

1. Project Data:		Date Posted: 05/16/2016	
Country:	Africa		
Project ID:	P094084	Appraisal	Actual
Project Name:	West Africa Agricultural Productivity Program (waapp)	Project Costs (US\$M):	49.5 44
L/C Number:		Loan/Credit (US\$M):	45 44
Sector Board:	Agriculture and Rural Development	Cofinancing (US\$M):	
Cofinanciers:		Board Approval Date:	03/29/2007
		Closing Date:	06/30/2012 12/31/2013
Sector(s):	Agricultural extension and research (80%); Central government administration (16%); General public administration sector (4%)		
Theme(s):	Rural services and infrastructure (29%); Technology diffusion (29%); Regional integration (14%); Trade facilitation and market access (14%); Export development and competitiveness (14%)		
Prepared by:	Reviewed by:	ICR Review Coordinator:	Group:
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2. Project Objectives and Components:

a. Objectives:

As the first phase of a regional, two-phase, 10-year Adaptable Program Loan (APL), the West Africa Agriculture Productivity *Project* would be the first of a series of overlapping, similar APLs, which would involve different groupings of countries under the West African Agricultural Productivity *Program* (WAAPP). The first grouping included Ghana, Mali, and Senegal. The APLs were expected to span 12-15 years and ultimately include all ECOWAS (Economic Community of West Africa) countries eligible for the Bank's regional support.

The overarching objective of the WAAPP *Program* was *to contribute to agricultural productivity increase* in the participating countries' top priority commodity sub-sectors that are aligned with regional priorities (LA p 4, Schedule 1, first para).

The specific Project Development Objective (PDO) of the Phase 1 *Project* (WAAPP-1A) was *to generate and disseminate improved technologies* in the participating countries' top priority areas that are aligned with the region's top priorities, as identified by the West and Central African Council for Agricultural Research and Development (WECARD or CORAF from the title in French; LA p 4, Schedule 1, second para). These priorities included roots and tubers in Ghana; rice in Mali; and cereals in Senegal (PAD p viii, p 4 para 11).

The region's households, particularly those affected by extreme poverty, are the ultimate beneficiaries of the Program. Agricultural producers and agribusiness, as users of the improved technology, are the immediate beneficiaries of the Project. These are also the key participants, along with the researchers, extension agencies and universities (in accessing the agricultural knowledge information system (AKIS) conceptual framework) in the generation and dissemination of technology supported by the program (PAD p viii, p 6 para 19).

b. Were the project objectives/key associated outcome targets revised during implementation?

No

c. Components:

The WAAPP-1A was an initiation phase that set up the program's framework in terms of the mechanisms for sharing technology, establishing National Centers of Specialization (NCOSs), and funding of technology generation and adoption (PAD p 4 para 13). There are some discrepancies in the figures between the PAD and the ICR. In the PAD, total project costs were set to US\$ 49,47 million (PAD Annex 5, p 44), while the ICR states that it was US\$ 47.87 million (Annex 1, table (a) p 33).

The program had four components (PAD pp viii-ix, pp 6-10; ICR pp 5-6, para 17):

Component 1: Enabling Conditions for Regional Cooperation in Technology Generation and Dissemination (TGD).

(Appraisal total: US\$ 5.3 million, IDA: US\$ 4.4 million; Actual: US\$ 5.7 million)

This component was to strengthen the mechanisms and procedures for the dissemination of technology, so to allow countries to benefit fully from regional cooperation in technology generation. It targeted the following key areas:

- Common regulations related to genetic materials, pesticides and other crop protection products (CPPs) at the ECOWAS level, assist efforts to find a common framework for intellectual property rights (IPR) and other rights, such as farmers' rights and Geographical Indication (GI).
- National registration committees for genetic materials and pesticides in the participating countries. Specifically:
 - The revision, if needed, of participating countries' procedures to align them with the regional guidelines;
 - Identification of improved technology that has been developed but not yet officially released;
 - Technology release process, ensuring the participation of producers and agribusiness in this process;
 - Documentation of the characteristics of the technology (e.g., agronomic, chemical composition, potential environmental impact, prospective socio-economic benefits, and consumers' appreciation);
 - Cataloging of the released and approved technologies; and
 - Promotion of these technologies, using various media.
- Information system on agricultural technologies and research skills at the regional level.

The component supported (i) consultancy services to study and assess policies, regulations, and procedures in the sharing of technology; (ii) workshops and seminars particularly for the participation of producers and agribusiness in the drafting of regulations and assessing the characteristics of improved technologies; (iii) short-term training to upgrade skills in information technology and communication; and (iv) operating costs associated with the technology release process.

Component 2: National Centers of Specialization

(Appraisal total: US\$ 22.5 million, IDA: US\$ 20.6 million; Actual: US\$ 16.6 million)

This component was to strengthen the alignment of national priorities with regional priorities within participant countries' National Agricultural Research Systems (NARS). It supported NCOSs (one in each country) that focused on areas of national priorities aligned with regional priorities; (ii) demonstrate sustained public support for core programs and staff; (iii) commit to collaboration with regional and international institutions and (iv) commit to share results with other countries. The component focused on the following key areas:

- Upgrading core facilities and equipment of the selected NCOSs;
- Building the capacity of researchers;
- Supporting Research and Development (R&D) programs of NCOSs;
- Supporting farm surveys and supply chains analysis and benchmarking

Component 3: Funding of Demand-Driven Technology Generation and Adoption

(Appraisal total: US\$ 16.8 million, IDA: US\$ 15.7 million; Actual: US\$ 15.9 million).

This component aimed at strengthening priority-focused, transparent funding mechanisms for demand-driven agricultural Research and Development (R&D) within participating countries. The component focused on areas that had been identified as high priority both at national and regional levels, and supported a competitive agricultural grant system (CARGS) and a limited (non-competitive) core funding with strong buy-in from stakeholders. It included:

- National windows; i.e. provision of additional resources to complement ongoing and future R&D activities carried out under the country's agricultural policy and to disseminate technology in the country's top priorities, as identified by CORAF. To ensure regional spillover effects, the country's top priorities were to be aligned with the region's top priorities. The national windows supported cross-border partnerships, both on the supply side (research, extension, universities) and the demand side (farmer organizations, private sector, civil society) to solve shared problems.
- Regional support activities, i.e. provision of additional resources to allow CORAF to expand its knowledge sharing activities through the ECOWAS member countries.

Component 4: Project Coordination, Management, Monitoring and Evaluation

(Appraisal total: US\$ 4.9 million, IDA: US\$ 4.3 million; Actual: US\$ 6.3 million)

This component was to establish an effective coordination, management and M&E System at national and regional levels. WAAPP-1A was implemented and coordinated by CORAF and the national implementing units. The following key activities were implemented under this component: (i) financial management and procurement; (ii) reporting on project activities; (iii) monitoring and evaluation of regional agricultural productivity; and (iv) communication strategy. The component financed consultancy services (surveys and impact studies), vehicles and equipment, office supplies, workshops and short-term training, and CORAF's and the national coordination units' operating costs.

Added Sub-Component:

Following the Midterm Review in May 2010, subcomponent 3.2 *Accelerated Adaption of Technologies*, including *Seed Multiplication* was added.

d. Comments on Project Cost, Financing, Borrower Contribution, and Dates:

Project Cost

The total project cost at appraisal was US\$ 49.5 million (over 5 years), including IDA financing of US\$ 45.0 million, the three Governments' contributions of US\$ 3.3 million (in terms of Value-Added Tax (VAT) foregone) and beneficiaries' contributions of US\$ 1.2 million (mostly in kind). The Actual project cost amounted to US\$ 44 million, according to Tables (a) and (b) in the ICRs Annex 1 (p 33). However, this is equal to the disbursed IDA funds, and no information is given as to the total actual borrower contribution. (I.e. the ICR presents the Bank contribution as if that equals the total project costs). There is no information in the ICR regarding the US\$ 1 million of unused funds; why it was not used, whether it was not disbursed or whether it has been repaid.

Financing

The project was financed by IDA funds and the Borrowers' contributions only. There were no other cofinanciers. The amount of IDA credit to each country was US\$ 15 million at appraisal, which comprised US\$ 5 million of the country's regular IDA allocation and a US\$ 10 million allocation from the Africa Regional Integration unit, (i.e. the usual financing breakdown of IDA regional projects). (PAD p 4-5, para 15). It is unclear whether these amounts remained the same at closure, as the ICR does not provide any details about actual borrower's contribution or total project costs beyond the IDA contribution.

Borrower Contribution

The borrower's contribution was planned to encompass the three Governments' contributions of US\$ 3.3 million (in terms of Value-Added Tax (VAT) foregone) and beneficiaries' contributions of US\$ 1.2 million (mostly in kind). Whether and to what extent this was planned is unclear, since the ICR does not provide any information about actual borrower's contribution.

Dates

The project was approved on 03/29/2007 and Effective on 03/21/2008. The project underwent three Level-2 restructurings; first on 12/08/2011 when the closing date in all three countries was extended by six months from June 30, 2012 to December 31, 2012. The same restructuring reallocated funds between disbursements categories in the three countries and revised the results framework. The second and third restructurings, on 12/07/2012 and on 06/21/2013 followed the political instability in Mali and the closing date for Mali was extended twice by six months each time. The first extension moved the closing date from December 2012 to June 30, 2013, and the second moved the closing date to December 31, 2013. Operations in Ghana and Senegal closed as expected on December 31, 2012. The restructurings did not require a change in the PDO or in key associated outcome targets.

The Midterm Review was submitted on 05/31/2010. Following the Midterm Review, a subcomponent (3.2 *Accelerated Adoption of Technologies*, including *Seed Multiplication*) was added, and resources from other categories were allocated to this new subcomponent.

3. Relevance of Objectives & Design:

a. Relevance of Objectives:

Relevance of Objective is **High**. Both the program's overarching objective and the project's specific development objectives are highly relevant to the development conditions in West Africa. As outlined in the ICR (p 2, paras 3-4), at appraisal, agriculture was (and remains) a dominant force in the region's economics, accounting for 35 percent of gross domestic products (GDP), more than 15 percent of exports, and 65 percent of employment. 60 percent of the rural population depended mostly on agriculture for sustenance, and rural areas experienced the most poverty. Food insecurity was chronic in the Sahel. Agriculture had thus featured prominently in national development programs through several generations of Poverty Reduction Papers and related priority action plans. By definition, those programs and plans had a national rather than a regional focus. The African Union clearly recognized that

Sub-Saharan Africa would meet the Millennium Development Goals only when rural development, agriculture, and the livelihood constraints of the rural poor were brought to the top of the development agenda. The African Union called on member states to allocate 10 percent of national budgets to agriculture as a means of achieving annual growth in agricultural GDP. The New Partnership for African Development (NEPAD) designed the Comprehensive Africa Agricultural Development Program (CAADP) to that effect. CAADP is Africa's policy framework for agricultural transformation, wealth creation, food security and nutrition, economic growth and prosperity for all. The regional economic communities, including the Economic Community of West Africa (ECOWAS) and the West Africa Economic and Monetary Union (WAEMU), had developed their respective agricultural policies to implement CAADP. Pillar IV of CAADP encompassed agricultural research, technology dissemination, and adoption - referred to in this report as Technology Generation and Dissemination (TGD) - and provided a strong foundation for regionally integrated agricultural innovation. WAAPP's development objective is therefore well aligned with regional priorities.

The project is also well in line with the Bank's Regional Strategy for West Africa (2011-15), which rests on two pillars; (i) Linking regional markets; and (ii) Capacity building. Support for regional research and training centers is covered under the second pillar as outlined in the Strategy's point 4.2.3.4 on p 17: "Towards supporting inclusive growth and job creation in the region, and in line with the Bank's Strategy for Higher Education, Science and Technology and the Bank's Medium-Term Strategy, this sub-pillar will aim to strengthen regional poles of excellences in (i) research that focus on realizing the growth-enhancing potential of local products with high development prospects and, (ii) trainings that are relevant to the integration agenda".

b. Relevance of Design:

Relevance of Design is **Substantial**.

The national agricultural productivity programs already in place in the three countries had generated knowledge, experience and networks and had laid the groundwork for a regional project such as WAAPP to be designed and to be implemented largely through already existing project-implementing agencies. The design of this regional project thus drew on expensive experience from the already operational national projects and also from other relevant WB projects in the region.

The key elements of the design were; (i) a focus on key commodities in each participating country; (ii) the strengthening of one National Center of Specialization (NCOS) per country; (iii) regional exchanges of technologies and researchers; and (iv) support for agricultural Research and Development (R&D) on national priorities that were fully aligned with regional priorities. The components and activities under the project were necessary and sufficient to achieve the project's development objective. The statement of objectives was clear and linked to intermediate and final outcomes. The causal chain between funding and outcomes is also clear and convincing.

Unintended effects (positive and negative) were not identified in the PAD and are not reported by the ICR.

According to the quality at entry assessment undertaken in October 2007 that rated the project as Moderately Satisfactory, the project's weak points included: (i) limited discussion of gender and poverty in the social assessment; (ii) a weak environmental and social management framework; (iii) inadequate treatment of M&E for the dissemination of technologies at the farm level; and (iv) the lack of an institutional assessment to identify capacity gaps for technical assistance and training of researchers (ICR pp 8-9 para 29).

The project's achievement of the targets and the project's contribution to achieving relevant outcomes for the overarching objective is a further indication of the project's well designed logical chain.

4. Achievement of Objectives (Efficacy):

The specific development objective of WAAPP-1A (the project/the first phase of the APL) was: "*to generate and disseminate improved technologies* in the participating countries' top priority areas that are aligned with the region's top priorities".

The overall West Africa Agriculture Productivity *Program's* overarching objective was "*to contribute to agricultural productivity increase* in the participating countries' top priority commodity sub-sectors that are aligned with regional priorities".

Final Outcome:

Generation and dissemination of improved technologies: **High**

Outputs (for more details, see Annex 2 of the ICR, pp 33-44):

- 2 Regulations adopted per country and aligned to regional regulations (Baseline: 0; Target; 2). All three countries have ratified the common ECOWAS regulations for the registration of genetic materials and pesticides. National protocols have also been harmonized (ICR Annex 2, p 34 para 1).
- A system for data collection, analysis and reporting on agricultural technologies, research skills, and regional agricultural productivity is established and managed by CORAF/WECARD (Baseline: No regional data system; Target: system established).
- 37 technologies generated by NCOSs and demonstrated by the project in the project areas (under Component 2). (Baseline: 0; Original Target: 9; Revised Target: 25) Details of the technologies generated are found in tables A2.3-A2.10.
- 14 technologies released by NCOSs and demonstrated in at least 2 ECOWAS countries outside the country of origin (under Component 2). (Baseline 0; Revised Target: 6)
- 34,300 client days of training provided (including scientists, extension agents, agro-leaders, farmers, community members, etc.). (Baseline: 900; Revised Target: 2,100)
- 78 Exchange visits and study tours (Baseline: 10; Revised Target: 56)
- 8 Multi-country research proposals financed by the regional CARGS maintained by CORAF. (Baseline: 0; Revised Target: 4)
- 116 National research programs financed (Baseline: 68; Revised Target: 109)
- 97 technologies generated under the CARGS and demonstrated by the project in project areas (under Component 3). (Baseline: 30; Revised Target: 81).
- 28 publications released in regional/national magazines. (Baseline: 6, Revised Target: 81)
- Foundation seed and breeding stock produced with project support for seeds 500 t (cereals), and for roots and tubers: 1,857 ha. (Baseline: 0, Revised Target: Seeds: 350 t, Roots and tubers: 3,600 ha).

Outcomes:

- 364,938 direct and indirect project beneficiaries, 29% women. (Baseline: 0; Revised target: 325,000, 40% women)
- All (100%) of the 37 released technologies show an improvement in yield of at least 15% in farm-level productivity. It is stated in the fact sheet that Baseline was 100%, the Original Target was 115%, and the Revised Target was 100%. These figures seem incorrect, and the text in the ICR states that of the three technologies developed by each country (as was the original target; nine in total, three per country), *one* of those three should show an improvement in yield of at least 15%. This indicates that the correct figures here should have been: Baseline: 0; Original Target: 33%.
- 105,545 ha under improved technologies made available under the project (Baseline: 0; Revised target: 63,000)
- 293,583 producers have adopted improved technologies made available under the project (Baseline: 0; Revised target: 165,000)

The outcomes reported here are exceeding the specific development objective of generating and disseminating new technologies and in addition, the outcomes are clearly contributing to the achievement of the overarching program objective which is to “contribute to agricultural productivity increase in the participating countries”.

Efficacy is rated **High** as the project exceeded its objective.

The vast overachievement of many of the targets such as in this project would often bring about questions of “gaming”; i.e. whether targets were deliberately set low at the outset in order to ensure their achievement and a positive evaluation. However, in this case it is clear that the targets were moderate and realistic at appraisal, given the new and innovative character of this intervention.

The project’s achievement of the targets and the project’s contribution to achieving relevant outcomes for the overarching objective is a further indication of the project’s well designed logical chain.

5. Efficiency:

Since this project is the first phase (5 years) of a 10-year APL, the project’s efficiency will not be fully apparent for some time. However, based on the results in the first five years of implementation, the project already demonstrates an efficient use of resources. WAAPP-1A achieved its development objective and met the triggers for moving to Phase 2. No ERR was estimated at appraisal, and the ERR rates referred to in the ICR are based on the impact evaluation study in Mali only.

The ICR reports (p 24. Para 79) that evaluations by client countries demonstrate that the project has generated substantial benefits for end-users, both in terms of improved yields and additional incomes. The ICR reports that these benefits translate into sound financial and economic returns (22% and 19%, respectively), which are the figures estimated for Mali (as reported in Annex 3, pp 45-48). Sensitivity analysis indicate that these returns remain robust even with increases in production costs and decreases in expected project benefits. WAAPP also attracted additional

funding from other sources to the expanded projects WAAPP 1B and 1C.

Ex-post impact evaluation studies were carried out in all three countries with the support of IFPRI, although with some varying methodologies and quality;

In *Senegal*, the adoption rate for varieties sponsored by WAAPP was between 10 and 60 percent. The production of maize, millet and sorghum increased by 16%, 3.2% and 18% respectively in villages covered by the project. Farm incomes rose by 34%, and the “hungry period” (the time between harvests when no food reserves remain) was reduced by 37%.

In *Mali*, the productivity increase induced by WAAPP were (comparison with/without project) 14.3% for rice, 32.2% for Maize, 22.7% for tomato during main season, 9.7% for tomato off-season, 75% for tomato conservation and 14.7% for maize silage. The revenue increase of farm households was 54.8% for rice, 72.3% for maize, 50.7% for tomato in the main period and 28% for tomato off-season. In Mali, the IRR was 22.1% and the IRR was 19% (14% with a 10% cost increase, 22% with a 10% cost decrease, 25% with 20% benefit increase, and 10% with 20% benefit decrease).

The evaluation in *Ghana* did not permit comparisons similar to those made by the impact studies in Senegal and Mali. It did however show that the adoption rate varied between ecological zones, with the rainforest zone recording the highest rate of 61.4%.

There is very limited information in the ICR regarding the disbursement rate and the reallocation of funds between components and categories. There is also no information regarding how the project managed to finance such a substantial increase in activities compared to the plans (e.g. the increased number of training sessions and research grants, etc.).

On the basis that the project had good progress and measured results beyond expectations (as reported in the ICR and the impact evaluations), few delays (mainly due to the political instability in Mali), and that 98% of the funds were disbursed before closing, Efficiency is rated **Substantial**.

a. If available, enter the Economic Rate of Return (ERR)/Financial Rate of Return (FRR) at appraisal and the re-estimated value at evaluation :

	Rate Available?	Point Value	Coverage/Scope*
Appraisal	No		
ICR estimate	No		

* Refers to percent of total project cost for which ERR/FRR was calculated.

6. Outcome:

Relevance of Objective is rated **High** as the PDO is very well aligned with both Bank and Regional Strategies. Relevance of Design is rated **Substantial** as the components and activities were necessary and sufficient to achieve the PDO. Efficacy is rated **High** as the project exceeded its objective, and Efficiency is rated **Substantial**, as the project benefits translate into sound economic and financial returns.

a. Outcome Rating: Highly Satisfactory

7. Rationale for Risk to Development Outcome Rating:

The *immediate* risk to development outcome is Low, as the second phase has assured funding and has started.

As reported in the ICR, the risk foreseen in the PAD related mostly to the West and Central African Council for Agricultural Research and Development (WECARD/CORAF); whether and to what extent CORAF could cooperate with national units and maintain a coherent program across ECOWAS countries. According to the ICR, CORAF gained significantly in strength and maturity over the course of phase one.

There is also a moderate financial risk as financial management arrangements have proven effective during implementation. The larger risk perceived prior to implementation related to CORAF's fiduciary capacities. However, CORAF was reported to have performed to a high standard in fiduciary matters during implementation.

The ability of agricultural Technology Generation and Dissemination (TGD) and extension/advisory services to ensure efficient, sustainable diffusion and adoption of improved technologies remains a significant risk for the project in the case that funding would end. The second phase of the project (already in operation) supports the development of a sustainable funding mechanism for TGD, to mitigate that risk, so TGD activities may be sustainable without IDA financing.

Project implementation was delayed by the political crisis in Mali, and other West African Countries remain vulnerable to similar risks.

a. Risk to Development Outcome Rating : Moderate

8. Assessment of Bank Performance:

a. Quality at entry:

By the time WAAPP was appraised, agricultural productivity programs had been in place in the first three WAAPP countries for at least five to seven years, and the project design drew from these project experiences in addition to substantial experience and lessons learned from other Bank agricultural interventions in the region. The project design was innovative and forward-looking. Because WAAPP was the first regional TGD project in Africa, there was room for trial and error to get the approach right and the choice of lending instrument (APL) provided scope to take some risks in project design while ensuring that implementation support would identify and address relevant issues.

According to the ICR (p.28 para 98), the implementation arrangements were skillfully designed and negotiated, especially the agreement that each participating country would contribute one-fifteenth of the project proceeds to support CORAF's regional coordination mandate. In other words, one million US\$ of the 15 million US\$ IDA funds received by each country was given to CORAF to contribute to CORAF's operating costs.

The project design incorporated key lessons from relevant interventions by the Bank and other development partners. The project adopted an Integrated Agriculture Knowledge Information System (AKIS) model to foster greater inclusiveness and innovation in TGD. For similar reasons, the project adopted competitive grant systems (CARGS) to finance adaptive agricultural research. In other contexts, CARGS had improved the efficiency of agricultural R&D by incorporating users' demands and perspectives and promoting public-private partnerships. To ensure ownership of the project within each participating country, the project was designed to address national interests and priorities as well as to provide regional public goods.

A Quality-at-Entry assessment in October 2007 reported on the following weaknesses (in addition to recognizing some of the strengths outlined above): (i) limited discussion of gender and poverty in the social assessment; (ii) a weak environmental and social management framework; (iii) inadequate treatment of M&E for the dissemination of technologies at the farm level; and (iv) lack of an institutional assessment to identify capacity gaps for technical assistance.

Although IEG recognizes these weaknesses, they are not considered to be significant, as the project was very well planned and well-designed to an outstanding standard; The results framework at appraisal was sound; the logical chain was clear and convincing with logical links between inputs, outputs and expected outcomes, and the identified indicators were relevant and appropriate.

Quality-at-Entry Rating: Satisfactory

b. Quality of supervision:

The Bank undertook 12 supervision missions during the 6 years of project implementation. The organization of systematic wrap-up meetings after each supervision mission was crucial for improving the exchange of technologies and best practices and the overall performance of the project

According to the ICR (p 28 para 99), the quality of implementation support improved steadily over implementation, especially after the middle of 2008 when there was continuity in task management. The Bank appointed a new regional TTL position based in Accra and co-TTLs in each country and in CORAF. These arrangements ensured close and effective Bank supervision and effective interaction between the Bank and project stakeholders. Bank management acted proactively to meet the challenge of supervising a regional project executed in three countries.

The Midterm Review resulted in a level-two restructuring, which added a subcomponent and revised and updated the results framework.

According to the ICR (p29 para 100-101), the greatest achievement of the Bank's supervision was its flexibility, seen in the ability to learn and adapt quickly, the emphasis placed on shared learning, and the joint communication and support among the project TTLs in responding to the clients' needs. The Bank's continuous

presence alongside the implementation units was integral to the project's significant results. Sufficient management attention, adaptation of the supervision arrangements over time and modifications to the project design in response to lessons learned were all critical elements for achieving the outcomes.

Quality of Supervision Rating : Satisfactory

Overall Bank Performance Rating : Satisfactory

9. Assessment of Borrower Performance:

a. Government Performance:

After a delay with the signing of the subsidiary agreements between the three Governments (of Ghana, Mali and Senegal) and CORAF to fund CORAF as the regional implementing agency, all three governments provided support in a satisfactory manner and set up National Steering Committees under the Ministries of Agriculture. The three Steering Committees functioned well and provided guidance, review and approvals in a regular and timely manner. (No information is provided about the length of the delay in signing the subsidiary agreements).

Government Performance Rating Satisfactory

b. Implementing Agency Performance:

Each of the three countries had a national coordination unit that managed the project. The main project executing agencies were:

1. The countries' research institutes (CSIR in Ghana, IER in Mali and ISRA/ITA in Senegal);
2. The countries' extension agencies (Ghana's Directorate of Extension, Mali's Directorate of Agriculture, and Senegal's National Agency for Agricultural and Rural Extension);
3. Private contractors (NGOs, producer organizations, and others).

The selected NCOSs were the primary actors in research. All three countries operated competitive research grant systems (the CARGs) as foreseen at appraisal (under the aegis of CSIR in Ghana, the National Committee for Agricultural Research in Mali, and the National Agrifood and Agricultural Research Fund in Senegal).

By design, regional integration was central to the West Africa Agriculture Productivity Program, but mechanisms for fostering regional integration in TGD were generally lacking when the support project began. CORAF's definitive contribution was to work with each country to design, develop and promote the use of mechanisms, frameworks, strategies, action plans, and guidelines that effectively and proactively ensured that regional integration remained at the core of project activities.

CORAF was based in Dakar, Senegal, and was responsible for coordinating, monitoring and evaluating the project's generation and adoption of technologies across the three countries. It assisted the NCOSs in the development of their work programs and in networking with regional and international centers of excellence, particularly for developing the visiting scientist program. The ICR does not outline to what degree the difference in language was an issue (Senegal and Mali are French-speaking, Ghana is English-speaking), nor how this was dealt with.

CORAF's fiduciary performance was sound. CORAF's capacity to coordinate the project and support implementation on demand increased steadily after the Midterm Review. CORAF monitored overall implementation of the project and reported on progress related to the effectiveness of the dissemination mechanisms, the increase in agricultural productivity, and the increase in competitiveness for the commodity subsectors supported by the project. CORAF also acted as an advisory body for the CARGs and NCOSs implemented in each country, and its M&E system collated and synthesized the information from the M&E systems of each country, and it prepared a regional gender strategy.

Throughout the challenging period following the political instability in Mali, CORAF's performance demonstrated that it had grown along with the WAAPP to become a major player and advocate in moving the region's TGD agenda forward.

Despite having no prior dealings with World Bank projects, CORAF managed significant IDA resources through subsidiary agreements for a ground-breaking regional project to the highest standard (ICR p 12 para 42). CORAF's performance was all the more noteworthy, given the program's rapidly expanding geographical

coverage following approval of WAAPP-1B and WAAPP-1C. CORAF ultimately coordinated financial management for 13 countries. This solid performance has also helped the organization to attract financing from other sources.

The national coordination units needed time to adopt Bank procedures for procurement, financial management, M&E, and environmental and social safeguards to their role in a regional initiative. Their performance improved steadily and was fully satisfactory by the Midterm Review.

Implementing Agency Performance Rating : Satisfactory

Overall Borrower Performance Rating : Satisfactory

10. M&E Design, Implementation, & Utilization:

a. M&E Design:

The M&E designed for the project was intended to strengthen CORAF's M&E system at the regional level. The system built upon the M&E systems established for the participating countries' ongoing research and extension projects and was set up to collate and process information collected by CORAF, the participating countries and additional data derived from special studies, based on the indicators contained in the results framework. The system was designed to accommodate additional countries as the project expanded with the subsequent APLs. The results framework at appraisal was sound; the logical chain was clear and convincing with logical links between inputs, outputs and expected outcomes. The identified indicators were relevant and appropriate to measure the intended outputs and outcomes.

The key project outcome indicators identified at appraisal were (PAD p 6, para 20):

1. at least three improved technologies in the participating countries' top priority areas have been released by these countries at the end of the phase;
2. out of the three improved technologies released by each country, at least one should show improvement in yield by 15 percent over the control technology.

Key indicator (ii) would measure outcomes beyond the project's specific development objective; it would actually measure the project's contribution to achievement of the program's overarching objective.

The key intermediate indicators included the following:

1. a web-based information system of agricultural technologies and research skills is developed and maintained by CORAF;
2. three national Centers of Specialization (NCOS) in areas of both national and regional priorities have been developed by participating countries within their National Agricultural Research Systems (NARS);
3. at least 85 percent of completed competitive grant sub-projects have been implemented successfully, as assessed by independent review panels of experts; and
4. a system for data collection, analysis and reporting on regional agricultural productivity is established and working satisfactorily.

b. M&E Implementation:

The M&E results framework was revised with the restructuring. When it became apparent that the project outcomes would move beyond the originally intended objective of generating and disseminating new technology and contribute to the overarching objective of increased agricultural yields, the results framework was adjusted accordingly. The original outcome indicators did not include measure of the dissemination and adoption of technologies by farmers, because national projects were addressing those issues. However, following the MTR, WAAPP added a subcomponent to accelerate technology adoption and support seed multiplication, and new indicators to measure the adoption of new technologies and increase in agricultural yield (including areas of cultivation, increased agricultural yield, and number of beneficiaries) were added to the M&E results framework. A harmonized plan for measuring and

reporting on the indicators was adopted and implemented by the three participating countries.

All three countries established teams of three M&E specialists based on suggestions by the Bank following the MTR. Up until then, there had only been one M&E specialist per country. The ICR reports (p 11 para 39) that this new arrangement proved very effective, given the transaction costs associated with obtaining reliable information from such varied sources as the research institutes, ministries of agriculture, and extension services. The monitoring system functioned well and information about the project's progress was generated in a timely manner and consolidated at the regional level.

Ex-post impact evaluation studies were carried out in late 2012 in Ghana and in the first half of 2013 in Mali and Senegal. These evaluations also measured the adoption rate of new technologies, the increase in agricultural yield per technology/crop and the related increase in farm income and decrease of "hungry period", as outlined under Section 5 "Efficiency" above.

c. M&E Utilization:

M&E data were used both to adjust project implementation and to inform stakeholders and others of the project results. For example, a new sub-component was added to accelerate adoption of new technologies at the farm level, following the Mid-Term Review. CORAF and the implementing entities in the participating countries used new communications technology (digital media, the internet) in addition to traditional media (newspapers, scientific journals) to communicate project results to different groups of stakeholders. WAAPP results, technology success stories and other achievements were also featured on radio, television and online.

M&E Quality Rating: High

11. Other Issues

a. Safeguards:

The first phase of the West Africa Agriculture Productivity Program (WAAPP-1A) was classified as a Category B project and triggered two safeguard policies: Environmental Assessment (OP 4.01) and Pest Management (OP 4.09). A review of the implementation of the project's safeguards under the supervision of the Bank safeguard specialist found that none of the three countries had disseminated the safeguard documents to all implementing agencies. This meant that some agencies had not fully implemented the recommendations contained in the documents. An action plan was developed and the limitations corrected.

By the end of the project, each country had identified and trained two focal points; one social safeguard and gender focal point and one environmental focal point. CORAF appointed a senior environmental specialist in 2009, which expanded its ability to follow up on environmental issues at the national level. The appointment of a social and gender specialist in 2012 enabled CORAF to help participating countries vigorously mainstream social safeguards and gender issues in project activities.

All adaptive research projects financed under CARGS underwent environmental, social, and gender screening before being approved for financing.

b. Fiduciary Compliance:

Financial Management

According to the ICR (p 12 para 42), the project's financial management system was adequate, both at the national and regional levels. Despite having no prior dealings with World Bank projects, CORAF managed significant IDA resources through subsidiary agreements for a ground-breaking regional project to the highest standard. At the individual country level, the financial management systems also performed satisfactorily. Well-trained financial management teams and appropriate tools were in place, the accounts were well maintained, and the requests for withdrawal of funds were sent regularly to the Bank.

All audits were submitted on time and were unqualified.

Procurement

The project's procurement system was adequate. The majority of procurement activities was related to the construction, rehabilitation and provision of equipment for the key R&D laboratories (biotechnology and seed labs) in the three countries. In the early period of the project procurement plans were not always regularly updated and filed into Image Bank, and the implementation of procurement plans was slowed by construction delays. These issues

were however addressed by the support of CORAF. No other issues regarding procurement are reported in the ICR.

c. Unintended Impacts (positive or negative):

The ICR does not discuss potential unintended impacts of the project.

Gender is mentioned in passing several times in the ICR; e.g., the original design was criticized for not addressing gender issues, gender is now mainstreamed, and CORAF has prepared a regional gender strategy. However, what the gender issues actually are, how they are dealt with and what the gender strategy says (what kinds of measures are taken to ensure women’s participation, etc.) are not outlined or discussed in the ICR. One may question why only 29% of the project beneficiaries are women when they constitute up to 70% of the farmers.

Neither the ICR nor the PAD discusses the differences and relationship between subsistence and commercial farming. The program’s overarching objective is *increased agricultural productivity* and the PAD mentions *food insecurity* as a major problem in the region (p.1 para 1), which indicates that food production for local consumption is the purpose of the program. Increased agricultural production to ensure local food supplies could occur through improvement and intensification of both (or either) subsistence farming and commercial farming.

Increased commercial agricultural productivity may lead to increased income (for the commercial farmer) and increased food supplies on the local market. However, those who are food insecure might not afford the food although it is available. Improved subsistence farming by increasing the yield might increase food security through both access to more food and increased farm income. It is unclear in the ICR how this project works with subsistence vs. commercial farming.

Such production systems affect how women are or may get involved in the process. Studies (of agriculture in Africa) have shown that women are usually involved in subsistence farming and small-scale produce, while men are more involved in larger-scale produce and commercial farming. When new technologies are introduced and production is intensified and increased, men often take over from women. Strategies to ensure continued female participation are thus essential.

It would have been beneficial if the ICR had outlined the project’s approach to subsistence vs. commercial farming and discussed their potential intended and unintended effects on participating women and men - and outlined how the project is tackling these issues.

d. Other:

12. Ratings:	ICR	IEG Review	Reason for Disagreement /Comments
Outcome:	Satisfactory	Highly Satisfactory	The project exceeded its specific development objective and quickly contributed to the achievement of the overarching objective. Both Relevance of Objective and Efficacy are rated High, while Relevance of Design and Efficiency are Substantial.
Risk to Development Outcome:	Moderate	Moderate	
Bank Performance:	Satisfactory	Satisfactory	
Borrower Performance:	Satisfactory	Satisfactory	
Quality of ICR:		Satisfactory	

NOTES:

- When insufficient information is provided by the Bank for IEG to arrive at a clear rating, IEG will downgrade

the relevant ratings as warranted beginning July 1, 2006.

- The "Reason for Disagreement/Comments" column could cross-reference other sections of the ICR Review, as appropriate.

13. Lessons:

The following lessons are selected from those presented in the ICR (p.30-32), with some modification of language:

1. **While the rationale for regional integration in TGD is well known, integration does not occur automatically.** Regional integration in agricultural TGD must be elicited purposefully by implementing proper instruments, guidelines, framework and mechanisms.
2. **To succeed, regional projects require a strong regional project coordination unit and strong and regular supervision and implementation support from the Bank.** Both Bank staff and national project implementation teams must be committed to regional integration and remain vigilant in keeping the focus on that goal.
3. **While isolated technologies can make significant contributions to improving agricultural productivity, in some cases even larger impacts can be achieved by bundling several innovations into a single technology package.** The case of composite flour is a good example of the advantages of linking innovations in plant varieties with organized farm production, coordinated processing, and product innovations.
4. **Public and private extension services and partnerships with producer organizations and the private sector are essential to implement action plans for technology dissemination successfully.** In order to disseminate new technology widely and to ensure a high adoption rate of the new technologies, collaboration with grass roots organizations and extension services are essential.

14. Assessment Recommended? Yes No

15. Comments on Quality of ICR:

The quality of the ICR is **Satisfactory**.

In addition to providing relevant and important context information regarding the project, the ICR is highly results-oriented and the quality of evidence and analysis is good. The ICR is concise, internally consistent and in consistency with the guidelines, apart from some inconsistencies in the figures related to the project costs and in the reporting of baseline and target values for one of the indicators.

The ICR does contain some information gaps. However, IEG could not obtain additional information from the project team, despite attempts to arrange an online meeting.

a.Quality of ICR Rating: Satisfactory