Eastern Africa Agricultural Productivity Program

Financing Agreement

(Eastern Africa Agricultural Productivity Project)

between

FEDERAL DEMOCRATIC REPUBLIC OF ETHIOPIA

and

INTERNATIONAL DEVELOPMENT ASSOCIATION

Dated September 16, 2009

FINANCING AGREEMENT

AGREEMENT dated September 16, 2009, entered into between FEDERAL DEMOCRATIC REPUBLIC OF ETHIOPIA ("Recipient") and INTERNATIONAL DEVELOPMENT ASSOCIATION ("Association"). The Recipient and the Association hereby agree as follows:

ARTICLE I — GENERAL CONDITIONS; DEFINITIONS

- 1.01. The General Conditions (as defined in the Appendix to this Agreement) constitute an integral part of this Agreement.
- 1.02. Unless the context requires otherwise, the capitalized terms used in this Agreement have the meanings ascribed to them in the General Conditions or in the Appendix to this Agreement.

ARTICLE II — FINANCING

- 2.01. The Association agrees to extend to the Recipient, on the terms and conditions set forth or referred to in this Agreement, a credit in an amount equivalent to twenty million one hundred thousand Special Drawing Rights (SDR 20,100,000) (variously, "Credit" and "Financing") to assist in financing the project described in Schedule 1 to this Agreement ("Project").
- 2.02. The Recipient may withdraw the proceeds of the Financing in accordance with Section IV of Schedule 2 to this Agreement.
- 2.03. The Maximum Commitment Charge Rate payable by the Recipient on the Unwithdrawn Financing Balance shall be one-half of one percent (1/2 of 1%) per annum.
- 2.04. The Service Charge payable by the Recipient on the Withdrawn Credit Balance shall be equal to three-fourths of one percent (3/4 of 1%) per annum.
- 2.05. The Payment Dates are June 15 and December 15 in each year.

- 2.06. The principal amount of the Credit shall be repaid in accordance with the repayment schedule set forth in Schedule 3 to this Agreement.
- 2.07. The Payment Currency is Dollar.

ARTICLE III — PROJECT

- 3.01. The Recipient declares its commitment to the objectives of the Project and the Program. To this end, the Recipient shall carry out Parts B.2, B.3, C.2, C.3 and D.1 of the Project through MoARD; and Parts A, B.1, C.1 and D.2 of the Project through EIAR in accordance with the provisions of Article IV of the General Conditions.
- 3.02. Without limitation upon the provisions of Section 3.01 of this Agreement, and except as the Recipient and the Association shall otherwise agree, the Recipient shall ensure that the Project is carried out in accordance with the provisions of Schedule 2 to this Agreement.

ARTICLE IV — REMEDIES OF THE ASSOCIATION

- 4.01. The Additional Events of Suspension consist of the following:
 - (a) A situation has arisen which shall make it improbable that the Program, or a significant part of it, will be carried out.
 - (b) The Recipient has suspended its membership and/or participation in ASARECA.

ARTICLE V — EFFECTIVENESS; TERMINATION

- 5.01. The Additional Conditions of Effectiveness consist of the following:
 - (a) the Recipient has updated and submitted to the Association the Financial Management Manual in form and substance satisfactory to the Association; and
 - (b) the Implementation Agreement has been executed on behalf of the Recipient and ASARECA.

- 5.02. The Additional Legal Matter shall be that the Implementation Agreement has been duly authorized or ratified by the Recipient and ASARECA and is legally binding upon the Recipient in accordance with its terms.
- 5.03. The Effectiveness Deadline is the date ninety (90) days after the date of this Agreement.
- 5.04. For purposes of Section 8.05 (b) of the General Conditions, the date on which the obligations of the Recipient under this Agreement (other than those providing for payment obligations) shall terminate is twenty years after the date of this Agreement.

ARTICLE VI — REPRESENTATIVE; ADDRESSES

- 6.01. The Recipient's Representative is the Minister responsible for finance.
- 6.02. The Recipient's Address is:

Ministry of Finance and Economic Development P.O Box 1905 Addis Ababa Ethiopia

Cable: Telex Facsimile:

MINFIN 21147 251 111 551355

6.03. The Association's Address is:

International Development Association 1818 H Street, N.W. Washington, D.C. 20433 United States of America

Cable: Telex: Facsimile:

INDEVAS 248423 (MCI) 1-202-477-6391

Washington, D.C.

AGREED at Addis Ababa, Ethiopia, as of the day and year first above written.

FEDERAL DEMOCRATIC REPUBLIC OF ETHIOPIA

By /s/ Ahmed Shide

Authorized Representative

INTERNATIONAL DEVELOPMENT ASSOCIATION

By /s/ Kenichi Ohashi

Authorized Representative

SCHEDULE 1

Project Description

The objectives of the Project are to: (i) enhance regional specialization in agricultural research; (ii) enhance regional collaboration in agricultural training and dissemination; and (iii) facilitate increased sharing of agricultural information, knowledge and technology, across the Recipient's boundaries.

The Project constitutes the first phase of the Program, and consists of the following parts:

Part A: Strengthening Regional Center of Excellence

- 1. Improving the infrastructure of the Regional Center of Excellence for wheat, including rehabilitation and modernization of physical facilities, developing infrastructure for regional training programs in wheat production and related processing and marketing activities, greenhouses, irrigation facilities for research and seed multiplication, upgrading laboratory facilities for variety testing and seed production, upgrading farm equipment for mechanized sowing and harvesting, and provision of equipment and facilities necessary to effectively carry out the mission of the Regional Center of Excellence.
- 2. Building the human resource capacity of the Regional Center of Excellence, including provision of training at masters' of sciences and doctorate levels, developing a plan for graduate training with focus on wheat research, technology dissemination, and filling human resource gaps.

<u>Part B:</u> <u>Technology Generation, Training and Dissemination</u>

- 1. Encouraging generation of technology through support to research activities related to wheat, dairy and rice production and processing developed within each of the Regional Centers of Excellence, including approved research subprojects for cassava.
- 2. Carrying out technology dissemination subprojects related to wheat, dairy, rice and cassava production, value addition, marketing and agribusiness, including, provision of training to researchers, extension workers, and farmers in the latest innovations and scaling up and scaling out application of new and improved technologies and enterprise management techniques, and developing and implementing an annual training plan for agricultural extension workers, farmer organizations, and other stakeholders.
- 3. Identifying short term techniques appropriate for broad dissemination and developing training programs.

<u>Part C:</u> <u>Improved Availability of Seeds, Planting Material and Dairy Genetic Materials</u>

- 1. Improving the availability of seeds, planting material and dairy genetic material, including expanding the production, storage and distribution of dairy genetic material, and of breeder, pre-basic, basic and commercial seed for targeted commodities, through the provision of works, and technical advisory services.
- 2. Provision of training and technical advisory services to support the development of existing and establishment of new businesses and agencies involved in the production and supply of seeds, planting material and breeding services.
- 3. Supporting the harmonization of seed policies and seed services in the Program Countries, including advocacy and promotion of regulatory changes as may be necessary, to allow unified regional markets for seeds, planting material and dairy genetic material, provision of training for certification and seed testing, plant variety protection, phytosanitary and zoosanitary control, and acquisition of goods.

Part D: Project Coordination and Management

- 1. Supporting MoARD to carry out monitoring and evaluation, management and coordination of Parts B.2, B.3, C.2, C.3 and D.1 of the Project, and policy analysis and advocacy of the Project and Program.
- 2. Supporting EIAR to carry out monitoring and evaluation, management and coordination of Parts A, B.1, C.1 and D.2 of the Project.
- 3. Supporting ASARECA to carry out the coordination and convening role in planning, backstopping for monitoring and evaluation, facilitating networking for the Regional Centers of Excellence, technical backstopping, policy harmonization and advocacy of research and training activities, including the dissemination of information among the Program Countries.

SCHEDULE 2

Project Execution

Section I. Implementation Arrangements

A. Institutional Arrangements

1. **National Level**

(a) MoARD

The Recipient shall ensure that MoARD is maintained at all times during the implementation of the Project with mandate, staffing and resources satisfactory to the Association for the purpose of ensuring the prompt and efficient implementation, monitoring, reporting, evaluation and communication of Parts B.2, B.3, C.2, C.3 and D.1 of the Project, and efficient overall coordination of Project activities at the national level.

(b) EIAR

Without limitation upon the provisions of Section I.A.1(a) of this Schedule, the Recipient shall ensure that Parts A, B.1, C.1 and D.2 of the Project are carried out by EIAR, in accordance with the provisions of this Agreement, and in accordance with the guidelines, procedures, recommendations, and other specifications set forth in the Project Implementation Plan, the Procurement Plan, the Environmental and Social Management Framework, and any environmental and social management plans.

2. **Regional Level**

ASARECA

Without limitation upon the provisions of Section I.A.1 of this Schedule, the Recipient shall maintain, at all times until the completion of the Project, its membership and active participation in ASARECA. To this end, ASARECA shall be responsible for Part D.3 of the Project, including, *inter alia*: (a) reviewing progress made towards achieving the Project's objectives; (b) facilitating governmental and inter-governmental actions that may be required under the Project; and (c) coordinating from the regional level the Project activities in the respective Program Countries.

B. Implementation Arrangements

1. National Level

Project Implementation Plan

The Recipient shall carry out the Project in accordance with the arrangements, procedures and guidelines set out in the Project Implementation Plan (provided, however, that in case of any conflict between the arrangements and procedures set out in the Project Implementation Plan and the provisions of this Agreement, the provisions of this Agreement shall prevail) and, except as the Association shall otherwise agree in writing, shall not amend, abrogate or waive any provision of the Project Implementation Plan without prior written approval of the Association if such amendment, abrogation or waiver may, in the opinion of the Association, materially or adversely affect the implementation of the Project.

2. Regional Level

Implementation Agreement

- (a) To facilitate the carrying out of Part D.3 of the Project, the Recipient shall make part of the proceeds of the Financing available to ASARECA on a grant basis, under the Implementation Agreement between the Recipient and ASARECA, under terms and conditions approved by the Association.
- (b) The Recipient shall exercise its rights under the Implementation Agreement in such manner as to protect the interests of the Recipient and the Association and to accomplish the purposes of the Financing. Except as the Association shall otherwise agree, the Recipient shall not assign, amend, abrogate or waive the Implementation Agreement or any of its provisions.

3. National and Regional Levels

Annual Regional Research and Budget Plan for Part B of the Project

(a) The Recipient shall prepare and furnish to Association for its approval, not later than November 30 of each year during the implementation of the Project, or such later date as the Association may agree, the Annual Regional Research and Budget Plan containing all proposed research, training and technology dissemination activities to be carried out in the following Fiscal Year, modified as the case be in a manner satisfactory to

the Association, taking into account the Association's comments and views on the matter.

(b) Without limitation upon the provisions of Section I.B.3.1(a) of this Schedule, the Recipient shall, prior to submission of the Annual Regional Research and Budget Plan to the Association, ensure that the proposed research, training or technology dissemination activities which are included in the Annual Regional Research and Budget Plan have been discussed and agreed upon at the regional level by ASARECA and the Program Countries, and shall not make or allow to be made any change to any activity included in the approved Annual Regional Research and Budget Plan without consultation with and the prior written approval of the Association.

C. Anti-Corruption

The Recipient shall ensure that the Project is carried out in accordance with the provisions of the Anti-Corruption Guidelines.

D. Environmental Safeguards

- 1. Except as otherwise agreed in writing by the Bank, the Recipient shall:
 - (a) implement the Project in accordance with the ESMF;
 - (b) wherever applicable, prepare, adopt, disclose, and implement, in form and substance satisfactory to the Association, an environmental and social mitigation plan, based on the ESMF, defining (i) the measures to be taken during the implementation of the relevant activities to eliminate or offset adverse environmental or social impacts, or to reduce them to acceptable levels, and (ii) the actions needed to implement these measures; and
 - (c) not amend or waive, or permit to be waived, the ESMF or any environmental and social mitigation plan, or any provision thereof.
- 2. Without limitation upon its other reporting obligations under this Agreement and under Section 4.08 of the General Conditions, the Recipient shall regularly collect, compile and submit to the Association, as part of the progress reports referred to in Section II.A.1 of this Schedule, reports, in form and substance satisfactory to the Association, on the status of compliance with the ESMF, and any environmental and social management plan, giving details for the previous quarter of:

- (a) measures taken in furtherance of such ESMF and any environmental and social management plan;
- (b) conditions, if any, which interfere or threaten to interfere with the smooth implementation of such ESMF, or any environmental and social management plan; and
- (c) remedial measures taken or required to be taken to address such conditions and to ensure the continued efficient and effective implementation of such ESMF, or any environmental and social management plan.

Section II. Project Monitoring, Reporting and Evaluation

A. Project Reports

- 1. (a) The Recipient shall monitor and evaluate the progress of the Project and prepare Project Reports in accordance with the provisions of Section 4.08 of the General Conditions and on the basis of the indicators set forth below in sub-paragraph (b) of this paragraph. Each Project Report shall cover the period of six months, and shall be furnished to the Association not later than one month after the end of the period covered by such report.
 - (b) The performance indicators referred to above in sub-paragraph (a) consist of the following:

Project Outcome Indicators

- (i) number of farmers, processors and others who have adopted new technologies on the basis of: (A) the percentage of increase in adoption of new varieties, improved dairy technologies and management practices, and (B) percentage of increase in adoption of improved processing and handling methods.
- (ii) area under improved technologies, and/or number of improved technologies on the basis of: (A) percentage of increase in land area with seeds of improved cultivars; and (B) percentage of increase in number of improved dairy technologies.

(iii) increase in production and/or productivity at farm level on the basis of percentage of the increase in production or productivity over control technology for all disseminated new technologies.

Intermediate Outcome Indicators

- (iv) increase in research scientists working in regional research projects on the basis of the percentage of total research staff of the Regional Center of Excellence.
- (v) increase in the number of new technologies developed by the Regional Center of Excellence.
- (vi) increase in existing and new technologies disseminated in more than one Program Country.
- (vii) increase of cultivars for selected commodities registered in more than one Program Country based on the number per selected commodity.
- (viii) percentage of regional research and training and dissemination activities implemented according to the Annual Regional Research and Budget Plans.
- (ix) harmonized monitoring and evaluation system for Regional Centers of Excellence in cooperation with ASARECA developed, adopted and implemented.
- 2. For purposes of Section 4.08 (c) of the General Conditions, the report on the execution of the Project and related plan required pursuant to that Section shall be furnished to the Association not later than six months after the Closing Date.

B. Financial Management, Financial Reports and Audits

- 1. The Recipient shall maintain or cause to be maintained a financial management system in accordance with the provisions of Section 4.09 of the General Conditions.
- 2. Without limitation on the provisions of Part A of this Section, the Recipient shall prepare and furnish to the Association as part of the Project Report not later than 45 days after the end of each calendar quarter, interim unaudited financial reports

- for the Project covering the quarter, in form and substance satisfactory to the Association.
- 3. The Recipient shall have its Financial Statements audited in accordance with the provisions of Section 4.09 (b) of the General Conditions. Each audit of the Financial Statements shall cover the period of one Fiscal Year of the Recipient. The audited Financial Statements for each such period shall be furnished to the Association not later than six months after the end of such period.

Section III. <u>Procurement</u>

A. General

- 1. **Goods and Works.** All goods and works required for the Project and to be financed out of the proceeds of the Financing shall be procured in accordance with the requirements set forth or referred to in Section I of the Procurement Guidelines, and with the provisions of this Section.
- 2. **Consultants' Services.** All consultants' services required for the Project and to be financed out of the proceeds of the Financing shall be procured in accordance with the requirements set forth or referred to in Sections I and IV of the Consultant Guidelines, and with the provisions of this Section.
- 3. **Definitions.** The capitalized terms used below in this Section to describe particular procurement methods or methods of review by the Association of particular contracts, refer to the corresponding method described in the Procurement Guidelines, or Consultant Guidelines, as the case may be.

B. Particular Methods of Procurement of Goods and Works

- 1. **International Competitive Bidding.** Except as otherwise provided in paragraph 2 below, goods and works shall be procured under contracts awarded on the basis of International Competitive Bidding (ICB).
- 2. Other Methods of Procurement of Goods and Works. The following methods of procurement, other than International Competitive Bidding, may be used for goods and works under the circumstances specified in the Procurement Plan for each such method: (a) National Competitive Bidding may be used subject to the following additional procedures: (i) the Recipient's standard bid documents for procurement of works shall not be used; (ii) if pre-qualification is used, the Association's standard prequalification document shall be used; (iii) margin of preference shall not be applicable; (iv) bidders shall be given a minimum of 30 days to submit bids from the date of availability of the bidding documents; (v) use of merit points for evaluation of bids shall not be allowed; (vi) foreign bidders shall not be excluded from participation; and (vii) results of evaluation

and award of contract shall be made public; (b) Limited International Bidding; (c) Shopping; (d) Procurement from the United Nations Agencies; and (e) Direct Contracting.

C. Particular Methods of Procurement of Consultants' Services

- 1. **Quality-** and Cost-based Selection. Except as otherwise provided in paragraph 2 below, consultants' services shall be procured under contracts awarded on the basis of Quality and Cost-based Selection.
- 2. Other Methods of Procurement of Consultants' Services. The following methods of procurement, other than Quality and Cost-based Selection, may be used for consultants' services under the circumstances specified in the Procurement Plan for each such method: (a) Quality Based Selection; (b) Least Cost Selection; (c) Selection Based on Consultants' Qualifications; (d) Procedures set forth in paragraphs 5.2 and 5.3 of the Consultant Guidelines for the Selection of Individual Consultants; (e) Single Source Selection; and (f) Sole Source Procedures for the Selection of Individual Consultants.

D. Review by the Association of Procurement Decisions

- 1. The Procurement Plan shall set forth those contracts which shall be subject to the Association's Prior Review.
- 2. All other contracts shall be subject to Post Review by the Association.

Section IV. Withdrawal of the Proceeds of the Financing

A. General

- 1. The Recipient may withdraw the proceeds of the Financing in accordance with the provisions of Article II of the General Conditions, this Section, and such additional instructions as the Association shall specify by notice to the Recipient (including the "World Bank Disbursement Guidelines for Projects" dated May 2006, as revised from time to time by the Association and as made applicable to this Agreement pursuant to such instructions), to finance Eligible Expenditures as set forth in the table in paragraph 2 below.
- 2. The following table specifies the categories of Eligible Expenditures that may be financed out of the proceeds of the Financing ("Category"), the allocations of the amounts of the Financing to each Category, and the percentage of expenditures to be financed for Eligible Expenditures in each Category:

Category	Amount of the Credit Allocated (expressed in SDR)	Percentage of Expenditures to be Financed (inclusive of Taxes)
(1) Goods, Works, Consultants' services, Training and Operating Costs for Parts A, B.1 and C.1 of the Project (EIAR)	9,400,000	100%
(2) Goods, Consultants' services, Training and Operating Costs for Parts B.2, B.3, C.2, and C.3 of the Project (MoARD)	7,800,000	100%
(3) Goods, Consultants' services, Training and Operating Costs for Part D.1 of the Project (MOARD)	300,000	100%
(4) Goods, Consultants' services, Training and Operating Costs for Part D.2 of the Project (EIAR)	300,000	100%
(5) Goods, Consultants' services, Training and Operating Costs for Part D.3 of the Project (ASARECA)	500,000	100%
(6) Unallocated	1,800,000	
TOTAL AMOUNT	20,100,000	

B. Withdrawal Conditions; Withdrawal Period

- 1. Notwithstanding the provisions of Part A of this Section, no withdrawal shall be made for payments made prior to the date of this Agreement.
- 2. The Closing Date is February 27, 2015.

Section IV. Other Undertakings

A. Appointment of a Procurement Specialist and Finance Officers

- 1. The Recipient shall not later than three months of the Effective Date, appoint to the EIAR, a procurement specialist with qualifications, experience and terms of reference satisfactory to the Association.
- 2. The Recipient shall not later than one month of the Effective Date, appoint one finance officer each, to MoARD, EIAR and the Regional Center of Excellence respectively, all with qualifications, experience and terms of reference satisfactory to the Association.

SCHEDULE 3

Repayment Schedule

Date Payment Due	Principal Amount of the Credit repayable (expressed as a percentage)*
On each June 15and November 15:	
commencing June 15, 2019 to and including	1%
December 15, 2028	
commencing June 15, 2029 to and including	2%
December 15, 2048	

^{*} The percentages represent the percentage of the principal amount of the Credit to be repaid, except as the Association may otherwise specify pursuant to Section 3.03 (b) of the General Conditions.

APPENDIX

Definitions

- 1. "Annual Regional Research and Budget Plan" means the plan and budget prepared annually by the Recipient for Part B of the Project, discussed and agreed upon with the Program Countries and ASARECA (as hereinafter defined), and approved by the Association in accordance with Section I.B.3 of Schedule 2 to this Agreement.
- 2. "Anti-Corruption Guidelines" means the "Guidelines on Preventing and Combating Fraud and Corruption in Projects Financed by IBRD Loans and IDA Credits and Grants", dated October 15, 2006.
- 3. "ASARECA" means Association for Strengthening Agricultural Research in Eastern and Central Africa established and operating pursuant to the Constitution of the Association for Strengthening Agricultural Research in Eastern and Central Africa dated July 14, 1995.
- 4. "Category" means a category set forth in the table in Section IV of Schedule 2 to this Agreement.
- 5. "Consultant Guidelines" means the "Guidelines: Selection and Employment of Consultants by World Bank Borrowers" published by the Bank in May 2004 and revised in October 2006.
- 6. "Environmental and Social Management Framework" or "ESMF" means the Environmental and Social Management Framework dated February 9, 2009, adopted by the Recipient, giving details of a program of actions, measures and policies designed to maximize the benefits of the Project, eliminate, offset or mitigate any adverse environmental impacts, or reduce such impacts to acceptable levels, as such ESMF may be amended from time to time with prior written agreement of the Association.
- 7. "EIAR" means the Ethiopian Institute of Agricultural Research.
- 8. "General Conditions" means the "International Development Association General Conditions for Credits and Grants", dated July 1, 2005 (as amended through October 15, 2006).
- 9. "Implementation Agreement" means the agreement referred to in Section 5.01(b) and Section I.B.2.1 of Schedule 2 to this Agreement pursuant to which the Recipient shall, *inter alia*, make part of the proceeds of the Financing available to the ASARECA, and establish the terms and conditions for implementation of Part D.3 of the Project, as such agreement may be amended and supplemented

- from time to time with the prior written approval of the Association, and such term includes all schedules to such agreement.
- 10. "MoARD" means the Recipient's Ministry of Agriculture and Rural Development, or any successor thereto.
- 11. "Operating Costs" means the costs incurred by the MOARD, EIAR and ASARECA respectively, on account of the implementation of the Respective Parts of the Project, and on the basis of annual work plans and budgets for such Respective Parts of the Project approved by the Association, including hire of venues for training; purchase of materials for approved training; services of office machines and equipment; operation and maintenance costs for vehicles, office supplies, consumables, travel costs, travel per diems, and accommodation, but excluding salaries of the Recipient's officials and civil servants, and the employees of ASARECA.
- 12. "Procurement Guidelines" means the "Guidelines: Procurement under IBRD Loans and IDA Credits" published by the Bank in May 2004 and revised in October, 2006.
- 13. "Program Countries" means the Federal Democratic Republic of Ethiopia, Republic of Kenya, and the United Republic of Tanzania, all participating in the first phase of the Program.
- 14. "Project Implementation Plan" or "PIP" means the Recipient's plan, adopted pursuant to Section I.B.1 of Schedule 2 to this Agreement, containing or referring to detailed arrangements and procedures for implementation of the Project, including: (i) institutional coordination and day-to-day execution of the Project; (ii) disbursement and financial management; (iii) procurement; (iv) monitoring, evaluation, and reporting; (v) procedures, measures and guidelines for environmental management and implementation of the ESMF; and (vi) such other administrative, financial, technical and organizational arrangements and procedures as shall be required for the Project, as such plan may be amended by the Recipient from time to time with the prior written agreement of the Association.
- 15. "Procurement Plan" means the Recipient's procurement plan for the Project, dated April 1, 2009, and referred to in paragraph 1.16 of the Procurement Guidelines and paragraph 1.24 of the Consultant Guidelines, as the same shall be updated from time to time in accordance with the provisions of said paragraphs.
- 16. "Program" means the program designed to develop regional cooperation in agricultural research, and establish a regional center of excellence for wheat research within the territory of the Recipient, and set forth or referred to in the letter dated April 3, 2009, from the Recipient to the Association.

17. "Regional Center of Excellence" means the agricultural research center in the territory of the Recipient which is selected as a regional center for development of excellence in wheat research and includes related programs located in other agricultural research centers, and the term "Regional Centers of Excellence" means such agricultural research institutions in the Program Countries which are selected as regional centers for development of excellence in research of specific crop, or livestock.