villages will be reviewed, using field collaborators from each project community as participant observers. Particular attention will be paid to the contribution in local resources which is required of the community, and the extent to which these resources are affordable by the community and efficiently employed in the realization of project objectives.

Contact in research organization:

Mr. Lawrence Honny; Centre for Development Studies; University of Cape Coast; P.O. Box 01; Cape Coast; Ghana

Record number (MFN): 05321

Official project title: WOMEN AND CASSAVA (COTE D'IVOIRE).

Implementing agency: International Development Research Centre.

Start date: 1992-03-30. End date: 1994-03-30.

Country/countries: Côte d'Ivoire:

Statement of objectives/abstract:

Though the role of cassava in the food consumption of the Côte d'Ivoire is very

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important, the introduction of improved varieties has not been the object of serious economic analysis. This project will undertake an economic evaluation of the introduction of new, improved cassava varieties developed in research stations, in an essentially peasant farming environment. It will analyze the effect of the new cassava on local women producers; the effects of elasticity of land supply on the adoption of new technologies; and the price aspects of new local cassava cultivation. Specifically, it will determine the profitability of introducing new technologies into the existing farming environment; and determine the effects of agricultural policies regarding credit and the organization of agricultural and marketing cooperatives for women. The latter will enable women to obtain profitable prices for the new product.

Contact in research organization:

Ms. Louise Haly; CIRES; 08 B.P. 1295; Abidjan 08; Côte d'Ivoire

Record number (MFN): 05322

Official project title: RURAL ECONOMICS RESEARCH (COTE D'IVOIRE).

Implementing agency: International Development Research Centre.

Start date: 1992-03-30. End date: 1993-03-30.

Country/countries: Côte d'Ivoire;

Statement of objectives/abstract:

This project will build on the farm household data collected in another IDRC-supported project "Economie Rurale" (87-0123). Two major areas of interest on factors of production were identified by the field researchers for more indepth analysis and updating: the utilization of animal draft power and commercial inputs. Animal draft power, besides being a technology appropriate to the socioeconomic conditions of Africa, has the advantage of not generating a high degree of dependence among those who use it. This project will determine the effects of animal draft power on: agricultural productivity; the utilization of manpower; and the income of farmers in the Korhogo region, where this form of mechanization is more widely developed than in other regions of the Côte d'Ivoire. Specifically, it will determine the gains or losses in crop yield, manpower required per hectare, and income generated per hectare, due to the adoption of animal draft power. The research results will be made available to the Ivorian government. The project will also increase the research capacity of the recipient institution and provide update material for its courses.

Contact in research organization:

M. Joseph Yao; CIRES; 08 B.P. 1295; Abidjan 08; Côte d'Ivoire

Record number (MFN): 05326

Official project title: ETHNOVETERINARY PRACTICES (NIGERIA).

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Implementing agency: International Development Research Centre.

Start date: 1992-07-02. End date: 1997-02-16.

Country/countries: Nigeria;

Statement of objectives/abstract:

Pastoral and agro-pastoral societies in Africa have been the subject of several anthropological and socioeconomic investigations. In general, the ethnoveterinary activities of these societies have been largely overlooked, and a recognition of their valuable contribution to the livestock health delivery system ignored. The task of maintaining livestock health is increasingly devolving on traditional health care practices due to dwindling financial government resources. The need to evaluate this system of animal health delivery, has recently become obvious. This project to be undertaken in Nigeria will collect data on the prevalence and pattern of livestock diseases of economic importance and the traditional methods of controlling them; carry out an indepth literature review as well as on-farm data collection with agropastoralists in the savannah region; identify commonly used medicinal plants and remedies; describe and catalogue them; and evaluate the efficacy of the more important ones.

Contact in research organization:

Mr. Jerome O. Gefu; National Animal Production Research Institute; Ahmadu Bello University; PMB 1096; Zaria; Nigeria

Record number (MFN): 05327

Official project title: AGROFORESTRY SYSTEMS (CAMEROON) - PHASE II.

Implementing agency: International Development Research Centre.

Start date: 1992-03-20. End date: 1994-01-16.

Country/countries: Cameroon;

Statement of objectives/abstract:

Productivity in the food and cash crop production of small-scale farmers in southern Cameroon is in continuing decline as a consequence of worsening environmental factors, particularly land degradation. The first phase of this project established that the adaptation of exotic multipurpose trees to local conditions has a beneficial effect on soil productivity. This second phase will continue to develop ways of overcoming difficulties related to the introduction of soil improving shrub species, such as *Cajanus cajan*, before these methods are introduced in the practice of small-scale farming. It will also provide degree and in-service training, and establish a strong research team of local scientists capable of pursuing research in a well equipped agroforestry unit. It will further continue the evaluation of improved management regimes in tree-crop systems; screen local multipurpose tree species; and design, test, and disseminate appropriate systems and technologies.

Contact in research organization:

Dr. Ayuk-Takem; ICRAF; ICRAF House; Gigiri (Off Limunu Road); P.O. Box 30677;

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Nairobi, Kenya

Record number (MFN): 05335

Official project title: SMALL RURAL BUSINESS MANAGEMENT (COTE D'IVOIRE).

Implementing agency: International Development Research Centre.

Start date: 1992-05-12. End date: 1994-05-12.

Country/countries: Côte d'Ivoire;

Statement of objectives/abstract:

One of the consequences of the economic recovery program of Côte d'Ivoire, passed in 1989-90, was the return migration of a significant number of people to rural areas. Their inclusion or re-inclusion in the agricultural economy, made it necessary to provide them with the know-how and means for a profitable agriculture. This project will enable INADES-Formation to start a training program in farm management for subsistence farmers, based on useful modern theoretical and practical elements, taking into account national, cultural, social, and environmental conditions, as well as the farmers' traditional knowledge. The program will incorporate the principles of environmental protection, useful traditional agricultural practices, and appropriate external technologies. It will publish a document listing the recorded practices and produce pedagogical material, including the research and evaluation results.

Contact in research organization:

Gnamien Konan; Institut africain pour le développement économique et social;
Centre africain de formation; 01 B.P. 2007; Bouaké 01; Côte d'Ivoire

Record number (MFN): 05336

Official project title: INSTITUTIONALIZING THE INDIGENOUS CAPACITY IN WEST AFRICA.

Implementing agency: International Development Research Centre.

Start date: 1992-05-15. End date: 1992-11-15.

Country/countries: Africa; Nigeria;

Statement of objectives/abstract:

There is a growing body of evidence demonstrating the positive uses of indigenous knowledge in development projects. The African Resources Centre for Indigenous Knowledge (ARCIK), within its mandate to develop research tools and methods better adapted to the African context, encourages the use of traditional knowledge in long-term development. This project will provide ARCIK with the means required to introduce a core of Nigerian agricultural researchers, planners, educationists, as well as representatives of ten other ECOWAS (Economic Community of West African States) nations, to indigenous knowledge. Specifically, it will identify individuals and institutions in ECOWAS nations that will provide an initial network for training

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in the use of indigenous knowledge; conduct a workshop for 42 agricultural personnel to train policymakers and researchers as well as trainers in the methodologies for recording indigenous knowledge; and analyze educational policy changes required to incorporate training on this subject in universities and agricultural extension training institutions.

Contact in research organization:

Mr. Abedotun O. Philipps; NISER; P.M.B. 5; U.I. Post Office; Ibadan; Nigeria

Record number (MFN): 05339

Official project title: SMALL GRANTS (WARDA).

Implementing agency: International Development Research Centre.

Start date: 1992-05-01. End date: 1995-04-30.

Country/countries: Africa; Côte d'Ivoire;

Statement of objectives/abstract:

The long-term needs for rice research in West Africa must be met by strong national programs working in a coordinated regional effort. National rice programs currently work in relative isolation. Although an increasing number of national agricultural research systems (NARS) have well trained scientific staff, they lack the equipment, infrastructure, and operating funds to carry out even rudimentary collaborative activities. For such NARS, well targeted grants could have immediate and very significant impact. This project will fund small grants to national rice programs to support the costs of conducting collaborative research. Task Forces will plan coordinated regional activities, and then review and approve projects for integrated rice research systems. The project will help to ensure that research responsibilities are efficiently allocated between research institutions, and improve the transfer of research results between the West Africa Rice Development Association (WARDA) and NARS as well as between NARS themselves. The goal is to achieve the most efficient means of generating and transferring improved rice technologies to the small farmers in the region.

Contact in research organization:

Dr. Eugene Terry; WARDA; 01 B.P. 2551 Bouaké; Côte d'Ivoire

Record number (MFN): 05347

Official project title: FOOD PROCESSING (MCGILL/GHANA).

Implementing agency: International Development Research Centre.

Start date: 1992-03-31. End date: 1995-04-30.

Country/countries: Ghana;

Statement of objectives/abstract:

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Post-harvest losses of Ghanaian fruits and vegetables immediately after harvest, during distribution and marketing are high, as a result of inadequate processing, preservation and packaging of the foodstuffs. These losses which are estimated to be between 30 and 50% are incurred by growers as well as market women. A substantial reduction in these losses would bring significant economic gains to all involved. This project, which will be carried out in collaboration between the University of Science and Technology in Ghana and McGill University in Canada is aimed at developing processing, preservation, and packaging technologies for fruits and vegetables to extend their shelf life. Research activities will involve the identification of foodstuffs of economic importance, developing the relevant technologies, promoting the results obtained, and training of researchers in food science and technology. This research project will be complementary to an institutional development program being supported by the Canadian International Development Agency, aimed at developing a food science and technology program at the University of Science and Technology.

Contact in research organization:

Mr. Benjamin K. Simpson; McGill International; McGill University; 3550
University Street; Montréal; Québec; Canada H3A 2A7
Mr. J.H. Oldham; University
of Science and Technology; Department of Biochemistry; Kumasi; Ghana

Record number (MFN): 05351

Official project title: GULLY EROSION (NIGERIA).

Implementing agency: International Development Research Centre.
Country/countries: Nigeria;

Statement of objectives/abstract:

The problem of widespread severe gully erosion in parts of southeastern Nigeria is a major factor hampering the government policy of increased food production, and improved living standards and economic earnings of rural dwellers. The rapid retreat of gully head scarps (at an average rate of 40 m per year), and extensive slumping/sliding on the walls of existing gullies is gradually destroying the physical existence and economic base of many rural and urban communities in this region. Efforts to control gully erosion have achieved only limited success, partly because of the ineffectiveness of most of the control measures; the noninvolvement of the rural communities in the planning, implementation, and coordination of management strategies; and absence of a national policy on erosion control. This project is designed to identify the critical factors, both physical and human, causing gully erosion, and to formulate effective gully erosion control strategies based upon these causative factors, with a strong emphasis on active community participation. Physical factors, such as geology, stratigraphy, engineering properties of gully materials and hydrogeology will be determined. Human factors, including farming practices, road and path construction, drainage systems, wood gathering, deforestation, etc. will be considered. Past and present erosion control practices on a local and regional scale will be evaluated.

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Contact in research organization:

Mr. Peter Hudec; University of Windsor; 401 Sunset Road; Windsor, Ontario;
Canada N9B 3P4
Dr. Enevie Akpokodje; University of Port Harcourt; Department of
Geology; Choba; PMB 5323; Port Harcourt; Nigeria
Dr. Mesach Umerweke; Anambra
State University of Technology, PMB 5025; Awka; Nigeria

Record number (MFN): 05353

Official project title: INDIGENOUS PIG PRODUCTION (BENIN).

Implementing agency: International Development Research Centre.

Start date: 1993-04-21. End date: 1997-10-21.

Country/countries: Benin;

Statement of objectives/abstract:

Rapid population growth and low agricultural productivity continue to increase the gap between food supply and demand in sub-Saharan Africa. A potential solution is to increase the production of animals with a rapid reproduction cycle, such as pigs. Previous attempts at developing more efficient pig production systems failed, however, because they were confined to state farms and did not take consumer preferences into consideration. This project will examine and characterize indigenous pig production, as well as processing and marketing systems, in South Benin, and develop and test improved production systems adapted to local demographic and marketing conditions and the financial means of the producers. The systems will be developed with the assistance of the producers and tested on 15 operating farms. The results will be disseminated among farmers, scientists, and public officials.

Contact in research organization:

M. René Nonfon; Faculté des sciences agronomiques; Université nationale du
Bénin; B.P. 256; Cotonou; République du Bénin

Record number (MFN): 05358

Official project title: CATTLE RESEARCH NETWORK (CARNET) (FORMERLY CATTLE MILK AND MEAT NETWORK).

Implementing agency: International Livestock Center for Africa.

Start date: 1989-00-00.

Country/countries: Africa; Cameroon; Côte d'Ivoire; Ghana; Guinea; Mali; Nigeria; Senegal;
Togo;

Statement of objectives/abstract:

The overall objective of the network is to assist the national agricultural research systems (NARSs) in Sub-Saharan Africa in developing and implementing research programmes aimed at increasing sustainable milk and meat production, particularly by smallholder cattle producers. Specific objectives are to: (i) encourage and

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stimulate cattle milk and meat (CMM) research by assisting NARSs in developing the required institutional infrastructure; (ii) help NARSs develop their research capabilities through training, exchange of expertise, workshops and cooperation with international agricultural research centres; (iii) encourage collaborative research programmes within and between NARSs and regionally; (iv) facilitate information exchange through workshops, visits by scientists to collaborating institutions, newsletters, journals, proceedings of national societies and publication of farmers' newsletters; (v) develop research-extension-user linkages; (vi) assist NARSs in data collection, analysis, interpretation and reporting; (vii) maintain a regular and up-to-date directory of NARS scientists and their programmes in cattle milk and meat research; and (viii) assist NARSs obtain donor funds for the implementation of collaborative research programmes.

Contact in research organization:

Dr. E.A. Olaloku; Coordinator; CARNET, ILCA; P.O. Box 5689; Addis Ababa; Ethiopia
Steering Committee Chairmen: (i) East & Southern Africa: Dr. S. Sibanda; Univ. of Zimbabwe; P.O. Box MP 167; Mount Pleasant; Harare; Zimbabwe; Tel: (263) 4-303211; Fax: (263) 4-732828 (ii) West & Central Africa: Prof. E.O. Oyedipe; NAPRI; PMB 1096; Shika; Zaria; Nigeria; Tel: (234) 69-51018; Fax: (234) 62-230526

Record number (MFN): 05360

Official project title: COMMON PROPERTY RESOURCE NETWORK.

Implementing agency: University of Minnesota at Minneapolis St. Paul.

Start date: 1986-00-00.

Country/countries: Global;

Statement of objectives/abstract:

To facilitate exchange of information between scientists of various disciplines in different countries to help achieve better use of common property resources. Ultimate aim is to conserve and improve the use of common property resources throughout the world and to improve the lives of those people who depend on them. Specific objectives include: (a) disseminating news about applied, practical work in the field of common property conservation, use, and management; (b) inform members of ongoing research activities; conferences, symposia, workshops; significant books, journal articles, and reports; (c) report on significant events or trends related to common property resources; and (d) develop a vital, self-sustaining, productive network of people who spontaneously share information and collaborate with each other.

Contact in research organization:

Dr. C. Ford Runge; Coordinator; Department of Agricultural and Applied Economics; University of Minnesota; 231 Classroom Office Building; 1994 Buford Avenue; St. Paul; MN 55108; USA

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Record number (MFN): 05368

Official project title: INTERNATIONAL NETWORK ON THE GENETIC ENHANCEMENT OF RICE (INGER).

Implementing agency: International Rice Research Institute.

Start date: 1975-00-00.

Country/countries: Global; Nigeria; Colombia;

Statement of objectives/abstract:

Screening rice germplasm for yield and other characteristics. INGER nurseries are grouped under four categories: irrigated yield and observational nurseries (very-early, early, medium); rainfed upland yield and observational nurseries (very-early, early, medium); rainfed lowland yield and observational nurseries (very-early, early, medium); specific stresses nurseries (temperature, soil diseases, insects and nematodes nurseries).

Contact in research organization:

Dr. D.V. Seshu; Global Coordinator; International Rice Research Institute (IRRI); P.O. Box 933; Manila; Philippines; Telex: 40890 RICE PM

Record number (MFN): 05369

Official project title: INTERNATIONAL NETWORK FOR THE IMPROVEMENT OF BANANAS AND PLANTAINS (INIBAP).

Implementing agency: International Network for the Improvement of Bananas and Plantains.

Start date: 1984-11-05.

Country/countries: Global; Burundi; Nigeria; Kenya; Brazil; Guadeloupe; Honduras; Jamaica; Taiwan, Province of China; China; Philippines; Australia; Costa Rica; France; Panama;

Statement of objectives/abstract:

Coordinate and stimulate research on improvement of bananas and plantains for domestic consumption within producing countries. Specific objectives are to: (a) initiate, encourage, support, conduct, and coordinate research aimed at improving the production of bananas and plantains; (b) encourage the collection and exchange of documentation and information relating to bananas and plantains; and (c) support training for researchers and technicians from developing countries.

Contact in research organization:

Director; Agriculture, Food and Nutrition Sciences; International Development Research Centre (IDRC); P.O. Box 8500; Ottawa; Canada; KIG 3HP; Tel: (613) 236-6163; Telex: 053-3753

Record number (MFN): 05370

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Official project title: INTERNATIONAL NETWORK ON SOIL FERTILITY AND SUSTAINABLE RICE FARMING (INSURF).

Implementing agency: International Rice Research Institute.

Start date: 1976-00-00.

Country/countries: Global; Cameroon; Liberia; Madagascar; Nigeria; Senegal; Bangladesh; Myanmar; China; Colombia; Cuba; Dominican Republic; India; Indonesia; Malaysia; Nepal; Pakistan; Peru; Philippines; Sri Lanka; Thailand; Viet Nam;

Statement of objectives/abstract:

Integrated nutrient management and long-term fertility studies in irrigated, rainfed lowland and upland rice environments; maintenance/enhancement of soil fertility for sustainable rice production.

Contact in research organization:

Dr. Cezar P. Mamaril; Agronomist; International Rice Research Institute (IRRI); P.O. Box 933; Manila; Philippines; Telex: 40890 RICE PM; Cable: RICEFOUND, MANILA

Record number (MFN): 05373

Official project title: INTERNATIONAL SOYBEAN PROGRAM (INTSOY).

Implementing agency: University of Illinois at Urbana-Champaign.

Start date: 1973-00-00.

Country/countries: Global; Cameroon; Côte d'Ivoire; Libyan Arab Jamahiriya; Nigeria; Senegal; United Republic of Tanzania; Uganda; Zaire; Zambia; Zimbabwe; Argentina; Australia; Bangladesh; Brazil; Canada; China; Colombia; Cuba; Ecuador; France; Guyana; Honduras; India; Indonesia; Republic of Korea; Mexico; Nepal; Panama; Peru; Philippines; Puerto Rico; Spain; Sri Lanka; Sweden; Thailand; United States; USSR; Venezuela; Viet Nam;

Statement of objectives/abstract:

INTSOY is a multipurpose commodity network. INTSOY once served as a clearinghouse for a worldwide system for soybean germplasm. The international nursery part of INTSOY is called ISVEX (International Soybean Variety Experiment) and was started at the inception of INTSOY in 1973. It was terminated in 1985 with 132 countries having participated in ISVEX. By 1986, INTSOY had completely shifted the focus of its work to finding new ways to process and use soybeans as human and livestock food. INTSOY is now concentrating on a three-phase soybean utilization effort for the period 1985-1991 as follows: Phase I: Intensified research to develop new soy products and processes; Phase II: Development of simple "how to" manuals and equipment lists for less developed countries and entrepreneurs interested in production of soy foods on a small or large commercial scale; Phase III: On-site technical assistance in soybean utilization for governments and private firms in less developed countries. The primary goal is to improve human nutrition through increased use of whole soybeans. Some specific programs/projects include: (a) collaboration with the Department of

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Food Science at the University of Illinois to develop new ways to process and use whole soybeans for human food; (b) combined soybean/grain, soybean/vegetable, and soybean/fruit foods produced by extrusion cooking; (c) a simple low-cost process to produce a high-quality soymilk with no patent restrictions; (d) immature green soybeans as a commercially viable high-protein green vegetable; (e) simple processes for converting soybean residues into animal feed; and (f) home- and village-level procedures for preparing soybean products for home consumption.

Contact in research organization:

Mr. Harold E. Kauffman; Director; INTSOY; College of Agriculture; University of Illinois at Urbana-Champaign; 113 Mumford Hall; 1301 W. Gregory Drive; Urbana; Illinois 61801; Tel: (217) 333-6422; Telex: 206957

Record number (MFN): 05375

Official project title: INTERNATIONAL PEARL MILLET ADAPTATION TRIAL (IPMAT).

Implementing agency: International Crops Research Institute for the Semi-Arid Tropics.

Start date: 1975-00-00.

Country/countries: Global; Malawi; Nigeria; Senegal; Sudan; Uganda; Zambia; India; Pakistan;

Statement of objectives/abstract:

Evaluation of yield potential and ecogeographical adaptation of diverse genotypes.

Contact in research organization:

J.R. Wilcome; Cereals Program; International Crops Research Institute for the Semi-Arid Tropics (ICRISAT); Patancheru; P.O.; Andhra Pradesh 502 324; India; Tel: 224-016; Telex: 422203 ICRI IN; Cable: CRISAT, Hyderabad; E-Mail: 157:CGI505

Record number (MFN): 05376

Official project title: INTERNATIONAL PEARL MILLET DISEASE RESISTANCE TESTING PROGRAM (IPMDRTP).

Implementing agency: International Crops Research Institute for the Semi-Arid Tropics.

Start date: 1976-00-00.

Country/countries: Global; Senegal; Niger; Nigeria; India;

Statement of objectives/abstract:

The objectives are to: (a) test for resistance; (b) monitor variations in pathogen populations; and (c) provide resistant sources to cooperating scientists. There are four disease nurseries in IPMDRTP: (i) International Pearl Millet Downy Mildew Nursery (IPMDMN) was established in 1974, in four countries (India, Senegal, Niger, Nigeria), in up to twenty locations; (ii) International Pearl Millet Rust Nursery

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(IPMFN) was established in 1978, in seven locations within India; (iii) International Pearl Millet Smut Nursery (IPMSM) was established in seven locations in three countries (India, Senegal, Niger); (iv) International Pearl Millet Ergot Nursery (IPMEN) was established in five locations in two countries (India, Senegal).

Contact in research organization:

Pearl Millet Program; International Crops Research Institute for the Semi-Arid Tropics (ICRISAT); Patancheru P.O.; Andhra Pradesh 502 324; India; Tel: 224016; Telex: 422203 ICRIN; Cable: CRISAT, Hyderabad; E-Mail: 157:CGI505

Record number (MFN): 05381

Official project title: SMALL RUMINANT AND CAMEL GROUP RESEARCH NETWORK.

Implementing agency: International Livestock Center for Africa.

Country/countries: Africa; Mali; Kenya; Nigeria; Ethiopia; Sudan; Burkina Faso; Mozambique; Rwanda; Zimbabwe;

Statement of objectives/abstract:

Informal cooperation already exists between ILCA scientists and national programs in the area of small ruminant research. The objectives of the proposed network are to: (a) carry out fundamental and applied research; (b) coordinate ILCA's other research on small ruminants and to assist and advise on analysis and publication; (c) collect production data already analyzed elsewhere and suggest solutions to production constraints in the light of available results; (d) collect and analyze unpublished data on reproduction, growth and disease in the various ecological zones of Sub-Saharan Africa and relate these to prevailing nutritional and management conditions; (e) assess and to diagnose specific causes of mortality, particularly at the preweaning stage; (f) develop a manual of survey techniques (including sampling procedures, sample sizes, and diagnostic methods) for use in small ruminant productivity in Africa; (g) study the social and management factors that contribute to productivity differences; (h) encourage research on the potential for improving productivity by selective breeding within and among indigenous breeds; (i) help organize regional or national training requirements; and (j) publish a newsletter to disseminate results or development experience and to maintain contact between researchers and development officials.

Contact in research organization:

Dr. R.T. Wilson; Head/Principal Animal Scientist; Small Ruminant and Camel Group; International Livestock Center for Africa (ILCA); P.O. Box 5689; Addis Ababa; Ethiopia; Tel: 183215-25; Telex: 976-21207 ILCA ET

Record number (MFN): 05389

Official project title: HUMAN FOOD VALUE OF AUSTRALIAN ACACIA SEEDS.

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Implementing agency: Australian Centre for International Agricultural Research.

Start date: 1993-01-07. End date: 1996-30-06.

Country/countries: Nigeria;

Statement of objectives/abstract:

A recent international workshop reviewed the potential of the seeds of Australian dry-zone acacias as a new human food source for semi-arid regions in tropical and sub-tropical countries. The seeds of some 50 species are a traditional food of Aboriginal people in central and northern Australia. Several species grow rapidly and produce heavy crops from an early age in semi-arid Sahelian Africa. The seeds are a nutritious food source high in protein, fat and carbohydrate, and have low levels of known toxic and anti-nutritional factors. Taste trials in Nigeria suggest that acacia seed flour is palatable and easily incorporated into existing diets using local food processing technology and recipes. Chemical tests on priority species carried out subsequent to the workshop have yielded encouraging results. Feeding trials with laboratory animals, and silvicultural trials to quantify seed production of target species and determine appropriate management practices, are priorities for future research. Methods developed for Australian Acacia species can also be used to evaluate other indigenous and exotic tree and shrub species with human food potential for semi-arid environments.

Contact in research organization:

Dr. Chris Harwood; Australian Tree Seed Centre; CSIRO; P.O. Box 4008; Queen Victoria Terrace; ACT 2601; Australia

Record number (MFN): 05394

Official project title: AGRICULTURAL SERVICES (FORMERLY AGRICULTURE AND NATURAL RESOURCES MANAGEMENT).

Implementing agency: World Bank; Sierra Leone.

Start date: 1995-00-00.

Country/countries: Sierra Leone;

Statement of objectives/abstract:

Project would involve improving dissemination of agricultural technology through strengthening extension and research, including its linkages with extension and education.

Record number (MFN): 05399

Official project title: AGRICULTURAL SERVICES.

Implementing agency: World Bank; Guinea-Bissau.

Country/countries: Guinea-Bissau;

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Record number (MFN): 05400

Official project title: AGRICULTURAL SERVICES.

Implementing agency: World Bank; Guinea-Bissau.

Start date: 1988-06-28. End date: 1993-12-31.

Country/countries: Guinea-Bissau; _

Record number (MFN): 05401

Official project title: SECOND NATIONAL AGRICULTURE.

Implementing agency: World Bank; Nigeria.

Country/countries: Nigeria;

Record number (MFN): 05402

Official project title: AGRICULTURE SECTOR.

Implementing agency: World Bank; Sierra Leone.

Start date: 1984-12-10. End date: 1997-12-31.

Country/countries: Sierra Leone;

Record number (MFN): 05414

Official project title: RUBBER SEED OIL: FINDING USES FOR A WASTE PRODUCT (NIGERIA).

Implementing agency: International Development Research Centre.

Country/countries: Canada; Nigeria;

Statement of objectives/abstract:

The paint industry plays a major role in the Nigerian economy. However, the contribution of this industry has significantly dwindled, mostly due to a lack of raw materials. Most of the raw materials, especially the film forming, lipid base component, are imported and not readily available. The source of this lipid base component is usually linseed oil, which is mostly made up of linolenic and linoleic acids. Numerous plantations of rubber tree are, however, found in Nigeria and the

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rubber seeds are not utilized at the present time. The rubber seed oil has a lipid composition that mimics that of linseed oil to some extent, containing considerable amounts of linolenic and linoleic acids. It could therefore probably replace the linseed oil used as a lipid base in the paint industry. This project will aim at processing rubber seed oil into a drying oil suitable for use in paint manufacture in Nigeria. The project will also evaluate the possibilities of producing emulsifiers from the hydrophilic fraction of the oil. The beneficiaries of the project will be the women's cooperatives and rural communities that will produce the oil, and the small industries that will manufacture the drying oil and emulsifiers.

Contact in research organization:

Dr. Yaw J. Owusu-Ansah; POS Pilot Plant Corporation; 118, Veterinary Road; Saskatoon, Saskatchewan; Canada S7N 2R4
Dr. I.C. Ononogbu; Department of Biochemistry; University of Nigeria; Nsukka; Nigeria

Record number (MFN): 05416

Official project title: COMMUNICATION AND INFORMATION AIMED AT THE RURAL PEOPLE OF CAMEROON - PHASE III.

Implementing agency: International Development Research Centre.

Start date: 1992-01-15. End date: 1993-11-30.

Country/countries: Cameroon;

Statement of objectives/abstract:

The Institut africain pour le développement économique et sociale (INADES) disseminates practical, and economically useful information among peasants. Through this project, it will extend its information and educational activities in the south and east of Cameroon, through the distribution of brochures, radio programs, and a variety of audio-visual methods. Specifically, it will publish two journals, one in English and the other in French; produce about 125 regional radio programs; organize six exchange trips by groups of peasants, which will help them acquire new cultivation techniques; and continue the distribution of teaching material.

Contact in research organization:

Jonas Mva Mva; INADES-Formation; Yaoundé; B.P. 11; Cameroun

Record number (MFN): 05422

Official project title: NO DUMPING HERE: CONTROL OF PESTICIDES IN DEVELOPING COUNTRIES.

Implementing agency: International Development Research Centre.

Start date: 1990-02-27. End date: 1991-08-27.

Country/countries: Global; Kenya; Zambia; Ghana; Bangladesh;

Statement of objectives/abstract:

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Growing pesticide (mis)use is now recognized widely as a major environmental problem. Many highly toxic chemicals have been banned in the industrial countries but are still being manufactured for export to developing countries. This project will provide support for a group of nongovernmental organizations (NGOs) in Kenya, Zambia, Ghana, and Bangladesh to examine, under the coordination of the Environmental Liaison Centre (ELCI), national pesticide markets, in particular the practices, behaviour, and attitudes of important "actors" such as pesticide end users, producers, and funders. The project directly builds on and is modelled after a previous ELCI-coordinated NGO network study in thirteen countries on aspects of the international pesticide trade and marketing, specifically on progress in the implementation of the FAO Code of Conduct. The work is complementary to another Centre-supported international NGO network study examining factors relating to the degree of adoption by developing countries of the principle of Prior Informed Consent (3-A-88-4269).

Contact in research organization:

Shimwaayi Muntamba; Environmental Liaison Centre International; P.O. Box 72461; Nairobi; Kenya

Record number (MFN): 05437

Official project title: THIN-LAYER DRYING AND REWETTING CHARACTERISTICS OF COCOA BEANS.

Implementing agency: International Foundation for Science.

Start date: 1988-12-06.

Country/countries: Nigeria;

Statement of objectives/abstract:

In order to permit fundamental understanding of the drying and storage behaviour of cocoa beans, Dr Faborode will study both the thin-layer drying and the rewetting phenomena. He will investigate their effects on the quality of the resulting raw cocoa and relate them to process conditions, viz., temperature, relative humidity and air velocity, after first obtaining relevant thermo-physical properties of the beans. The experiments will be carried out under controlled conditions of temperature and relative humidity, using a computer-aided data acquisition system to permit continuous on-line recording of necessary moisture transfer data. Appropriate models representing the drying and rewetting response will be developed. The work will thus provide data needed to identify optimum drying and storage regimes for cocoa in forced-air dryers.

Contact in research organization:

Dr Michael O FABORODE; Department of Agricultural Engineering; Obafemi Awolowo University; ILE-IFE; Nigeria

Record number (MFN): 05440

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Official project title: THE ROLE OF PARA-INFLUENZA TYPE 3 (PI-3) VIRUS IN RELATION TO OTHER RESPIRATORY PATHOGENS IN THE ETIOLOGY OF CAPRINE PNEUMONIA IN NIGERIA.

Implementing agency: International Foundation for Science.

Start date: 1991-05-28.

Country/countries: Nigeria;

Statement of objectives/abstract:

Dr Ibu will study the role of Parainfluenza virus type 3 (PI-3) in relation to *Pasteurella hemolytica* (PH) and *Mycoplasma mycoides* var. *capri* (MC) in etiology of caprine pneumonia in Nigeria. The ultimate objective is to prove the necessity for a combined vaccine comprising sufficiently implicated pathogens to control the pneumonia complex of goats in the region. Groups of susceptible Red Sokoto goats will be infected with PI-3 virus alone or with Ph and MC. The clinical virological, bacteriological, haematological and immunological responses of the animals will be monitored. The work is expected to demonstrate the initiating role of PI-3 virus and its synergism with Ph and MC in pneumonia of goats in Nigeria.

Contact in research organization:

Dr Olupabi J IBU; Virus Vaccine Research Division; National Veterinary Research Institute; VOM; Plateau State; Nigeria

Record number (MFN): 05442

Official project title: EVALUATION AND SELECTION OF AZOLLA SPP. SUITABLE FOR LIVESTOCK FEED FORMULATION.

Implementing agency: International Foundation for Science.

Start date: 1991-05-28.

Country/countries: Nigeria;

Statement of objectives/abstract:

Dr Esiobu will screen several *Azolla-Anabaena* strains, for suitability as a livestock feed component, under field conditions in the Lagos Lagoon and/or Port-Harcourt freshwater ponds (intense aquaculture regions of Nigeria). In addition to establishing a small working collection of indigenous and exotic *Azolla* strains in Lagos, the study aims at identifying *Azolla-Anabaena* with high biomass yield, elevated N₂ fixation and good quality protein, low cellulose and lignin levels--all of which could be used in livestock and fish feed. Data on the physico-chemical parameters and climatic conditions would be related to *Azolla* performance. Methods include periodic measurements of fresh/dry weights, nitrogen activity, nitrogen and protein contents, cellulose and fibre levels of the strains over a period of 12 months. Measurements will be made using special *Azolla* biomass nets, acetylene reduction assays, Kjeldhal analysis, colorimetric determinations of proteins and acid detergent fibre (ADF) calculations.

Contact in research organization:

Record number (MFN): 05447

Official project title: EPIDEMIOLOGY OF CERCOSPORIOSIS CAUSED BY MYCOSPHERELLA SP.ON
BANANA IN CAMEROON, AND EVALUATION OF THE VARIETAL SUSCEPTIBILITY
TO THE DISEASE.

Implementing agency: International Foundation for Science.

Start date: 1991-05-28.

Country/countries: Cameroon;

Statement of objectives/abstract:

In the highlands of Cameroon the "yellow cercospore" (*Mycosphaerella musicola*) is responsible for large-scale attacks on banana trees, even on cultivars usually considered to be resistant. In the lowlands the responsible pathogen is *M. fijiensis*. Mr Paloura's project aims at a better understanding on the extent of potential infections on large industrial plantations. Attempts will be made for a modelization of the growth of the two species in relation to climatic factors, in order to develop a warning system. The study will mainly be carried out in the region of industrial plantations of Moungo in Cameroon.

Contact in research organization:

Mr Alassa MOULIOM PEFOURA; Programme Banane; Centre des Recherches Agronomiques;
IRA; B P 13; NJOMBE; Cameroon

Record number (MFN): 05448

Official project title: BIOCHEMICAL MARKERS ASSOCIATED TO FUSARIOSIS OF OIL PALM TREE:
THEIR USE IN THE BREEDING PROGRAMMES.

Implementing agency: International Foundation for Science.

Start date: 1991-05-28.

Country/countries: Côte d'Ivoire;

Statement of objectives/abstract:

Mr Diabate will study the metabolites synthesized by the oil palm tree, *Elaeis guineensis*, when attacked by the pathogenic fungi *Fusarium oxysporum* f.sp. *Elaeidis*. These components will be extracted from roots or pseudo-bulbs of both resistant and non-resistant trees, and compared using the Folin Ciocalteu method, thin layer chromatography and high pressure liquid chromatography. The objective of the study is to improve the methods to test resistance of oil palm to fusariosis.

Contact in research organization:

Mr Sekou DIABATE; IDEFOR IRHO CI; Plantation Experimentale Robert Michaux; B P

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8; DABOU; Côte d'Ivoire

Record number (MFN): 05449

Official project title: AN EVALUATION OF TRADITIONAL FERMENTATION METHODS AND THEIR EFFECTS ON THE CHEMICAL COMPOSITION OF CASSAVA-BASED PRODUCTS.

Implementing agency: International Foundation for Science.

Start date: 1991-05-28.

Country/countries: Cameroon;

Statement of objectives/abstract:

An assessment of the cassava processing techniques will be made, so as to identify the various steps involved in the production of "gaton de manioc" and flour. Samples (fresh, intermediate and final) for each product to be studied will be collected from ten randomly selected processors with similar techniques in villages found around Yaounde and Douala. Dr Agbor Egbe aims to investigate the biochemical changes occurring during the traditional processing of the two cassava-based foods; the changes to be monitored are ash, crude protein, pH, titratable acidity, sugars, starch, total phenols, proanthocyanidine and cyanide contents. The results expected from this study will be compared to those obtained from process operations using model systems.

Contact in research organization:

Dr Tom AGBOR EGBE; Food Studies Laboratory; Centre for Nutrition; Institute of Medical Research and the Study of Medicinal Plants (IMPM); P O Box 6163; YAOUNDE; Cameroon

Record number (MFN): 05455

Official project title: EVALUATION OF FEATHER MEAL AND FISH SILAGE BLENDS AS ALTERNATIVE SOURCES OF ANIMAL PROTEIN IN THE INTENSIVE CULTURE OF FISH IN NIGERIA.

Implementing agency: International Foundation for Science.

Start date: 1991-12-03.

Country/countries: Nigeria;

Statement of objectives/abstract:

Dr Balogun will study the improvement in the quality of feather meal by co-ensiling it with *Ilisha africana*, an underutilized trash-fish species in Nigeria. Feather meal will be co-ensiled with minced fish at various proportions to produce stabilized blends using a combination of inorganic acids. Pasty products will be neutralized and dried and then analyzed for nutrient composition. Biological evaluation of blends will be carried out with the African catfish *Clarias gariepinus* using semi-purified diets in which fish meal in the basic diet is gradually replaced by the fish/feather meal

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blends. This study should produce high-protein, cost-effective substitutes for fish meal in aquaculture feeds in Nigeria.

Contact in research organization:

Dr Adebisi M BALOGUN; Department of Fisheries and Wildlife; Animal Production and Health; Federal University of Technology; P O Box 704; AKURE; Ondo State; Nigeria

Record number (MFN): 05459

Official project title: WATER NEEDS OF PLANTAIN IN COTE D'IVOIRE.

Implementing agency: International Foundation for Science.

Start date: 1991-12-02.

Country/countries: Côte d'Ivoire;

Statement of objectives/abstract:

Dr N'Guessan will study the response of plantain to three irrigation doses applied when water stress is expected, and the effect of these irrigations on yields. Water consumption and efficiency of irrigation will be evaluated by measuring the water balance in the soil during the first two production cycles. The study will be performed at the experimental station of Abbe, region of Azaguié, located in one of the more important banana production zones of Côte d'Ivoire.

Contact in research organization:

Dr Angelo E NGUESSAN; Département Fruits et Agrumes; Institut des Forêts; 01 B P 1740; ABIDJAN 01; Côte d'Ivoire

Record number (MFN): 05461

Official project title: GENETIC IMPROVEMENT OF SAFOU (DACRYODES EDULIS).

Implementing agency: International Foundation for Science.

Start date: 1991-12-03.

Country/countries: Cameroon;

Statement of objectives/abstract:

SAFOU is a fruit-bearing oleiferous Burseraceae of nutritional and economic importance in Cameroon as well as in the whole sub-region of Central-Africa and in part of West-Africa. Despite its use since ancient times there have been no scientific effort to improve this species. The cultivation practices have therefore remained archaic, and there are a number of problems inherent in the biology of the tree and its propagation only by seeds. None of the classical propagation techniques have been successful. Dr Kengue will establish the basic knowledge necessary to develop an improvement programme. He will characterize systematically the plant material and develop a technique for vegetative propagation which promotes reproduction of

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individuals with preferred attributes that are difficult to transfer in the sexual way.

Contact in research organization:

Dr Joseph KENGUE; Programme Conservation des Ressources Phylogenetiques et Fruits; Institut de la Recherche Agronomique; B P 2067; YAOUNDE; Cameroon

Record number (MFN): 05462

Official project title: INTEGRATED CONTROL OF ORYCTES MONOCEROS ON PALMS IN NIGERIA.

Implementing agency: International Foundation for Science.

Start date: 1991-12-03.

Country/countries: Nigeria;

Statement of objectives/abstract:

Previous investigations showed that *Oryctes monoceros* and other scarabids are major pests of palms in Nigeria. Adult beetles destroy the cabbage at the bases of central spears of live palms, breed in dead stumps, logs and felled palms. Dr Aisagbonhi will investigate the efficiency of different control methods and their combination in an integrated system. The following aspects will be included in the project: palm species density, incidence of larvae on dead trunks, trapping of adults, use of biological agents, sanitation, effect of cover crops, minimal insecticide use, and efficiency of plant extracts.

Contact in research organization:

Dr Charles I AISAGBONHI; Entomology Division; Nigerian Institute for Oil Palm Research; P O Box 1030; BENIN CITY; Edo State; Nigeria

Record number (MFN): 05464

Official project title: ECOLOGY OF SOME MEDICINAL WOODY PLANTS IN NIGERIA: GENUS ZANTHOXYLUM.

Implementing agency: International Foundation for Science.

Start date: 1991-12-02.

Country/countries: Nigeria;

Statement of objectives/abstract:

Zanthoxylum is a pantropical genus, occurring in Africa, Asia and South America. Species of the genus *Zanthoxylum* are widely used in the tropics as medicinal plants. The increasing interest in these species in West Africa and the current harvesting methods coupled with destruction of the tropical forests threaten their continued existence. Ecological studies of this group of plants are urgently needed. Mr Udah will study the distribution, morphology and phenology of *Z. leprieurii*, *Z. gillettii* and *Z. zanthoxyloides* in Southern Nigeria. He will determine the factors affecting

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the regeneration in nature and pay particular attention to soil seed storage, germination, seedling distribution and initial characteristics of seedlings. The amenability of conventional vegetative propagation methods will also be investigated. The aim of this project is to contribute to the conservation and domestication of these species.

Contact in research organization:

Mr Cyriacus AUDAH; Department of Forest Resources Management; University of Ibadan; IBADAN; Nigeria

Record number (MFN): 05466

Official project title: ANTI-MICROBIAL ACTIVITY OF FERMENTED GHANAIAN MAIZE DOUGH.

Implementing agency: International Foundation for Science.

Start date: 1991-12-03.

Country/countries: Ghana;

Statement of objectives/abstract:

Previous studies have shown that fermented Ghanaian maize dough inhibits some Gram negative bacteria. Dr Mensah will now evaluate the survival and proliferation of some Gram positive bacteria—*Bacillus* sp., *Staphylococcus aureus* and *Clostridium perfringens*—in fermented maize dough. Crude extracts of the anti-microbial substance will be characterised to provide information on how to optimise the anti-microbial effect during processing. Studies on the duration and outcome of induced diarrhoea in mice, fed this food, will also be conducted. This will provide baseline data for possible human studies.

Contact in research organization:

Dr Patience MENSAH; Bacteriology Unit; Noguchi Memorial Institute; University of Ghana; P O Box 25; LEGON; Ghana

Record number (MFN): 05470

Official project title: A STUDY OF MELLIFEROUS PLANTS IN THE ATACORA DISTRICT.

Implementing agency: International Foundation for Science.

Start date: 1992-05-20.

Country/countries: Benin;

Statement of objectives/abstract:

The Department of Atacora in Northeast Benin covers an area of 31 200 km² and has a population of 619 950 inhabitants. Apiculture is an agricultural activity with a strong tradition among several ethnic groups in this part of the country. Within the ongoing apiculture development project there is a strong need for a better knowledge of the melliferous flora so that apiculture can become well integrated into

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socio-economic activities. Only then can attempts be made to solve the environmental problems and the stagnation of the development among local apiculturalists. Mr Kokoye will analyze and undertake an inventory of the flora and study the vegetation.

Contact in research organization:

Mr Senou J KOKOYE; Departement de l'Atacora; Service Production Animale; B P 13; NATTINGOU; Benin

Record number (MFN): 05473

Official project title: IDENTIFICATION AND PURIFICATION OF IMMUNODIAGNOSTIC ANTIGENS OF FASCIOLA GIGANTICA FOR THE SPECIFIC SERODIAGNOSIS OF FASCIOLISIS IN RUMINANTS.

Implementing agency: International Foundation for Science.

Start date: 1992-05-20.

Country/countries: Nigeria;

Statement of objectives/abstract:

Dr Fagbemi will identify the antigens which are specific to the parasite Fasciola gigantica by SDS-PAGE and immunoblotting at the University of Ibadan, Nigeria. These antigens will be purified by a combination of strategies involving size exclusion chromatography, affinity chromatography (antibody and ion exchange) and direct separation from polyacrylamide gels. The purified antigens will be used for ELISA and dot blotting which are suitable for laboratory and field diagnosis of fascioliasis in ruminants. Monospecific polyclonal antibody will be developed to the antigens and used to detect circulating serum antigens by ELISA.

Contact in research organization:

Dr Benjamin O FAGBEMI; Department of Veterinary Microbiology and Parasitology; University of Ibadan; IBADAN; Nigeria

Record number (MFN): 05474

Official project title: IDENTIFICATION OF MANAGEMENT FACTORS LIMITING MAIZE YIELDS IN PEASANT FARMS IN THE HUMID PART OF CAMEROON BY QUANTITATIVE LAND EVALUATION.

Implementing agency: International Foundation for Science.

Start date: 1992-05-20.

Country/countries: Cameroon;

Statement of objectives/abstract:

Farmers' fields in humid West and Central Africa are generally characterized by Nitisols and Ferralsols and fall within the humid forest and Guinea savanna agro-ecologies. The fields show lower maize yields as a result of factors described

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as "management". Soil-related aspects will be identified by comparing Quantitative Land Evaluation (QLE) results and actual yields. Mr Sama-Lang will simulate maize yields based on production factors and using QLE production models. Ceiling yields of maize identified from the evaluation results and actual yields from controlled plots are expected results.

Contact in research organization:

Mr Patrick SAMA-LANG; I R A Station; Institute of Agronomic Research; B P 44; DSCHANG; Cameroon

Record number (MFN): 05477

Official project title: DEVELOPMENT AND ENGINEERING ECONOMIC ASSESSMENT OF NON-ALCOHOLIC BEVERAGES FROM SOME TROPICAL CROPS.

Implementing agency: International Foundation for Science.

Start date: 1992-05-19.

Country/countries: Nigeria;

Statement of objectives/abstract:

Dr Ilori will develop non-alcoholic beverages from different local carbohydrate sources in the laboratory and study economic implications of producing these products at the cottage industry level. He will process each carbohydrate source into flour, and analyze, gelatinize and saccharify the products by using malted sorghum enzymes to obtain wort samples. He will then process the wort samples further by heat treatment and add caramel to produce the beverages. He will analyze the beverages physically, chemically, microbiologically and organoleptically. Dr Ilori will thereafter carry out a feasibility study to establish the possibility of commercialising the project in Nigeria and other tropical regions where the raw materials are available.

Contact in research organization:

Dr Matthew O ILORI; Technology Planning and Development; Unit/Food Science and Technology Department; Obafemi Awolowo University; ILE-IFE; Nigeria

Record number (MFN): 05478

Official project title: SEARCH FOR CHEMOTHERAPEUTIC COMPOUNDS AGAINST TROPICAL DISEASES FROM THE GENUS ENTANDROPHAGMA (MELIACEAE).

Implementing agency: International Foundation for Science.

Start date: 1992-05-19.

Country/countries: Cameroon;

Statement of objectives/abstract:

In the search for new active compounds against malaria or Onchocerciasis, Dr

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Tchouankeu will undertake the chemical investigation monitored by bioassay techniques of some *Eriandrophragma* spp. (Meliaceae). Since Meliaceae medicinal plants of Cameroon are known to be rich in limonoids and quassinoids, it is expected to find new tropical disease drugs within this class of compounds.

Contact in research organization:

Dr J C TCHOUANKEU; Department of Organic Chemistry; Faculty of Sciences;
University of Yaounde; P O Box 812; YAOUNDE; Cameroon

Record number (MFN): 05479

Official project title: CHEMICAL AND PHARMACOLOGICAL STUDIES OF THREE MEDICINAL PLANTS FROM THE CENTRAL AFRICAN REPUBLIC.

Implementing agency: International Foundation for Science.

Start date: 1992-05-19.

Country/countries: Central African Republic;

Statement of objectives/abstract:

Dr Koudou will initiate chemical studies of compounds derived from three plants which are used in traditional medicine in the Central African Republic: *Terminalia glaucescens*, *Dichrostachys glomerata*, and *Dissotis Perkinsiae*. Biological activities will be monitored during extraction and fractionation, particularly with regard to anti-microbial and anti-radical activities. The active principles will be isolated and their structures identified through spectroscopy.

Contact in research organization:

Dr JeanKOUDCU; Departement des Sciences Physiques; Faculte des Sciences;
Universite de Bangui; B P 908; BANGUI; Central African Republic

Record number (MFN): 05480

Official project title: BIOASSAY-DIRECTED IDENTIFICATION AND ISOLATION OF PESTICIDES FROM PLANTS.

Implementing agency: International Foundation for Science.

Start date: 1992-05-19.

Country/countries: Nigeria;

Statement of objectives/abstract:

The overall objective of this project is to develop phytochemicals which could be used to control some field pests of vegetable, legume and cereal crops on the Sudan savanna belt of sub-Saharan West Africa. Dr Fatope will study the effects of preparations taken from five plants on root-knot nematodes, aphids, cowpea pod-borer and African army worms in Kano State using a combination of choice or no-choice bioassays and brine shrimps lethality bioassay. The most promising plant will be

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extracted and solvent-partitioned into fractions. Each fraction will be screened for the desired bioactivity. The most active fraction will be chromatographed. Isolated phytochemicals which are very toxic to brine shrimp will be characterized and tested on the targeted agronomic pests.

Contact in research organization:

Dr Majekodunmi O FATOPE; Chemistry Department; Bayero University; P O Box 3011; KANO; Nigeria

Record number (MFN): 05482

Official project title: EPIDEMIOLOGY OF GASTROINTESTINAL PARASITES OF LAMBS.

Implementing agency: International Foundation for Science.

Start date: 1992-12-09.

Country/countries: Ghana;

Statement of objectives/abstract:

Dr Agyei will study the type and level of infection of gastrointestinal parasites encountered by lambs with age in the derived savannah and forest regions of Ghana. The study will include weekly faecal sampling of lambs, recovery of worms in the gastrointestinal tract of tracer lambs and determination of the type and level of herbage contamination by worm larvae. The data obtained will be used to design parasite control programmes to enhance efficient management of sheep, particularly in the rural areas of Ghana.

Contact in research organization:

Dr Ampem Deyi AGYEI; Animal Research Institute; P O Box 20; ACHIMOTA; Ghana

Record number (MFN): 05484

Official project title: COMPARATIVE STUDY OF RESISTANCE OR SUSCEPTIBILITY OF INDIGENOUS NIGERIAN AND EXOTIC CHICKENS TO INFECTIOUS BURSAL DISEASE.

Implementing agency: International Foundation for Science.

Start date: 1992-12-09.

Country/countries: Nigeria;

Statement of objectives/abstract:

Nigeria presently depends on exotic breeds of chicken for poultry production. These breeds are not well adapted to local levels of nutrition, veterinary attention, management and climatic conditions. Consequently, their performance is frequently limited. Part of the solution to this problem lies in developing a locally adapted commercial breeding stock by selectively cross-breeding our indigenous chickens with the improved exotics. This project is designed to supply information on the comparative disease resistance ability of the two breeds. The breeds will be infected

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with local pathogenic isolate of infectious bursal disease virus (IBDV). Dr Okoye will determine the susceptibility of each breed from detailed studies of clinical signs, mortality, gross and microscopic lesions, virus isolation, immunohistochemical identification and quantification of the virus in the bursa and by antibody detection and quantification by serum neutralising t.t and enzyme linked immunosorbent assay.

Contact in research organization:

Dr John OKOYE; Department of Veterinary Pathology; Faculty of Veterinary Medicine; University of Nigeria; NSUKKA; Enugu State; Nigeria

Record number (MFN): 05486

Official project title: POPULATION DYNAMICS AND ECOLOGY OF THE GRASSHOPPER ZONOCERUS VARIEGATUS IN THE MAYOMBE REGION, CONGO.

Implementing agency: International Foundation for Science.

Start date: 1992-12-09.

Country/countries: Congo;

Statement of objectives/abstract:

Dr Bani will study the population dynamics of the grasshopper *Zonocerus variegatus* in the forest region of Mayombe in Congo. Two sites will be chosen for the study after the first survey, and the grasshopper populations will be estimated each month during 14 months. The biological cycle of the insect will be determined, in relation with climatic factors as well as other biological parameters. The aim of the study is to develop a control strategy for this insect pest which affects all kind of crops.

Contact in research organization:

Dr Gregoire BANI; Direction Generale de la Recherche Scientifique et Technique; B P 2499; BRAZZAVILLE; Congo

Record number (MFN): 05507

Official project title: TROPENBOS' FOUNDATION.

Implementing agency: Tropenbos Foundation.

Start date: 1986-00-00. End date: 1993-00-00.

Country/countries: Global; Colombia; Guyana; Indonesia; Côte d'Ivoire; Cameroon;

Statement of objectives/abstract:

The objective is to conserve tropical forests by generating knowledge for the development of land-use management systems. Activities of the project are the following: (1) making an inventory of soils, hydrology, climate, flora and fauna and other natural resources, (2) characterize these resources in order to compare their interrelations, and (3) investigating the ecological potential and self regulatory

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processes.

Contact in research organization:

Tropenbos Foundation; P.O. Box 88; 6700 AB Wageningen; The Netherlands; Tel: (31)-8370-26262; Fax: (31)-8370-23024

Record number (MFN): 05508

Official project title: MANAGEMENT OF THE WEST AFRICAN DWARF GOAT IN THE HUMID TROPICS (PHASES II AND III).

Implementing agency: Agricultural University Wageningen, The Netherlands (Dept. Animal Husbandry; Dept. Agricultural Economics)/Obafemi Awolowo University, (Dept. of Animal Science), Ile-Ife, Nigeria.

Start date: 1985-00-00. End date: 1993-06-00.

Country/countries: Nigeria;

Statement of objectives/abstract:

The objective is to improve animal production in the humid tropics. The project focusses on the development of management guidelines for economic use of dwarf goats in farming systems in the humid tropics. Activities in phase II were of execution of on-station research on feeding requirements, health aspects and housing of dwarf goats. Phase III concentrates on the on-farm testing of the acceptability of the proposed package of management improvements. These consist of restricting movements of goats, constructing housing facilities, supplying adequate fodder and regular vaccination. In June 1992 an international workshop was organized to present and discuss the results of this project and similar research activities in Africa. The workshop proceedings are available from WAU (Title: 'Goat production systems in the humid tropics. Proceedings of a workshop at the Obafemi Awolowo University, Dept of Animal Science, Ile-Ife, Nigeria, 6-9 July 1992'). Also an extension handbook for management of goats is produced and available at WAU (Title: 'Innovation in goat keeping in humid West and Central Africa').

Contact in research organization:

Obafemi Awolowo University; Department of Animal Science; Ile-Ife; Nigeria Prof D. Zwart; Wageningen Agricultural University; Dept. of Tropical Animal Production; Marijkeweg 40; 6709 PG Wageningen; Tel: (31)(0)8370-83581/83120; Fax: (31)(0)8370-83962

Record number (MFN): 05542

Official project title: IMPROVEMENT OF THE REPRODUCTIVE PERFORMANCE OF TROPIC TOLERANT CATTLE AND SHEEP.

Implementing agency: FAO/IAEA.

Start date: 1990-00-00. End date: 1992-00-00.

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Country/countries: Côte d'Ivoire;

Statement of objectives/abstract:

This project is part of a FAO/IAEA programme "Improving the diagnosis and control of trypanosomiasis and other vector-borne diseases of African Livestock using immunoassays methods". The objective of the first phase of the project was to collect baseline data on the reproductive performance of trypanotolerant Baoule and N'Dama cattle and Djallonke sheep. These studies have been executed and information on the resumption of ovarian activity post-partum, seasonal variation in reproductive performance, onset of puberty and cyclicity of these breeds is now available. Over a period of one year, the manifestations of heat and cyclicity (by means of progesterone measurement) of 15 N'Dama and 15 Baoule cows has been monitored. During this year, the animals were not mated. The climate of Baoule was characterized into 4 seasons; hot and dry; dry and cool; cool and little rain; cool and rainy. The studies have so far only been carried out on the research station. In late 1991, the counterpart staff will also embark on a study of seasonal variations in cyclicity of cattle kept on small holder farms. Further studies planned in 1991/1992 will focus on determining the optimal age at first mating for bulls and heifers, seasonal variations in reproductive performance of sheep, the 'male effect in sheep' inset of puberty in sheep and early pregnancy diagnosis and embryonic mortality.

Contact in research organization:

Dr. Ph. Yesso; Institut des Savannes (IDESSA); Bouake; Cote d'Ivoire

Record number (MFN): 05595

Official project title: DEVELOPMENT COOPERATION SOIL AND FERTILIZER.

Implementing agency: IB (Institute for Soil Fertility Research).

Start date: 1987-00-00. End date: 1995-00-00.

Country/countries: Africa; Nigeria; Mali; Burkina Faso;

Statement of objectives/abstract:

Background of the project: One of the major problems in the developing countries in the next decades will be to sustain food production for the (increasing) population. Maintaining adequate levels of soil nutrients is an important condition. Goal: This programme focusses on nutrient balances of representative farming systems and on nutrient flows in various regimes in time. Special attention is paid to the increase of the efficient use of nitrogen fertilizers, biological nitrogen fixation by micro-organisms in symbiosis with leguminosa and the role of organic material in different farming systems. The research is aimed at a better understanding of the low efficiency of nutrient use, which has both financial/economical and ecological implications. The theoretical knowledge will be used to identify practical ways to increase the efficiency. In 1993 the project will consist of three parts: 1. The break-down of vegetation remnants: In cooperation with IITA (Nigeria) and the project "Tropical Soil Biology and Fertility" (TSBF) research is carried out on the break-down of vegetation remnants and trimming of trees. This project started in 1992 and continues until 1994. (The research is closely related to the project on

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nitrogen management on acid grounds in the humid-tropics in Lampung (Indonesia). This was executed with the Brawija University, Malang and finished in 1992). On the possible continuation of this project is deliberation with Wye College (England) and ICRAF (Nairobi). 2. Development of fertilizing recommendations fertilizing research and the draft of fertilizing recommendations takes place in Mali (SOTUBA/Mali) and in Burkina Faso (Support Bureau National des Sols (BUNASOL)). Scientific support to soil-vegetation laboratories for the practical use of models for nitrogen dynamics in soil vegetation for the use-value of survey of grounds and fertilizing advises. In the SOTUBA-project the KIT (Royal Institute for the Tropics) coordinates the Dutch assistance and IB gives Technical support. In the BUNASOL-project IB coordinates the activities. 3. Development of an ureum-injector. This project is already separately indicated in SIS as: "Urea injector test" Approach and procedure: Field and laboratory experiments and model studies.

Contact in research organization:

IB-DLO; PO Box 30003; 9750 RA Haren; Netherlands; tel: +31-50 337777; telex 53990 ibhm nl

Record number (MFN): 05600

Official project title: DEVELOPPEMENT BAS FONDS DE RIZ PRODUCTION BAFATA.

implementing agency: SNV (Association Neerlandais d'Assistance au Developpement).

Start date: 1992-02-00. End date: 1995-12-00.

Country/countries: Guinea-Bissau;

Statement of objectives/abstract:

Agriculture is the most important productive sector in Guinea-Bissau. It provides 90 percent of employment and 50 percent of the gross national product. It also provides the most important sources of foreign exchange. Biophysical conditions such as rainfall, soil quality offers prospects for improving the food availability in Guinea-Bissau. However, rice is regularly imported in order to ensure food security. Constraints for increased production are a.o. disadvantageous price policy, poor infrastructure and insufficient communication facilities. Transport of food between surplus and deficiency regions is poor. Women play an important role in food production and they are responsible for ensuring food availability for the household. Since in many projects their role has been undervalued, this project focuses on women producers. The objectives of the project are the following: (1) develop a technology to improve rice production in the wetlands by female producers; (2) increase incomes of the female producers; (3) improve the educational level of the women concerned; (4) improve the socio-economic situation of the women; and (5) improve the regional infrastructure to stimulate the regional development. The Regional Representative of the 'Ministere du Developpement Rural' is the responsible organization. A (female) national director coordinates the wetlands activities in accordance with the National Programme for Land Organization and Development of wetlands. Activities of this project are the following: During the first year, the main activity is socio-economic research concentrated on the female population. In dialogue with the target group, project activities for the second phase are selected.

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Potential activities include improvement of water economy in the wetlands, distribution of seeds, application of artificial fertilizers, plant protection, improved cultivation technique, introduction of agricultural equipment, introduction of new technique and introduction of modern post-harvest technology.

Contact in research organization:

SNV; Bezuidenhoutseweg 161; 2594 AG The Hague; The Netherlands; tel +31-70 3440244
Ministere du Developpement Rural et de l'Agriculture (MDRA);
Representant Regional de la Province Est; Guinee-Bissau

Record number (MFN): 05601

Official project title: THE CHARACTERIZATION OF RICE GROWING AGRO-ECOSYSTEMS IN WEST AFRICA (INITIAL PHASE).

Implementing agency: WSC (Winand Staring Centre for Integrated Land, Soil and Water Research).

Start date: 1992-07-01. End date: 1993-10-01.

Country/countries: Africa; Côte d'Ivoire; Benin; Sierra Leone; Nigeria; Cameroon;

Statement of objectives/abstract:

West African farmers have developed a variety of distinct rice cropping systems that vary across as well as within ecosystems. These rice cropping systems are referred to as rice agro-ecosystems. The potential of inland valleys for rice production has not been extensively utilized. This phase of the project is an identification phase which will be followed by a main project for the West African Region in which WARDA, IITA and a number of NARSs will participate. The Inland Valley programme is carried out by a consortium of various organizations. WARDA, IITA and several NARSs participate in the project, whereas the WSC and the WAU play a stimulating role. WARDA concentrates on the Cote d'Ivoire and Sierra Leone. IITA concentrates on Nigeria, Benin and Cameroon. The objectives of this phase are to: (1) complete an initial characterization and classification of the major rice-growing agro-ecosystems of the upland/inland-swamp continuum environment, and to identify their extent and geographic distribution; and (2) identify for each rice-growing agro-ecosystem the factors that determine their rice production and to assess rice production potentials. During this phase, the following activities will be carried out: (i) Compilation of an inventory of secondary information on climatic parameters -such as total rainfall, rainfall distribution and reliability and evapotranspiration- plus data on landform, lithography, soils, topography, and other physical determinants of ecosystems and rice-growing potential. Sources to be consulted include: NARSs, WARDA, FAO, IITA, IIRI, CIAT, ORSTOM, CIRAD, CIEH and the Winand Staring Centre; (ii) Review of secondary sources on the human factors in the rice ecosystems in West Africa to delineate key patterns in cropping systems, access to land and labour, population density and dynamics and other elements. Similar data sources as those listed under activity 1 will be investigated. The most current approaches to incorporate cropping systems and socioeconomic variables in agro-ecological zoning of rice systems will be identified in close cooperation with IITA, IRRI and CIAT; (iii) Initial characterization of broad rice-growing agro-ecosystems in West Africa through

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the integration of the data identified in the first two activities (iv) Development of criteria for and the selection of key sites representing the major rice-growing agro-ecosystems (v) Identification of major gaps in the secondary data available from activities (i) and (ii) and development of workplans to complete the required data set and synthesis during the main project phase (vi) Formulation of activities for coordinated research in collaboration with NARSs during the main phase of the project in the selected key sites.

Contact in research organization:

W. Andriessen; Winand Staring Centre; PO Box 125; 6700 AC Wageningen; Netherlands; tel +31-8370 19100; fax +31-8370 24812 West African Rice Association (WARDA); 01 BP 2551; Bouaké; Cote d'Ivoire Wageningen Agricultural University; Department of Tropical Crop Science; PO Box 341; 6700 AH Wageningen; Netherlands; tel +31-8370 83072; fax +31-8370 84449 IITA; Oyo State; PMB 5320; Ibadan; Nigeria

Record number (MFN): 05612

Official project title: RECHERCHE APPLIQUEE EN MILIEU REEL (RAMR).

Implementing agency: KIT (Royal Tropical Institute).

Start date: 1986-03-00. End date: 1994-03-31.

Country/countries: Benin;

Statement of objectives/abstract:

The aim of the project is to contribute to agricultural development by increasing the efficiency of the national agricultural research system. The project focuses on integration of farming systems research and development (FSR&D) in the Direction de la Recherche Agronomique (DRA), Benin. It stresses farmer participation in priority setting and carrying out on-farm adaptive research. Linkages between the agricultural research system and the extension system are reinforced during the project. The Royal Tropical Institute (KIT), and the International Institute of Tropical Agriculture (IITA) provide technical expertise. The project has a national and a provincial components. Within DRA the national component is coordinated by the Cellule Centrale Recherche-Developpement. The activities at provincial level are carried out in the Mono Province. The first phase of the project was carried out from 1986-1990 and concentrated on analysis of the situation. The mid-term evaluation assessed the progress made with methodology and linkage with extension services. It was recommended to further integrate the research methodology in the national system in phase 2 of the project. The objectives of the present phase of the project are as follows: (1) At national level: (i) develop recommendations for incorporation of OFAR in the national research programmes, (ii) develop methods and procedures for on-farm adaptive research by local research institutions, and (iii) enhance the national capacity for planning and execution of adaptive on-farm research; and (2) At provincial level: (i) inventory of constraints and potential for agricultural development (crop and animal production), (ii) identification of farming system, and (iii) enhance the capacity for OFAR at provincial level. The experiences of the project have been discussed in a regional workshop in 1990. It

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was concluded that the developed methodology was successful and should serve as an example for reorganizing the national agricultural research system in Benin nation-wide. The World Bank supports the recommendations. Conclusions of the workshop are published by the project.

Contact in research organization:

Dr. L. Sprey; V. Koudokpon; Projet Recherche Appliquée en Milieu Rural (RAMR); B.P. 884; Cotonou; Benin; tel: (09)-229-300264; telex: 5214 waluden
Direction de la Recherche Agronomique (DRA), Benin
B. Huysman; Royal Tropical Institute (KIT); Mauritskade 63; 1092 AD Amsterdam; The Netherlands

Record number (MFN): 05624

Official project title: NATIONAL SOIL REFERENCE COLLECTIONS (NASREC II).

Implementing agency: ISRIC (International Soil Reference and Information Centre).

Start date: 1990-00-00. End date: 1993-00-00.

Country/countries: Africa; Egypt; Ghana; Kenya; Mali; Nigeria; Tunisia; United Republic of Tanzania; Sudan; Zambia;

Statement of objectives/abstract:

In many developing countries soils are insufficiently classified regarding their geographical distribution, characteristics, potential and constraints for agricultural use, water management and ecological significance regarding erosion and pollution. In view of the urgent need to increase agricultural production in many developing countries, this information should be regarded as a necessary pre-requisite. ISRIC has been working to realize a world collection of soils since 1966. Recently ISRIC has been requested by soil institutes in nearly 20 countries (under which the 9 countries in Africa where this record refers to) to support the establishment of National Soil Reference collections (NASRECs). The objectives of the project are as follows: (1) training of students in soil science at university and college levels; (2) guidance of staff of national institutions for soil survey, soil classification and land evaluation in soil classification; (3) demonstrating the differences in soil characteristics and their limitations and potentials as an input for planning; (4) demonstrating farmers on the importance of soil types and effects on land use, and (5) promotion of awareness among the general public, including town populations, on the local soil as a definite national resource that merits careful conservation and management. The project officer at ISRIC will operate in close contact with staff of other soil institutes in the Netherlands, with scientific staff of UN organizations, especially UNEP, and with officers of the participating institutions in the developing countries. The project activities can be divided among the following phases: (1) Data-collection phase--The collection of information is from primary and secondary sources. The information to be collected is related to the soil, environment and land use. Environmental data normally will embrace site information on climate, landform, geology, vegetation, land-use, hydrology, etc. The collection of information is done in a standardized way according to internationally accepted guidelines of FAO. Country specific interests and problems should be given due attention; (2) The preparation phase--The preparation (analyses) of soil monolith

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samples and information is normally executed in the NSI (National Soil Institute) or institution which houses the collection. The conservation and preparation of soils in the form of monoliths is part of the project. Routine chemical and physical analyses will be executed by the soil laboratory of the country. Special analyses such as mineralogy and micromorphology, depending on the type of soil and interest of the participating institutes, will be carried out by ISRIC; and (3) Dissemination of information--The display of the soils in the form of monoliths and a selected part of the information is realized in an easy accessible exhibition hall in association with a soil institute, an university department, or a natural history museum. Handling of the collected information involves storing and retrieval; both aspects being of equal importance for the future users. Minimum requirements for the users of the collected information is the availability of: (i) a complete set of soil and site descriptions and analytical data, (ii) a simplified set of soil data, and (iii) data sets on the location, classification, landform and land-use connected to the displayed monoliths, in an illustrative way.

Contact in research organization:

International Soil Reference and Information Centre (ISRIC); P.O. Box 353; 6700 AJ Wageningen; The Netherlands; tel: +31-8370-19063; fax: +31-8370-24460; telex: via IAC: 45888 intas nl

Record number (MFN): 05626

Official project title: THE ROLE OF PLANT RESIDUES IN SOIL MANAGEMENT FOR FOOD PRODUCTION IN THE HUMID TROPICS.

Implementing agency: AB (Research Institute for Agrobiolgy and Soil Fertility).

Start date: 1991-00-00. End date: 1993-00-00.

Country/countries: Nigeria;

Statement of objectives/abstract:

In many areas in Africa the sustainability of traditional agricultural systems is affected. The fallow-period used with these systems ensured maintenance of soil fertility. Increased utilization of arable land has shortened or disappeared fallow-periods. To maintain soil fertility under these more intensive conditions requires supplementing of soil-nutrients, either from artificial fertilizer or organic fertilizer. Plant residues provide nutrients. The soil structure, specified by the amount of organic components, is also important for the water economy and the retention capacity for nutritional components. The more intensive use of the soil is often combined with deforestation. In humid areas, this increases the exposure of soils to erosion and induces leaching of fertile top layers with a relative high organic component. This forms a major threat for the sustainability of the agriculture. IITA will provide the facilities and scientific personnel. The Institute for Soil Fertility (IB) provides a researcher to be based in Nigeria. IB is responsible for scientific backstopping and financial management. The objectives of the project are the following: (1) increase sustainability of production systems in West and Central Africa by optimizing management of soils and the use of nutritional components; (2) obtain knowledge on the processes of break-down of plant residues in

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humid areas with acid soils; and (3) training of researchers from developing countries in soil fertility research. The research focuses on the process of transformation of plant residues into nutritional components. Specific components are: (1) microbiological aspects and the role of soil fauna in this process; (2) changes in the amount of organic components in the soil and the related chemico-physical soil quality; and (3) availability and use of nutritional components especially nitrogen.

Contact in research organization:

AB-DLO (Research Institute for Agrobiolgy and Soil Fertility) formerly IB-DLO;
P.O. Box 30003; 9250 RA Haren (Gr.); The Netherlands; tel: +31-50-337777; fax:
+31-50-337291; email @ IB.AGRO.NL; telex: 53990 ibhm nl; IITA (International
Institute of Tropical Agriculture); Oyo Road PMB 5320; Ibadan; Nigeria; tel:
(234-22)400-300 to 319; fax: 874-1772276. telex: 31417 or 31159 tripb ng email:
Dailcom 157:CGI072 Internet IITA @CGET.COM

Record number (MFN): 05627

Official project title: APPUI EN RECHERCHES AGROFORESTIERES.

Implementing agency: SNV (Association Neerlandaise d'Assistance au Developpement).

Start date: 1990-00-00. End date: 1994-00-00.

Country/countries: Cameroon;

Statement of objectives/abstract:

Deforestation is a major threat for the sustainability of agricultural production of the rural population in North-Cameroon. Especially erosion of the thin layer of top-soil may occur because of deforestation. The objective of the project is to enhance sustainability of agricultural production of the rural population especially in Maroua region in the Extreme-Nord by application of applied agro-forestry research. The Institut de Recherche Agronomique (IRA) is part of the Ministry of Scientific Research Cameroon. The Forestry Section of IRA carries out basic and applied (agro)-forestry research. The IRA/Forestry Section operates in the Extreme-Nord, the Northern Province of Adamzoua. Activities concentrate on the Northern Province and the Extreme-Nord, especially the cotton zone. In the 7th Zone of Cameroon the IRA has stations in Maroua, Garoua and Ngaoundere. The Director of the IRA/Forestry Section in Garoua coordinates the programme, which includes activities in Maroua and Garoua. The SNV focuses its activities especially at disseminating research results of IRA. Research activities: (i) test a large number of exotic and indigenous tree species; (ii) make an inventory of constraints in sylvo-pastoral systems in the tree savanna; and (iii) test anti-erosive measures.

Contact in research organization:

SNV Cameroun; B.P. 193; Bertoua; B.P. 1239 Yaounde; tel. 222772; B.P. 491
Maroua; tel.: 291117; Institut de Recherche Agronomique (IRA); B.P. 2123
Yaounde; Cameroon

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Record number (MFN): 05631

Official project title: PROJECTO AGRO-SILVO-PASTORIL DO LESTE BAFATA (I + II).

Implementing agency: SNV (Netherlands Development Cooperation).

Start date: 1991-07-01. End date: 1997-07-01.

Country/countries: Guinea-Bissau;

Statement of objectives/abstract:

The project focuses on two regions of the Eastern province of Guinea-Bissau, Bafata and Gabu. In the Region of Bafata the project operates in Contuboeil and Cosse; in the Gabu Region in Pirada and Pitche. The Eastern Province is the driest part of the country with annual rainfall varying between 1100 mm in Pirada up to 1400 mm in Cosse. In the last decennia rainfall figures have shown an alarming decrease. The Ministerio de Desenvolvimento Rural e Agricultura (MDRA) carries out the Integrated Village Land Management (IVLM)-programme. Within this framework the Forest Department concentrates on village forest management. The objective of the project is to reduce environmental degradation in the project area through integrated and sustainable management of village territories including natural village forests and rangelands. At provincial level, a multi-disciplinary Technical Committee (in which the SNV are represented) will work out proposals, carry out preliminary studies at village level and organize workshops and training seminars on IVLM. At regional level, the project will continue to stimulate and organize multi-disciplinary collaboration in village extension work. Specific project activities are: (a) Acquire knowledge and experience about forest management; (b) Transfer knowledge, means and responsibility for forest management to the rural population; and (c) Strengthen the capacity of the forest service in extension methods, especially the GRAAP-methodology. The project consists of 5 subprogrammes: (1) Development of integrated village land management (IVLM); (2) Development of Extension Methodology; (3) The village programme: (a) village forest and rangeland management (fire control) activities, (b) Tree planting, agroforestry plantations and nursery production (fruit trees), and (c) Support to women group activities especially orchard production; (4) Institutional development (training, management and publicity); and (5) Applied research on fruit trees, cashew nuts, animal husbandry.

Contact in research organization:

SNV Guinea-Bissau; rua Dr Severino de Pina (Rua 10) nor 33; Apartado 68; 1031 Bissau Coder; telex 224 coop hol bl; tel.: 201154 Ministerio de Desenvolvimento Rural e Agricultura (MDRA); Direccao General dos Servicos Florestais e Caca; apartado 71/1001 Bissau Coder; Guinea-Bissau

Record number (MFN): 05648

Official project title: DEVELOPMENT AND PROMOTION OF APPROPRIATE TOOLS AND IMPLEMENT FOR THE 'AGRICULTURAL AND FOOD PROCESSING SECTOR' (INTERIM PHASE) (ILO/89/INT/M03).

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Implementing agency: ILO (International Labour Office).

Start date: 1992-10-01. End date: 1993-03-01.

Country/countries: Africa; Benin; Burkina Faso; United Republic of Tanzania;

Statement of objectives/abstract:

The objectives of the project are: (1) to strengthen the national capacity in selected African countries for formulating, implementing and evaluating of programmes and projects in the area of production and distribution of agricultural tools and equipment for small food processing companies; (2) to improve the technical information flow for small-scale metal processing industries; and (3) to increase the R&D capacity for small metal processing industries. Specific project activities are: (a) develop a conceptual framework for the start of 'country strategy papers'; (b) selection of two countries where the framework will be tested; (c) identify relevant activities and studies in these two countries; (d) assess the collected information and develop a workplan; (e) assess the technical, social, and economic (marketing) feasibility of cashew nuts and oil processing equipment in Benin, a waterpump in Burkina Faso, agricultural tools in Mbulu district in Tanzania; and (f) technical assistance to the Moshi Common Facility Centre in Tanzania for the production of agricultural machinery and food processing equipment.

Contact in research organization:

ILO Entrepreneurship and Management Development Branch (ENT/MAN); 4 Route des
M... 11 Geneva; 22 Switzerland; tel: (+22) 79961111; fax: (+22)
7.

Record number (MFN): 0:649

Official project title: INIBAP/TAXONOMIC LINGUISTIC STUDY OF PLANTAIN CULTIVARS IN AFRICA.

Implementing agency: INIEAP.

Start date: 1991-03-01. End date: 1993-05-01.

Country/countries: Africa; Nigeria; Cameroon; Gabon; France; Burundi; Zaire;

Statement of objectives/abstract:

Plantain is widely grown in Africa by small farmers. It serves in various parts as one of the major food crops. One of the diseases that poses serious threats to the production of plantain is Black Sigatoka (BS). Various research efforts to develop resistant varieties have failed to produce locally acceptable cultivars. A problem is the cross-fertilization. The genetic base of plantain can be increased by collecting cultivars in Africa and contribute to solving this problem. Linguistic methodologies are used to trace the introduction and identify different cultivars. The objective of this project is to identify cultivars with the potential to produce locally adapted BS-resistant descendants. Specific project activities are as follows: (i) taxonomic training at ITTA (Nigeria); (ii) identifying centres of diversity of 10 to 15 known cultivars of plantain by taxonomic linguistic study in a few selected areas in Gabon, Cameroun, Zaire and Burundi; and (iii) collecting plant material and testing in the plantain research programme of IITA.

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Contact in research organization:

INIBAP (International Network for the Improvement of Bananas and Plantain); Parc
Scientific Agropolis Montpellier; Bat 7; Bd de la Lironde; 34980
Montpellier-sur-Lez; France; tel: +33-67-611302; fax: +33-67610334; INIBAP
Nigeria c/o IITA-ONNE; Oyo Road PMB 5320; Ibadan Nigeria; telex: (905)31417
INIBAP-Burundi; P.O. Box 170; Gitega; Burundi; Telex: (903)3001

Record number (MFN): 05654

Official project title: CENTRE D'ETUDE DE L'ENVIRONNEMENT ET DE DEVELOPPEMENT AU CAMEROUN.

Implementing agency: State University Leiden, Centre for Environmental Science.

Start date: 1992-01-01. End date: 1994-12-31.

Country/countries: Cameroon;

Statement of objectives/abstract:

The 'Centre d'Etude l'Environnement et du Developpement' (CEDC) in Maroua was established in 1989 by merging of the fieldwork stations of the 'Centre Universaire de Dschang' (CUD), of the Agricultural University of Cameroun. The CEDC is the central point in the cooperation between the Centre for Environmental Science of the State University Leiden (CML) and the CUD, which is formalized in an agreement between the State University Leiden and the Cameroun Ministry of Higher Education (MESIRES). The CEDC takes care of a part of the practical education of the BSc training forestry and Agricultural Sociology of the CUD and gives lectures on ad-hoc basis to the CUD. The objectives of the project are: (1) Strengthen the educational and research capacity in the area of environment and development; (2) Improve the environmental policy of Cameroun by training of staff with (practical) knowledge in the area of environment and development; (3) Stimulate projects with direct practical relevancy for sustainable development and management of the natural richness; and (4) Establish a network of environmental expertise in Cameroun and of contacts with other networks. Institutional setting: The Ministry of Enseignement Superieure de l'Informatique et de la Recherche Scientifique (MESIRES) is the responsible authority. MESIRES has transferred the coordination to the CUD. The State University Leiden cooperates with the CUD. Specific project activities are: (a) education; (b) staff training; (c) curriculum development (test courses on Environment and Development); (d) spread the research results and establish contacts; and (e) strengthen infrastructure CEDC in Maroua.

Contact in research organization:

State University Leiden; Centre for Environmental Science; P.O. Box 9518; 2300
RA Leiden; The Netherlands; tel: +31-(0)71-277686; fax: +31-(0)-71-277496

Record number (MFN): 05658

Official project title: TRADITIONAL TECHNIQUES OF MICRO CLIMATE IMPROVEMENT (TTMI), PHASE

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II.

Implementing agency: WAU (Wageningen Agricultural University).

Start date: 1991-10-01. End date: 1995-10-01.

Country/countries: Africa; Kenya; Sudan; Nigeria; United Republic of Tanzania;

Statement of objectives/abstract:

An important element for capacity building in NARSs is an effective education-system.

PhD-research contributes to the education and research efforts. Often PhD-research is carried out to a large extent in countries outside of the research environment of the PhD-student concerned. This project explores the benefits of emphasis of PhD-research in the local situation, in combination with technical backstopping, local supervision and ensuring availability of basic research equipment. The themes of the research have micro-climatic research as a common denominator but vary between countries. The project is coordinated by Wageningen Agricultural University and collaborates with Universities in Kenya, Tanzania, Sudan and Nigeria. The objectives of the project are to: (1) strengthen the national agricultural research capacity in the area of micro climatology in selected African countries; and (2) institutionalize practical PhD approach in African Universities and finalise the development of a model for capacity building. Specific project activities are the following:

Executing agencies: (a) identify research topics with small scale producers and supporting agricultural organizations and services; (b) identify 7 PhD candidates, MSc candidates and local project staff in Nigeria, Sudan, Kenya and Tanzania; (c) establish and assess research proposals by local staff project responsible and support commission; (d) supply of basic research equipment; (e) execute 9 coordinating, 3 technical, 4 scientific and 3 institutionally aimed backstopping missions; and (f) organize a workshop in 1994 in Nairobi. PhD-themes: (1) Sudan: (a) underground storage of sorghum; and (b) desertification / secondary sand source area / shelterbelts; (2) Kenya: (a) effects of microclimate, soil conservation and rooting pattern of alley cropping on sloping lands, for sustainable land use in Machakos; (b) an investigation of the influence of mulching and agroforestry systems on the microclimate conditions affecting soil moisture for maize/beans intercrop; (3) Nigeria—in cooperation with the Savannah Forestry Research Station in Samaru and the Shelterbelt Research Institute (SRI) in Kano executes the university research to methods to stop desertification on Shelterbelts at Yambawa and on soil protection aspects of intercropping with leguminous crops; and (4) Tanzania—on grain storage.

Contact in research organization:

WAU Department of Meteorology; Duivendaal 2; 6701 AP Wageningen; The Netherlands; tel: +31-8370-83981/83332; fax: +31-8370-82611 University of Nairobi: Kenya, Departments of Crop Science, Soil Science, Meteorology, Physics, Botany and Geography University of Gezira, Sudan, Departments of Environmental Science and Natural Science, Agricultural Engineering and Soil Science University of Dar es Salaam; Tanzania: Department of Agricultural Physics Ahmadu Bello University; Zaria; Nigeria

Record number (MFN): 05661

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Official project title: PROGRAMME OF SUPPORT TO PROMOTE GRASSROOTS PARTICIPATORY RURAL DEVELOPMENT IN KADJEBI-DISTRICT.

Implementing agency: SNV (Netherlands Development Organization).

Start date: 1991-00-00. End date: 1994-00-00.

Country/countries: Ghana;

Statement of objectives/abstract:

The Volta region is one of the least developed areas in Ghana. Previously the cacao production ensured reasonable income. The substantial decrease of international cacao prices and unfavourable government policies reduced the profitability of the cacao production. The Volta region has received little attention from donors and the government in the past. This project concerns the Kadjebi district, that belongs to one of the most underdeveloped districts in Ghana. The objectives of the project are: (a) identify bottlenecks for local development; (b) develop participatory programmes of activities to solve these problems; (c) improve management capacity for district development; and (d) improve district infrastructure. The ACHD (African Centre for Human Development) is the executing agency. The Programme Implementation Committee (PIC) consists of members of the target group and ACHD. A Technical Support Team (TST) is formed (SNV, ACHD and Ghanaian experts with expertise in data collection, planning, credit, financial management, etc. Project activities are the following: (a) socio-economic research and recording it in a database for the district; (b) training of cooperative production groups; (c) functional alfabetisation; (d) support to credit system; (e) support of community development projects; and (f) strengthening management capacity of the districts teams and the development organization in the districts.

Contact in research organization:

Netherlands Development Organization (SNV) Ghana; P.O. Box 3248; Accra; tel: 77 6198; ACHD (African Centre for Human Development); P.O. Box 0237; OSU-Accra; Ghana; telex: 2340 MNJGH

Record number (MFN): 05662

Official project title: SADAGC (SECURITE ALIMENTAIRE DURABLE EN AFRIQUE DE L'OUEST CENTRALE).

Implementing agency: ECDPM (European Centre for Development Policy Management).

Start date: 1992-00-00. End date: 1995-00-00.

Country/countries: Africa; Burkina Faso; Ghana; Côte d'Ivoire; Togo;

Statement of objectives/abstract:

The project consists of 5 research projects in the field of food security on macro, meso as well as micro levels. The objectives of the project are: (1) to enhance interaction between policy, research and users in the area of food security in the participating African countries, in order to enable policy makers to formulate a food security policy based on facts and figures; and (2) to strengthen the (existing) research capacity in the participating African countries. The activities are

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executed by research institutions in Burkina Faso, Ghana, Cote d'Ivoire, Togo and The Netherlands, organized in three networks. In each country, a task force is established of researchers and policy makers. The managers of the three networks are responsible for the overall management of the programme. The ECDPM care of the secretarial tasks of the three networks. The following are specific topics of the research programme: (1) decision making processes within production system at farmers level; (2) grain trade and marketing with special attention to the influence of the border between Ghana and Burkina Faso; (3) influence of the current infrastructure on the production as well as on trade; (4) macro-economic changes and the influence on consumption patterns; and (5) the relations between research and policy. Specific project activities are as follows: (a) expand and strengthen the participating networks and organize the exchange between the networks; and (b) organize policy dialogues on food security at regional, provincial, national and at international levels.

Contact in research organization:

European Centre for Development Policy Management (ECDPM); O.L. Vrouweplein 21;
6211 HE Maastricht; tel: +31-43 255121

Record number (MFN): 05665

Official project title: GERMPASM CONSERVATION AND IMPROVEMENT OF PARKIA BILOBOSA (JACQ)
BENTH FOR MULTIPURPOSE USE.

Implementing agency: University of Wales, Bangor; CNSF, Ouagadougou, Burkina Faso; FRIN,
Nigeria; SAFS, Nancy, France; WAU; The Netherlands.

Start date: 1993-02-00. End date: 1996-00-00.

Country/countries: Africa; Burkina Faso; Nigeria;

Statement of objectives/abstract:

Parkia biglobosa is a leguminous tree that grows in semi-arid areas in West Africa. The pods are very nutritious, because they contain proteins and sugars and are used for baby-food. The bast is medically purposes. The objectives of the project are: (1) to collect and preserve germplasm of Parkia biglobosa, to obtain further basic knowledge through study of gene-flow; (2) to study vegetative propagation, nitrogen fixation and mycorrhiza in Parkia biglobosa, to assess socio-economic significance. The specific project activities are as follows: (a) seed collection in the region and improvement of cold storage, establishment of gene conservation sites in protected areas; (b) evaluation and conservation studies; (c) study of population genetics of Parkia a.o. electrophoretically; (d) study of vegetative propagation a.o. grafting; (e) population status; and (f) root network studies to investigate nitrogen fixation status and mycorrhizal association.

Contact in research organization:

Prof. dr L.J.G. van der Maesen; Dept. of Plant Taxonomy, Agricultural
University; P.O. Box 8010; 6700 ED Wageningen; The Netherlands; tel:
+31-8370-83170; fax: +31-8370-84917; Field Strategy and Management (FSMT) headed
by Dr Zwege Teklehaimanot; University of Wales; Bangor; M. Abdou-Salam Ouedraogo;

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c/o FAO, Rome, Italy (from February 1993) CNSF; Ouagadougou; Burkina Faso FRIN
Nigeria SAFS; Nancy, France

Record number (MFN): 05666

Official project title: PROJET POURSUITE DES ETUDES EN MILIEU REEL (PEMR).

Implementing agency: SNV (Association Neerlandaise d'Assistance au Developpement).
Start date: 1991-00-00. End date: 1994-00-00.
Country/countries: Benin;

Statement of objectives/abstract:

The project 'Projet poursuite des etudes en milieu reel' (PEMR) is aimed at the improvement of the socio-economic conditions of the rural population, in the villages and the work and health conditions while stimulating the population to take charge of their development. This is stimulated by increasing farmer participation in the development process while optimizing available resources, local knowledge, infrastructure and services. The project emphasizes local organizational capacity to mobilize the available resources and carry out research on the additionally required resources. The approach of the project is process-oriented and consists initially of the following elements: (a) technical interventions to improve agricultural production; (b) development of human resources by mobilisation and enhancing organizations in villages, 'leadership' building; and (c) support functional groups by sensibilisation, alphabetization, training in book-keeping, supporting services, research on natural resources.

Contact in research organization:

Projet PEMR; B.P. 49; Dogbo, Rep. du Benin; tel: 463182 SNV Benin; B.P. 1048; Cotonou; Benin

Record number (MFN): 05671

Official project title: TRADITIONAL AND INDUSTRIAL FERMENTATION OF MAIZE.

Implementing agency: WAU (Wageningen Agricultural University).
Start date: 1989-00-00. End date: 1993-00-00.
Country/countries: Benin;

Statement of objectives/abstract:

The project objectives are the following: (1) Compare the traditional manufacturing process of mawze (a fermented maize food) with small-scale commercial processes; and (2) Develop starter cultures for maize fermentation. The research programme is part of the inter-university link of WAU and University of Utrecht with the Agricultural Faculty of the University of Benin. The project activities are as follows: (a) carry out a survey to assess the use of maize and other cereals and the processing technologies; (b) carry out a number of chemical, physical and microbiological

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analyses to compare commercial products; and (c) develop starter organisms to control the fermentative process.

Contact in research organization:

Dr ir M.J.R. Nout; Department of Food Science (WAU); Bornsesteeg 2; 6703 HD Wageningen; The Netherlands
D.J. Hounhouigan; Faculte des Sciences Agronomiques; Universite Nationale du Benin; B.P. 526; Cotonou; Republique de Benin

Record number (MFN): 05672

Official project title: PROJET PUIITS ARTISANAUX.

Implementing agency: SNV (Association Neerlandaise d'Assistance au Developpement).

Start date: 1990-00-00. End date: 1993-12-31.

Country/countries: Benin;

Statement of objectives/abstract:

The project 'Puits Artisanaux' is executed in the Atacora and Borgou region in Benin since 1990. Since the formulation of the project (February 1989) a number of changes have influenced the institutional setting of the project. The strategy has been adjusted and animation and instruction have become more important in the project. The objectives of the project: (1) to contribute to a sustainable and effective improvement of the conditions of life and of the health of the poorest groups of the rural population of the provinces of Atacora and Borgou; (2) to identify and support activities aimed at the improvement of the sanitary circumstances of the rural population by a better drinking water supply and other measures in the field of health care; and (3) to identify and support the income generating activities that proceed from a better drinking water supply. At national level the project collaborates with 'Ministere du Plan et de la Restructuration Economique'. At the Departmental/Prefecture levels the 'Comite de Suivi et de Reference' is established, consisting of the Ministry for Regional Development, the service or ministry responsible for drinking water supply and the SNV (Netherlands Development Organization). At the local/sous-prefecture levels 'X de gestion et d'execution' are responsible for the maintenance and hygiene of the wells. The activities of the project are the following: (i) building of wells, (ii) hydro-geological research before the building, (iii) water quality tests, and (iv) animation and instruction.

Contact in research organization:

SNV Benin; B.P. 1048; Cotonou; Benin

Record number (MFN): 05684

Official project title: URBAN AGRICULTURE IN AFRICA.

Implementing agency: Institut fuer Sozialoekonomie der Agrarentwicklung der Technischen Universitaet Berlin.

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Start date: 1992-01-01. End date: 1993-12-31.

Country/countries: Africa; Zaire;

Statement of objectives/abstract:

Presentation of the signification of urban agriculture in African large towns and mega-towns; aspects of property rights in land and of the politics of urban administration; existence and non-existence of labour cooperation; ecological and nutritional aspects; economic aspects; forms of marketing.

Contact in research organization:

Streiffeler, F.

Record number (MFN): 05688

Official project title: INVESTIGATIONS ON THE DIVERSITY OF RAIN AND CLOUD FORESTS IN RWANDA AND ZAIRE.

Implementing agency: Botanisches Institut der Universitaet Bonn, Abt. Systematik und Morphologie.

Start date: 1988-01-01. End date: 1994-12-31.

Country/countries: Africa; Rwanda; Zaire;

Contact in research organization:

Fischer, E.

Record number (MFN): 05689

Official project title: (A) MOLECULAR BIOLOGY OF THE INTERACTION(S) BETWEEN YAM (DIOSCOREA SPEC.) AND THE FUNGUS COLLETOTRICHUM GLOEOSPORIOIDES; (B) ISOLATION OF FUNGAL DEFENCE GENES FROM YAMS; (C) DNA FINGERPRINTING OF THE YAM GENOME.

Implementing agency: Institut fuer Pflanzliche Molekularbiologie, Fachbereich Biologie der Universitaet Frankfurt.

Start date: 1988-01-01.

Country/countries: Global; Nigeria; Jamaica; Costa Rica;

Statement of objectives/abstract:

The interaction between the pathogenic fungus and its host plant has been characterized by Northern analyses and the isolation of defence genes. The genome of yams species is characterized by fingerprint and RAPD techniques.

Contact in research organization:

Kahl, G.

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Record number (MFN): 05691

Official project title: GENOME ANALYSIS OF BANANA AND PLANTAIN (MUSA SPP.) AND THE BLACK SIGATOKA FUNGUS MYCOSPHAERELLA FUJENSIS.

Implementing agency: Institut fuer Pflanzliche Molekularbiologie, Fachbereich Biologie der Universitaet Frankfurt.

Start date: 1990-01-01.

Country/countries: Global; Nigeria; Australia;

Statement of objectives/abstract:

The genome of all banana and plantain cultivars has been characterized with DNA fingerprinting and RAPD techniques. Both techniques are also applied to detect somaclonal variations and mutations. The genome of the pathogen Mycosphaerella will be screened for the distribution of repetitive sequences.

Contact in research organization:

Kahl, G.

Record number (MFN): 05703

Official project title: DEVELOPMENT OF SIMPLE METHODS AND TECHNIQUES FOR THE DETECTION, QUANTIFICATION AND IDENTIFICATION OF PECTOLYTIC ERWINIA SPECIES ON OR IN (LATENT INFECTION) POTATO TUBERS.

Implementing agency: Institut fuer Pflanzenpathologie und Pflanzenschutz der Universitaet Goettingen.

Start date: 1991-01-01. End date: 1993-12-31.

Country/countries: Nigeria;

Contact in research organization:

Rudolph, K.

Record number (MFN): 05705

Official project title: SUSTAINABLE USE OF NATURAL RESOURCES? CASE STUDY ON THE DYNAMICS OF LAND USE IN NORTHERN GHANA.

Implementing agency: Institut fuer Agrarökonomie der Universitaet Goettingen.

Start date: 1993-01-01. End date: 1995-12-31.

Country/countries: Ghana;

Statement of objectives/abstract:

Sustainable use has become a central issue in development. So far, there exists no

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commonly accepted methodology for the assessment of land use systems. Therefore a follow-up study will be initiated in northern Ghana in order to identify changes in the state of the natural resource base and its impact on rural population.

Contact in research organization:

Weibel, H.

Record number (MFN): 05708

Official project title: INVESTIGATIONS ON SUCCESSION AND DYNAMICS OF REGENERATION OF COMMERCIAL TREES IN THE LAMA STATE FOREST/BENIN IN THE NATURAL RANGE OF RAINGREEN FORESTS.

Implementing agency: Institut fuer Waldbau der Universitaet Goettingen, Abt. II: Waldbau der Tropen und Naturwaldforschung.

Start date: 1991-01-01.

Country/countries: Benin;

Statement of objectives/abstract:

The succession of abandoned areas formerly used in agriculture and the dynamics of tree regeneration in the tropical deciduous forests in Benin will be documented by time series. Prognosis can be used for management purposes.

Contact in research organization:

Weideli, H.-J.

Record number (MFN): 05714

Official project title: ASPECTS OF VEGETATION MANAGEMENT IN FALLOW SYSTEMS IN WEST AFRICA.

Implementing agency: Institut fuer Pflanzenbau in den Tropen und Subtropen der Universitaet Hohenheim, Fachgebiet Agrarökologie der Tropen und Subtropen.

Start date: 1986-01-01.

Country/countries: Benin;

Statement of objectives/abstract:

The spontaneous vegetation is of great importance in smallholder farming systems in Benin, on one hand as competitors with the crop plants and on the other hand as a means to maintain or restore soil fertility during fallow periods and to a certain extent also in the arable fields. A survey and field experiments have been conducted to evaluate the nature and importance of spontaneous vegetation during the cropping periods.

Contact in research organization:

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Koch, W.

Record number (MFN): 05723

Official project title: THE ECONOMIC IMPACT OF BIOLOGICAL CONTROL IN SMALLHOLDER GRAIN STORAGE: EXAMPLE FROM TOGO.

Implementing agency: Institut fuer Agrar- und Sozialoekonomie in den Tropen und Subtropen der Universitaet Hohenheim, Fachgebiet Landwirtschaftliche Betriebslehre in den Tropen und Subtropen.

Start date: 1991-01-01. End date: 1994-12-31.

Country/countries: Togo;

Statement of objectives/abstract:

The paper deals with the quantification of yield reductions in traditional small-holder storage with and/or without biological pest control. Coming from this, the impact of biological pest control on income, liquidity, supply and risk behaviour of the farming system shall be investigated for the affected farms, families and households. Furthermore aspects of efficiency of the biological pest control shall be integrated into a model still to be developed.

Contact in research organization:

Doppler, W.

Record number (MFN): 05725

Official project title: SOCIO-ECONOMIC IMPACTS OF CASSAVA POSTHARVEST TECHNOLOGIES ON SMALLHOLDINGS IN SOUTH EAST NIGERIA.

Implementing agency: Institut fuer Agrar- und Sozialoekonomie in den Tropen und Subtropen der Universitaet Hohenheim, Fachgebiet Landwirtschaftliche Betriebslehre in den Tropen und Subtropen.

Start date: 1992-01-01. End date: 1995-12-31.

Country/countries: Nigeria;

Statement of objectives/abstract:

Analysis of the impacts of new cassava postharvest technologies on output, income, labour-saving and productivity. Furthermore the social and economic factors which determine adoption and sustained use shall be analysed. Moreover, other benefits and costs of these technologies are examined.

Contact in research organization:

Doppler, W.

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Record number (MFN): 05726

Official project title: CHANGES IN LABOUR ALLOCATION OF FARM HOUSEHOLDS IN WEST AFRICA.

Implementing agency: Institut fuer Agrar- und Sozialoekonomie in den Tropen und Subtropen
der Universitaet Hohenheim, Fachgebiet Landwirtschaftliche
Betriebslehre in den Tropen und Subtropen.

Start date: 1991-01-01. End date: 1994-12-31.

Country/countries: Benin;

Statement of objectives/abstract:

In this paper the use of labour in small-holder farming systems in the province
Atlantique/Benin is analysed. The impact of size, composition, outfit and different
degrees of self-supply on the use of labour of the different household members shall
be investigated. The natural, socio-economic or institutional restrictions of the
use of labour are considered.

Contact in research organization:

Doppler, W.

Record number (MFN): 05729

Official project title: PROBLEM-ORIENTED ANALYSIS OF SOCIO-CULTURAL FACTORS: ANALYSIS OF
FARMERS' SITUATION IN TWO VILLAGES IN SOUTH BENIN.

Implementing agency: Institut fuer Agrarsoziologie, Landwirtschaftliche Beratung und
Angewandte Psychologie der Universitaet Hohenheim.

Start date: 1987-01-01. End date: 1993-12-31.

Country/countries: Benin;

Statement of objectives/abstract:

Interactions between socio-cultural factors and technological change/adoption of
innovations are presented and discussed. Technological changes are interpreted as
parts and results of social changes. Following subjects have been selected after
discussions with villagers: land tenure, labour management marriage arrangements as
well as endogenously introduced innovations such as palm wine distillation, cisterns,
corn mills.

Contact in research organization:

Albrecht, H.

Record number (MFN): 05735

Official project title: DECONTAMINATION OF MYCOTOXIN-CONTAINING FOODS AND FEEDS WITH
BACTERIA OR WITH BACTERIAL METABOLITES.

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Implementing agency: Institut fuer Hygiene und Toxikologie der Bundesforschungsanstalt
Ernaehrung, Karlsruhe.

Start date: 1992-01-01. End date: 1995-12-31.

Country/countries: Ghana;

Contact in research organization:
Holzapfel, W.H.

Record number (MFN): 05739

Official project title: FACTORS INFLUENCING THE OCCURRENCE OF YAM TUBER ROTS IN WEST
AFRICA.

Implementing agency: Overseas Development Administration (NRRD).

Start date: 1993-10-01. End date: 1996-03-31.

Country/countries: United Kingdom; Nigeria;

Statement of objectives/abstract:

The objectives of the project are: Phase I To survey for principal courses of yam storage rots in Kogi State, Nigeria, and to produce a report justifying further funding for Phase II. Phase II (dependent on findings of Phase I) To identify pathogens to species and rank their importance; To evaluate and assess relationship between cropping/storage practices and rotting incidence.

Contact in research organization:

Dr. L. Kenyon; Natural Resources Institute; Central Avenue; Chatham Maritime.
Chatham; Kent; ME4 4TB; United Kingdom; Tel 0634 880088; Fax 0634 880066/77;
Telex 263907/8 LDN GDr. S. Morse; The School of Development Studies; University
of East Anglia; Norwich; Norfolk; NR4 7TJ; Tel 0603 56161; Fax 0603 505262

Record number (MFN): 05745

Official project title: LOW-COST FRUIT AND VEGETABLE DRYING FOR SMALL-SCALE RURAL
ENTERPRISE DEVELOPMENT.

Implementing agency: Overseas Development Administration (NRRD).

Start date: 1992-10-01. End date: 1996-03-31.

Country/countries: United Kingdom; Africa; Ghana; Global; Pakistan;

Statement of objectives/abstract:

The objectives of the project are to promote the increased production and utilisation of fruit and vegetables through improved conservation and marketing by the smallholder/rural processors.

Contact in research organization:

Mr. W.H. Timmins; Natural Resources Institute; Central Avenue; Chatham Maritime;

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Chatham; Kent; ME4 4TB; United Kingdom; Tel 0634 880088; Fax 0634 880066/77;
Telex 263907/8 LDN G

Record number (MFN): 05748

Official project title: STRIGA RESISTANCE IN RICE.

Implementing agency: Overseas Development Administration (NRRD).

Start date: 1992-04-01. End date: 1995-03-31.

Country/countries: United Kingdom; Côte d'Ivoire;

Statement of objectives/abstract:

The project will provide facilities for experimental work on resistance to Striga in rice to be conducted by Dr. C. Riches. Using glasshouse facilities, the project will investigate potential sources of resistance to Striga species in cultivated rice species, cultivar and wild relatives.

Contact in research organization:

Dr. D.E. Padgham; Natural Resources Institute; Central Avenue; Chatham Maritime;
Chatham; Kent; ME4 4TB; United Kingdom; Tel 0634 880088; Fax 0634 880066/77;
Telex 263907/8 LDN GM; P.J. Terry; AFRIC Institute of Arable Crops Research
(IACR); Long Ashton Research Station; Bristol; BS18 9AF; United Kingdom; Tel
0272 392181; Fax 0272 394007

Record number (MFN): 05749

Official project title: EPIDEMIOLOGY AND CONTROL OF ANTHRACNOSE DISEASE OF YAM IN NIGERIA.

Implementing agency: Overseas Development Administration (NRRD).

Start date: 1992-10-01. End date: 1995-09-30.

Country/countries: United Kingdom; Nigeria;

Statement of objectives/abstract:

The wider objective of this project is to develop an understanding of the epidemiology of yam anthracnose in West Africa. The immediate objectives are: To survey anthracnose in Nigeria and relate to cropping practices. To examine the survival of anthracnose between seasons. Investigate the host range and variability of *Colletotrichum* on yam in Nigeria.

Contact in research organization:

Dr. R. Gibson; Natural Resources Institute; Central Avenue; Chatham Maritime;
Chatham; Kent; ME4 4TB; United Kingdom; Tel 0634 880088; Fax 0634 880066/77;
Telex 263907/8 LDN GD; S. Simons; Department of Agriculture; University of
Reading; Earley Gate; PO Box 236; Reading; RG6 2AT; United Kingdom; Tel 0734
875123; Fax 0734 352421; Telex 847813Dr O.A. Nwankiti; University of
Agriculture; Makurdi; PMB 2373; Makurdi; Benue State; Nigeria; West Africa; Tel

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044 33204; Telex 85304

Record number (MFN): 05755

Official project title: NUTRIENT BUDGETS IN RELATION TO THE SUSTAINABILITY OF INDIGENOUS FARMING SYSTEMS IN NORTHERN NIGERIA.

Implementing agency: Overseas Development Administration (NRRD).

Start date: 1992-10-01. End date: 1995-09-30.

Country/countries: United Kingdom; Nigeria;

Statement of objectives/abstract.

The wider objective of this project is land management for sustainable crop production in the semi-arid regions of Africa. The immediate objectives: a) Select cooperative farmers b) Identification of nutrient inputs and outputs c) Sampling and chemical analysis of inputs and outputs d) Construction of nutrient budgets e) Investigation of anomalies

Contact in research organization:

Mr. D. Jackson; Natural Resources Institute; Central Avenue; Chatham Maritime; Chatham; Kent; ME4 4TB; United Kingdom; Tel 0634 880088; Fax 0634 880066/77; Telex 263907/8 LDN GDr. B.W. Bache; Department of Geography; University of Cambridge; Downing Place; Cambridge; CB2 3EN; United Kingdom Dr. E.U. Essiet; Department of Geography; Bayero University; PMB 3011; Kano; Nigeria; West Africa; Tel 064 601280

Record number (MFN): 05757

Official project title: THE UTILISATION OF SWEET POTATO AND CASSAVA ROOT MEAL IN POULTRY DIETS.

Implementing agency: Overseas Development Administration (NRRD).

Start date: 1992-09-01. End date: 1995-08-31.

Country/countries: United Kingdom; Cameroon;

Statement of objectives/abstract:

The objectives of the project are to: demonstrate how appropriately processed local varieties of sweet potato and cassava root meal can be used in poultry diets by conducting (i) country-specific adaption trial for sweet potato, in the UK and, (ii) field trials for both commodities in Cameroon; evaluate the acceptability of root crops based poultry diets among local small scale producers and; publish a paper to promote the concepts in other countries.

Contact in research organization:

Dr. S. Panigrahi; Natural Resources Institute; Central Avenue; Chatham Maritime; Chatham; Kent; ME4 4TB; United Kingdom; Tel 0634 880088; Fax 0634 880066/77;

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Telex 263907/8 LDN G

Record number (MFN): 05767

Official project title: LOW COST CASSAVA ROOT STORAGE TECHNOLOGY - ADAPTIVE TRANSFER FROM LATIN AMERICA AND FIELD TESTING IN SUB-SAHARAN AFRICA.

Implementing agency: Overseas Development Administration (NRRD).

Start date: 1992-11-04. End date: 1996-03-30.

Country/countries: United Kingdom; Ghana;

Statement of objectives/abstract:

The objectives of the project are: To verify both technically and socio-economically the suitability of the low-cost cassava storage technology developed in Latin America for use in Ghana and to disseminate the transferred, adopted, field and market tested technology to extension officers and other interested groups, thereby improving the overall utilisation of the cassava crop and more fully satisfying the demand for indigenous cassava and cassava based products.

Contact in research organization:

Dr. R.D. Bancroft; Natural Resources Institute; Central Avenue; Chatham Maritime; Chatham; Kent; ME4 4TB; United Kingdom; Tel 0634 880088; Fax 0634 880066/77; Telex 263907/8 LDN G

Record number (MFN): 05778

Official project title: PHYTOSANITARY CONTROLS FOR AFRICAN CASSAVA MOSAIC VIRUS (ACMV).

Implementing agency: Overseas Development Administration (NRRD).

Start date: 1992-04-01. End date: 1995-03-31.

Country/countries: United Kingdom; Africa; Uganda; United Republic of Tanzania; Kenya; Zaire;

Statement of objectives/abstract:

The wider objective of the project is the substantially increased yields of cassava through control of ACMV. The immediate objectives of the project are to: evaluate effectiveness of contrasting approaches to control now being made in different parts of Uganda. assess the attitude of farmers to the new varieties and measures being advocated and the constraints on their adoption. recommend approaches for establishing sustainable cassava multiplication and dissemination systems.

Contact in research organization:

Dr. R. Gibson; Natural Resources Institute; Central Avenue; Chatham Maritime; Chatham; Kent; ME4 4TB; United Kingdom; Tel 0634 880088; Fax 0634 880066/77;

Record number (MFN): 05782

Official project title: CONTROL OF YAM ANTHRACNOSE AND OTHER YAM PESTS.

Implementing agency: Overseas Development Administration (NRRD).

Start date: 1992-09-23. End date: 1995-09-22.

Country/countries: United Kingdom; Nigeria;

Statement of objectives/abstract:

The wider objective of the project is to develop a menu of phytosanitary treatments/practices applied to minisett or seed tubers to control major yam pests and diseases. The immediate objectives of the project are to: evaluate the use of fungicide dusts applied to minisett or seed tubers; examine whether large seed tubers are a more appropriate source of minisett than medium/small ware yams. test whether hot water treatment can be used to eliminate nematodes from minisett in a low technology manner. identify alternatives to aldrin for minisett protection.

Contact in research organization:

Dr. R.W. Gibson; Natural Resources Institute; Central Avenue; Chatham Maritime; Chatham; Kent; ME4 4TB; United Kingdom; Tel 0634 880088; Fax 0634 880066/77; Telex 263907/8 LDN G

Record number (MFN): 05789

Official project title: THE PRODUCTION AND MARKETING REQUIREMENTS OF SOLAR DRIED MEAT FOR THE HUMID TROPICS.

Implementing agency: Overseas Development Administration (NRRD).

Start date: 1992-12-01. End date: 1995-03-31.

Country/countries: United Kingdom; Nigeria;

Statement of objectives/abstract:

The objectives of the project are : To determine and improve upon the shelf life of meat prepared in the arid tropics when stored in humid regions; To determine the market for dried meat in humid regions of Nigeria; To prepare dried meat in the humid zone; To test-market dned meat in a humid zone of Nigeria.

Contact in research organization:

Mr. D.E. Silverside; Natural Resources Institute; Central Avenue; Chatham Maritime; Chatham; Kent; ME4 4TB; United Kingdom; Tel 0634 880088; Fax 0634 880066/77; Telex 263907/8 LDN G

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Record number (MFN): 05792

Official project title: THE ROLE OF THE RENEWABLE NATURAL RESOURCES SECTOR IN THE GENERATION OF SUSTAINABLE LIVELIHOODS IN DEVELOPING COUNTRIES.

Implementing agency: Overseas Development Administration (NRPAD).

Start date: 1993-02-01. End date: 1993-06-01.

Country/countries: United Kingdom; Africa; Uganda; Ghana;

Statement of objectives/abstract:

The objectives of the project are to: Examine in detail the role of the RNR Sector in the process of economic development; Obtain information and data on the trends in aid allocation to the RNR sector by ODA and the reasons for the decline in support which has been witnessed since 1980; Obtain comparative information from other bilateral and multilateral aid agencies.

Contact in research organization:

Mr. A. Marter; Natural Resources Institute; Central Avenue; Chatham Maritime;
Chatham; Kent; ME4 4TB; United Kingdom; Tel 0634 880088; Fax 0634 880056/77;
Telex 263907/8 LDN G

Record number (MFN): 05797

Official project title: STRATEGIES FOR THE CONTROL OF YAM ANTHRACNOSE.

Implementing agency: Overseas Development Administration (NRRD).

Start date: 1993-04-01. End date: 1996-03-31.

Country/countries: United Kingdom; Global; Nigeria; Fiji; Trinidad and Tobago;

Statement of objectives/abstract:

The wider objective of the project is to improve control of yam anthracnose through an understanding of its epidemiology and of host plant resistance. The immediate objectives are: To investigate the pathogenicity of *Colletotrichum gloeosporioides* from yam and non-yam hosts in mixed cropping systems especially in west Africa; To study the initial stages of infection and determine the mode of inoculum transmission from seed tuber to short trips; To screen resistant yam varieties in association with IITA and identify mechanisms of resistance; To develop control strategies appropriate to small-holder farmers, especially in West Africa.

Contact in research organization:

Dr. R.W. Gibson; Natural Resources Institute; Central Avenue; Chatham Maritime;
Chatham; Kent; ME4 4TB; United Kingdom; Tel 0634 800088; Fa: 0634 880066/77;
Telex 263907/8 LDN G Dr. Sarah A. Simons; Department of Agriculture; University
of Reading; Earley Gate; Reading; Berkshire; RG6 2AT; United Kingdom; Tel 0734
xxxxxx; Fax 0734 352421

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Record number (MFN): 05798

Official project title: IDENTIFYING THE CONSTRAINTS ON LIVESTOCK PRODUCTIVITY AND LAND USE IN AFRICA BROUGHT ABOUT BY LIVESTOCK INCLUDING THE TSETSE TRANSMITTED TRYPANOSOMIASIS.

Implementing agency: Overseas Development Administration (NRRD).

Start date: 1993-09-01. End date: 1996-08-31.

Country/countries: United Kingdom; Africa; Ghana; Togo; Nigeria;

Statement of objectives/abstract:

The wider objective of the project is to identify constraints on livestock productivity, land use and development that are imposed by tsetse-transmitted trypanosomiasis and other livestock disease in the different agro-ecological zones of Africa. The immediate objectives are: To describe pest patterns of livestock development and the relationship to land use, livestock disease, disease vectors and human population changes in West Africa; To explain why these changes took place in the way, and at the rate, they did, and to see how, if at all, the tsetse-transmitted trypanosomiasis, affected those processes in each agroecological zone; To predict what might happen in the future in other areas where development is anticipated, or planned, and to advise on how best to avoid, or diminish, any adverse effects.

Contact in research organization:

Mr. R. Alsopp; Natural Resources Institute; Central Avenue; Chatham Maritime; Chatham; Kent; ME4 4TB; United Kingdom; Tel 0634 880088; Fax 0634 880066/77; Telex 263907/8 LDN GDr. D.J. Rogers/Dr. S.E. Randolph; Department of Zoology; South Parks Road; Oxford; OX1 3PS; United Kingdom; Tel 0865 271240/241; Fax 0865 310447

Record number (MFN): 05804

Official project title: NITROGEN AND THE CONTROL OF STRIGA.

Implementing agency: Overseas Development Administration (NRRD).

Start date: 1993-10-01. End date: 1996-03-31.

Country/countries: United Kingdom; Africa; Kenya; Ghana;

Statement of objectives/abstract:

The wider objective of the project is the reduction of maize and sorghum yield loss due to Striga infestation in sub-Saharan Africa. The immediate objectives are: To determine the influence on root exudate mediated Striga germination of nitrogen form and concentration; To examine the influence of nitrogen on the early development of Striga seedlings; To examine the influence of nitrogen on Striga induced photosynthetic dysfunction on maize and sorghum; To investigate the role of nitrogen application under field conditions and develop realistic Striga control strategy.

Contact in research organization:

Dr. C. Riches; Natural Resources Institute; Central Avenue; Chatham Maritime;

SPAAR Information System

Chatham; Kent; ME4 4TB; United Kingdom; Tel 0634 880088; Fax 0634 880066/77;
Telex 263907/8 LDN GDr. M.V. Press; School of Biological Sciences; Williamson
Building; University of Manchester; Oxford Road; Manchester; M13 9PL; United
Kingdom; Tel 061 275 3849; Fax 061 275 3938

Record number (MFN): 05805

Official project title: ROOT ARCHITECTURE OF SORGHUM IN RELATION TO AVOIDANCE OF A STRIGA
HARMONTHICA INFECTION.

Implementing agency: Overseas Development Administration (NRRD).

Start date: 1993-10-01. End date: 1996-03-31.

Country/countries: United Kingdom; Nigeria;

Statement of objectives/abstract:

The wider objective of the project is the reduction of sorghum yield loss due to Striga infestation in Sub-Saharan Africa. The immediate objectives are: To construct a model relating sorghum root architecture to the probability of Striga attachment; To evaluate the extent to which host root architecture can be optimised by cultural practice or choice of cultivar to prevent or delay Striga attachment; To characterise the degree of benefit the host gains from Striga avoidance in terms of improved growth and yield.

Contact in research organization:

Dr. C. Riches; Natural Resources Institute; Central Avenue; Chatham Maritime;
Chatham; Kent; ME4 4TB; United Kingdom; Tel 0634 880088; Fax 0634 880066/77;
Telex 263907/8 LDN GDr. J.D. Graves/Prof A.H. Fitter; Department of Biology; The
University of York; Heslington; York; YO1 SDD; United Kingdom; Tel 0904 432804;
Fax 0904 432860

Record number (MFN): 05812

Official project title: AFRICAN SMALL RUMINANT COLLABORATIVE RESEARCH NETWORK (SRNET).

Implementing agency: International Livestock Centre for Africa (ILCA).

Start date: 1988-07-00. End date: 1993-12-00.

Country/countries: Africa; Niger; Senegal; Ethiopia; Swaziland; Togo; Côte d'Ivoire;
Zimbabwe; Burkina Faso;

Statement of objectives/abstract:

The network has three broad operational goals; namely to (a) assist NARSs prioritize their small ruminant research and development programmes; (b) create a critical mass of NARSs scientists to enhance collaboration with ILCA and other stakeholders; and (c) strengthen NARSs small ruminants production research capacity. The specific objectives are: (i) improving general awareness of the importance of small ruminants as a basic resource for large numbers of smallholder farmers and agropastoralists

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throughout Africa; (ii) identifying constraints to increased productivity and production efficiency; (iii) defining research priorities and research strategies arising from constraint identification; (iv) encouraging national, regional and international support and funding for research and development; (v) strengthening national capabilities through training and research support; (vi) coordinating research activities to avoid repetition and duplication and thus assuring efficient resource utilization; (vii) facilitating transfer of technology to potential users; and (viii) advising national and regional organisations on latest research results and on their utilization.

Contact in research organization:

Prof. S.H.B. Lebbie; Coordinator, African Small Ruminant Collaborative Research Network; International Livestock Centre for Africa (ILCA); P.O. Box 46847; Nairobi; Kenya; Tel: (254-2) 632-066; Telex: 25747 ILCA KE; Fax: (254-2) 631-481; Steering Committee Chairman: Prof. Yenikoye Alhassane; Université Abdou Moumouni; B.P. 237/10.896; Niamey; Niger; Tel: (227) 73-27-13/14; Fax: (227) 73-36-62

Record number (MFN): 05813

Official project title: ANIMAL TRACTION RESEARCH NETWORK.

Implementing agency: International Livestock Centre for Africa (ILCA).

Start date: 1989-01-00.

Country/countries: Africa; Ethiopia; Senegal; Togo;

Statement of objectives/abstract:

The objectives of the Network are to: (a) provide technical support to national animal traction research projects for planning experiments, providing appropriate instrumentation, setting up laboratories and computers, training personnel and helping prepare reports; (b) promote interest in the adoption and potential of animal traction; and (c) seek funding for animal traction research. Implemented work and results: Three research projects have been activated with support from in-trust funds provided by the European Commission. In Ethiopia, scientists at the Institute of Agricultural Research (IAR) are conducting research to study the utilization of draught oxen for different farm activities in relation to feeding pattern, work calendar and climate. In Senegal, scientists at the Institut senegalais de recherches agricoles (ISRA) are conducting research to study the incidence of disease among working and non-working N'Dama oxen; quantifying the effects of trypanosomiasis and gastro-intestinal worm burden (*Strongyloides* sp) on work output of draught oxen; and monitoring the health, work output, lactational and reproductive performance of local draught cows on farms. In Togo, research at the Projet pour la promotion de la traction animale (PROPTA) is intended to: provide qualitative and quantitative information on the agricultural and industrial byproducts available for feeding draught animals in the region; improve methods of storing agricultural byproducts; define adequate diets for draught oxen based on locally available byproducts. A cheap and robust electronic instrument for measuring the major parameters connected with work output of draught animals has been designed. The instrument works in four modes and

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has integral rechargeable batteries which last for 40 h on one charge. The first draft of an instruction and maintenance manual has been written.

Contact in research organization:

P. Lawrence; Network Coordinator

Record number (MFN): 05846

Official project title: AGRICULTURAL MACHINERY TRAINING PROJECT FOR IRRIGATED RICE CULTIVATION.

Implementing agency: Japan International Cooperation Agency.

Start date: 1992-08-01. End date: 1997-07-31.

Country/countries: Côte d'Ivoire;

Statement of objectives/abstract:

The objective of the Project is to implement technology transfer to Cote d'Ivoire counterpart personnel in the fields of operation, maintenance and repair of agricultural machinery and cultivation of irrigated rice to promote mechanization of irrigated rice cultivation, thus contributing to increased rice production in the Republic of Cote d'Ivoire. Activities of Japanese technical cooperation through advice and guidance will be implemented in line with: 1) training instructors in methods of preparing training curriculum and training materials, and teaching methods; 2) effective operation techniques, appropriate maintenance techniques, and overhaul and repair techniques for agricultural machinery; and 3) irrigated rice cultivation. Agricultural machinery to be adopted for the technical cooperation will be tractors, power tillers, reapers, threshers and millers. The Project site is the Agricultural Mechanization Training Center, Grand-Lahou. Japanese experts will carry out technology transfer to counterpart personnel at the Agricultural Mechanization Training Center through the management of training courses held there. Counterpart personnel may study in Japan if both the Japanese and the Republic of Cote d'Ivoire sides determine that training in Japan is more effective for enhancing their skills.

Contact in research organization:

Lambert Kouassi Konan; Compagnie ivoirienne pour le développement des cultures vivrieres (CIDV); Côte d'Ivoire

Record number (MFN): 05848

Official project title: MANGROVE SWAMP RICE NETWORK (MSRN).

Implementing agency: West Africa Rice Development Association (WARDA).

Start date: 1990-00-00.

Country/countries: Africa; Gambia; Guinea; Guinea-Bissau; Nigeria; Sierra Leone; Senegal;

Statement of objectives/abstract:

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WARDA's mangrove swamp rice research program made a significant contribution to the development of improved varieties for smallholder farmers in mangrove swamp environments. To consolidate these gains and enhance the capacity of the region's NARSs to meet the need for a sustainable increase in mangrove swamp rice production, a network funded by USAID was established in 1990. Network activities include environmental characterization to facilitate more effective targeting of improved rice technologies, and the development of well-adapted high yielding cultivars from segregating progenies. Seeds of promising varieties and breeder seeds are purified and multiplied by WARDA for distribution to NARSs, extension agencies, NGOs and farmers, and varietal trials are conducted by the six countries in the network.

Contact in research organization:

Dr. Martin Agyen-Sampong; Network Coordinator and Entomologist; West Africa Rice Development Association (WARDA); 01 B.P. 2551; Bouake 01; Cote d'Ivoire; Tel: (225) 63-23-96/63-32-42/63-45-14; Fax: (225) 63-47-14; E-Mail: 157:CGI125; Telex: 69138 ADRAO CI, BOUAKE; Cable: ADRAO BOUAKE CI

Record number (MFN): 05849

Implementing agency: West Africa Rice Development Association (WARDA).

Country/countries: Africa; Gambia; Guinea; Guinea-Bissau; Nigeria; Sierra Leone; Senegal;

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Record number (MFN): 05850

Implementing agency: West Africa Rice Development Association (WARDA).

Country/countries: Africa; Gambia; Guinea; Guinea-Bissau; Nigeria; Sierra Leone; Senegal;

Contact in research organization:

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Record number (MFN): 05851

Implementing agency: West Africa Rice Development Association (WARDA).
Country/countries: Africa; Gambia; Guinea; Guinea-Bissau; Nigeria; Sierra Leone; Senegal.

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Record number (MFN): 05852

Implementing agency: West Africa Rice Development Association (WARDA).
Country/countries: Africa; Gambia; Guinea; Guinea-Bissau; Nigeria; Sierra Leone; Senegal;

Contact in research organization:

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