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**EUROPEAN UNION FOOD PRICE CRISIS RAPID RESPONSE FACILITY
IMPLEMENTATION COMPLETION AND RESULTS REPORT
ON A GRANT
UNDER THE
GLOBAL FOOD CRISIS RESPONSE PROGRAM
IN THE AMOUNT OF EURO 19.13 MILLION
TO THE
REPUBLIC OF KENYA
FOR THE
ENHANCING AGRICULTURAL PRODUCTIVITY PROJECT**

April 26, 2013

**Sustainable Development Department
Agriculture and Rural Development Unit
Eastern Africa Country Cluster 2
Africa Region**

CURRENCY EQUIVALENTS

Currency Unit = Kenya Shillings (KSh)

1 Euro (€) = KSh 110

FISCAL YEAR

July 1 – June 30

ABBREVIATIONS AND ACRONYMS

AAK	Agrochemical Association of Kenya
ACGS	Agricultural Credit Guarantee Scheme
AGMARK	Agriculture Development and Marketing Trust
AGRA	Alliance for Green Revolution in Africa
CGA	Cereal Growers Association
DAO	District Agricultural Officer
EABL	Eastern African Breweries Limited
EAGC	East African Grain Council
EAPP	Enhancing Agricultural Productivity Project
EC	European Commission
ESP	Economic Stimulus Program
EU	European Union
FCI	Farm Concern International
FSP	Financial Service Provider
GDP	Gross Domestic Product
GFRP	Global Food Crisis Response Program
GoK	Government of Kenya
ICC	Inter-Ministerial Coordinating Committee
IFAD	International Fund for Agricultural Development
IFDC	International Fertilizer Development Corporation
KAISP	Kenya Input Supply Project
KAPAP	Kenya Agricultural Productivity and Agribusiness Project
KARI	Kenya Agriculture Research Institute
Kg	Kilogram
KSh	Kenya Shilling
MoA	Ministry of Agriculture
M&E	Monitoring and Evaluation
MT	Metric Tons
NAAIAP	National Accelerated Agricultural Inputs Access Program
NCPB	National Cereals and Produce Board
NGOs	Non-Governmental Organizations
NPV	Net Present Value
OCP	Orphan Crops Program
P4P	Purchase for Progress
ROI	Return on Investment
THVC	Traditional High-Value Crops
USAID	United States Agency for International Development
WFP	World Food Programme
WHR	Warehouse Receipt System

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Data Sheet

A. Basic Information			
Country:	Kenya	Project Name:	Enhancing Agricultural Productivity Project
Project ID:	P119736	L/C/TF Number(s):	TF071341
ICR Date:	1/30/2013	ICR Type:	Core ICR
Lending Instrument:	ERL	Grantee:	GOVERNMENT OF KENYA
Original Total Commitment:	EURO 19.13M	Disbursed Amount:	EURO 19.13M
Revised Amount:	n/a		
Environmental Category: B			
Implementing Agencies: Ministry of Agriculture, partner financial institutions			
Cofinanciers and Other External Partners:			

B. Key Dates				
Process	Date	Process	Original Date	Revised / Actual Date(s)
Concept Review:	11/20/2009	Effectiveness:	4/1/2010	04/21/2010
Appraisal:	12/01/2009	Restructuring(s):	n/a	n/a
Approval:	03/16/2010	Mid-term Review:	n/a	n/a
		Closing:	12/31/2011	2/29/2012

C. Ratings Summary	
C.1 Performance Rating by ICR	
Outcomes:	Moderately Unsatisfactory
Risk to Development Outcome:	Moderate
Bank Performance:	Moderately Satisfactory
Grantee Performance:	Moderately Unsatisfactory

C.2 Detailed Ratings of Bank and Borrower Performance (by ICR)			
Bank	Ratings	Borrower	Ratings
Quality at Entry:	Moderately Satisfactory	Government:	Moderately Satisfactory
Quality of Supervision:	Moderately Satisfactory	Implementing Agency/Agencies:	Moderately Unsatisfactory
Overall Bank Performance:	Moderately Satisfactory	Overall Borrower Performance:	Moderately Unsatisfactory

C.3 Quality at Entry and Implementation Performance Indicators			
Implementation Performance	Indicators	QAG Assessments (if any)	Rating
Potential Problem Project at any time (Yes/No):	Yes	Quality at Entry (QEA):	None
Problem Project at any time (Yes/No):	No	Quality of Supervision (QSA):	None
DO rating before Closing/Inactive status:	Moderately Satisfactory		

D. Sector and Theme Codes		
	Original	Actual
Sector Code (as % of total Bank financing)		
Crops	100	100

Theme Code (as % of total Bank financing)		
Global food crisis response	100	100

E. Bank Staff		
Positions	At ICR	At Approval
Vice President:	Makhtar Diop	Obiageli Katryn Ezekwesili
Country Director:	Johannes C.M. Zutt	Johannes C.M. Zutt
Sector Manager:	Severin Kodderitzsch	Karen McConnell Brooks
Project Team Leader:	Andrew Mwihia Karanja	Andrew Mwihia Karanja
ICR Team Leader:	Christine Cornelius	
ICR Primary Author:	Christine Cornelius/Boniface Mburu	

F. Results Framework Analysis¹

Project Development Objective. The objective of the project is to assist the Recipient to increase access to agricultural inputs and technologies among targeted stakeholder farmers in selected districts. Improved farmer access is expected to contribute to both higher production levels (via increased acreage) and higher yields per acre, in turn leading to greater household food self-sufficiency and the generation of surpluses for sale, as well as reducing the gap between domestic production and consumption in 2010 and 2011. The support will also contribute to improving access to credit and to promotion of and diversification to food crops other than maize.

Revised Project Development Objectives (as approved by original approving authority)
n/a

(a) PDO Indicator(s)

Indicator	Baseline Value	Original Target Values (from approval documents)	Formally Revised Target Values	Actual Value Achieved at Completion or Target Years
Indicator 1:	<i>Incremental staple production in targeted areas (tons)</i>			
Value (quantitative or qualitative)	0	121,500		281,677
Date achieved				6/30/2012
Comments (incl. % achievement)	Targets assumed incremental production of 36,450 in year one and 85,050 in year two. Reallocation allowed for more farmers to be reached, and yields were higher than expected in year two.			
Indicator 2:	<i>Maize yields in targeted areas (bags/acre)</i>			
Value (quantitative or qualitative)	6	15		14
Date achieved	Yields achieved: 15 bags in 2009/10, 20 bags in 2010/11, and 14 bags in 2011/12 seasons.			
Comments (incl. % achievement)	Rainfall was the cause of yield variability.			
Indicator 3:	<i>Direct project beneficiaries (number)</i>			
Value (quantitative or qualitative)	0	1,150,000		542,647

¹ The EU grant was implemented as a fully blended trust fund under the Kenya Agricultural Productivity and Agribusiness Project, and was supervised and monitored as part of that IDA operation. The Trust Fund was de-linked from the IDA operation at the time of ICR preparation to allow the ICR to be submitted through the portal.

Indicator	Baseline Value	Original Target Values (from approval documents)	Formally Revised Target Values	Actual Value Achieved at Completion or Target Years
Date achieved				6/30/2012
Comments (incl. % achievement)	Orphan crops program component did not achieve multiplier effect that was envisaged due to delays and resulting shortages of planting materials. Input voucher scheme reached a total of 244,364 farmers.			
Indicator 4:	<i>Farmers receiving improved seed through input vouchers (number)</i>			
Value (quantitative or qualitative)	85,000	235,000		329,364
Date achieved				6/30/2012
Comments (incl. % achievement)	Incremental number of farmers 244,364, 163% of the targeted increment.			
Indicator 5:	<i>Farmers receiving fertilizer through input voucher (number)</i>			
Value (quantitative or qualitative)	85,000	235,000		329,364
Date achieved				6/30/2012
Comments (incl. % achievement)	Incremental number of farmers 244,364, 163% of the targeted increment.			
Indicator 6:	<i>Area cultivated with hybrid maize seed (ha)²</i>			
Value (quantitative or qualitative)	34,400	95,500		111,980
Date achieved				6/30/2012
Comments (incl. % achievement)	Incremental area cultivated 127% of targeted increment.			
Indicator 7:	<i>Area cultivated with orphan crops (ha)</i>			
Value (quantitative or qualitative)	100,000	230,000		162,008
Date achieved				6/30/12
Comments (incl. % achievement)	Incremental area cultivated 48% of targeted increment.			
Indicator 8:	<i>Farmers adopting at least one improved food production technology (number)</i>			
Value (quantitative or qualitative)	100,000	1,215,000		526,414

² Original target reported as acres instead of hectares.

Indicator	Baseline Value	Original Target Values (from approval documents)	Formally Revised Target Values	Actual Value Achieved at Completion or Target Years
Date achieved				6/30/12
Comments (incl. % achievement)	Orphan crops program component did not achieve multiplier effect that was envisaged due to delays and resulting shortages of planting materials.			

(b) Intermediate Outcome Indicator(s)

Indicator	Baseline Value	Original Target Values (from approval documents)	Formally Revised Target Values	Actual Value Achieved at Completion or Target Years
Indicator 1:	<i>Volume of fertilizer procured and distributed to farmers (tons)</i>			
Value (quantitative or qualitative)	8,500	23,500		39,934
Date achieved				6/30/12
Comments (incl. % achievement)	Incremental amount exceeded target by 69%.			
Indicator 2:	<i>Volume of seed procured and distributed to farmers (tons)</i>			
Maize:	850	2,350		3,992
Orphan crops:	529	2,029		1,389
Date achieved				6/30/12
Comments (incl. % achievement)	Incremental maize seed distributed exceeded target by 70%; orphan crops seed distributed was only 57% of target.			
Indicator 3:	Number of active loans (farmers and dealers) from participating commercial banks (number)			
Value (quantitative or qualitative)	25,600	46,000		32,994
Date achieved				
Comments (incl. % achievement)	Due to delays in setting up the credit scheme, only 37% of the targeted increment was achieved.			
Indicator 4:	<i>Total amount of credit loaned from participating financial institutions (KSh million)</i>			
Value (quantitative or qualitative)	925	1,900		1,573.3
Date achieved				
Comments (incl. % achievement)	Despite the delay in setting up the credit scheme, 67% of the target was achieved.			

Indicator	Baseline Value	Original Target Values (from approval documents)	Formally Revised Target Values	Actual Value Achieved at Completion or Target Years
Indicator 5:	<i>Portfolio at risk (% of total amount loaned)</i>			
Value (quantitative or qualitative)	5%	6%		3%
Date achieved				
Comments (incl. % achievement)				
Indicator 6:	<i>Farmers receiving orphan crops seeds and other planting materials (number)</i>			
Value (quantitative or qualitative)	300,000	1,800,000		598,407
Date Achieved				6/30/12
Comments (incl. % achievement)	Orphan crops program component did not achieve multiplier effect that was envisaged due to delays and resulting shortages of planting materials.			
Indicator 7:	<i>Agro-dealers and stockists trained and accredited (number)</i>			
Value (quantitative or qualitative)	1,495	3,495		4,180
Date achieved				6/30/12
Comments (incl. % achievement)	Incremental target exceeded by 19.5%.			
Indicator 8:	<i>Volume of seeds and other planting materials produced (tons)³</i>			
Value (quantitative or qualitative)	439	439		645.7 ⁴
Date achieved				6/30/12
Comments (incl. % achievement)				
Indicator 9:	<i>Implementation progress reports and financial monitoring reports available monthly (yes/no)</i>			
Value (quantitative or qualitative)	n/a	Yes		Yes
Date achieved				6/30/12
Comments (incl. % achievement)				

³ This indicator was added after appraisal.

⁴ Seeds only.

Indicator	Baseline Value	Original Target Values (from approval documents)	Formally Revised Target Values	Actual Value Achieved at Completion or Target Years
achievement)				

G. Ratings of Project Performance in ISRs⁵

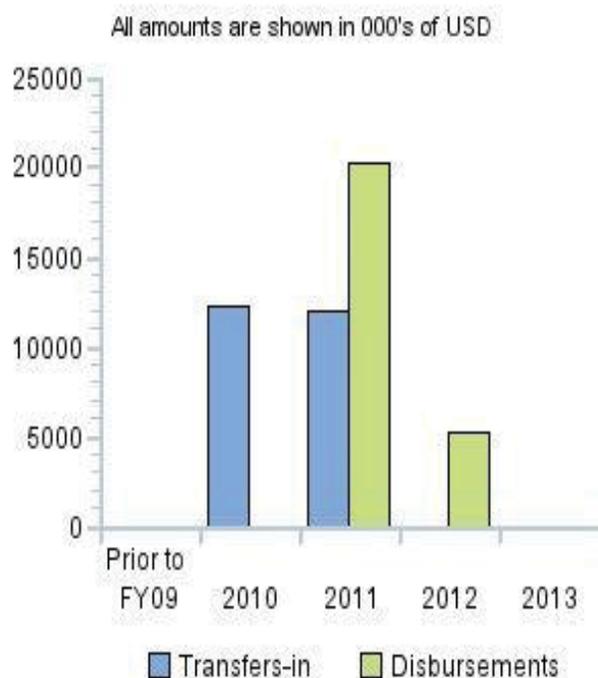
No.	Date ISR Archived	DO	IP	Actual Disbursements (USD millions)
3	12/12/2010	Moderately Satisfactory	Satisfactory	0.00
4	07/13/2011	Moderately Satisfactory	Moderately Satisfactory	0.00
5	08/27/2011	Moderately Satisfactory	Moderately Satisfactory	0.00
6	03/13/2012	Moderately Satisfactory	Moderately Satisfactory	0.00
7	10/01/2012	Moderately Satisfactory	Moderately Satisfactory	0.00

H. Restructuring (if any)

Not Applicable

I. Disbursement Profile

The disbursement profile is shown in the figure below:



⁵ Ratings are for IDA credit 4920-KE (Kenya Agricultural Productivity and Agribusiness Project) P109683, with which the trust fund was fully blended.

1. Project Context, Development Objectives and Design

1.1 Context at Appraisal

1. The Enhancing Agricultural Productivity Project (EAPP) aimed to enhance domestic food production by supporting smallholder farmers to produce more maize and other crops in the 2010 and 2011 planting seasons. This was done in a three-pronged approach aimed at supporting: (i) poor and vulnerable smallholder farmers in maize production zones; (ii) smallholder farmers in marginal areas where maize does not do well; and (iii) other smallholder farmers and traders through provision of input credit to purchase agricultural inputs. The support to poor and vulnerable farmers was in the form of input vouchers aimed at enhancing their maize production, mainly benefitting farmers in the medium- to high-potential areas of the country where maize production takes place. To address the plight of smallholder farmers in the marginal areas, where maize performs poorly, and to diversify production, the EAPP supported the production and distribution of planting materials for drought-tolerant crops (orphan crops). For the benefit of other farmers willing to use fertilizers and other inputs but unable to finance their purchase, the EAPP supported the scaling up of an existing input credit program by enhancing its scope and outreach.

2. In response to the 2008 food and fuel price crisis, the EAPP was prepared and implemented under expedited procedures using the Bank's OP 8.00 – Rapid Response to Crises and Emergencies – and financed by the European Union's Global Food Crisis Response Program (GFRP). The EAPP was therefore designed in line with the GFRP's overall framework, which provides for rapid Bank support for a comprehensive response to the food crisis that balances short-run food stabilization with measures to ensure that countries are able to cope better in the medium term. The design of the EAPP also took into account the need to ensure that interventions were rapid, included the poor and disadvantaged, and contributed towards achieving sustainable longer-run food security.

3. To ensure that these needs were met, a strategic choice was made to support the scale-up of two ongoing Government of Kenya (GoK) programs, namely: the National Accelerated Agricultural Inputs Access Program (NAAIAP) and the Orphan Crops Program (OCP). The choice of these two GoK programs was informed by the valuable lessons learned from the implementation an earlier IDA-supported project (Kenya Input Supply Project -KAISP⁶) and the need to have activities that were quick disbursing and could immediately address the emergency situation. Despite its emergency nature, efforts were made to ensure that the EAPP design also strategically complemented the IDA-supported Kenya Agricultural Productivity and Agribusiness Project (KAPAP), whose

⁶ Through the support provided under KAISP, 48,000 smallholder farmers (96 percent of the targeted beneficiaries) received input vouchers during the 2009 long rains planting season.

main objective is to increase agricultural productivity and incomes of smallholder farmers. While KAPAP supports activities geared towards enhancing medium- to long-term productivity and agribusiness development, the EAPP supported immediate input supply interventions that mainly targeted poor smallholder farmers. The two projects were therefore blended. The EAPP was implemented in 110 districts from across the country. The districts were selected based on the poverty index and their suitability for farming.

1.2 Original Project Development Objectives (PDO) and Key Indicators (*as approved*)

4. The objective of the EAPP was to increase access to agricultural inputs and technologies among targeted smallholder farmers in selected districts. This improved farmer access was expected to contribute to both higher levels of production and higher productivity (yields/acre), which in turn would contribute to enhance household food self-sufficiency and the generation of surplus for sale, as well as reduce the gap between domestic production and consumption in 2010 and 2011. The support would also contribute towards improving access to credit and promoting diversification to food crops other than maize.

5. The key outcome indicators to measure achievement of the development objectives as reflected in the Results Framework of the project paper were:

(a) Overall impact

- i. Incremental staple production in the target areas (measured in tons)
- ii. Maize yields in the targeted areas (measured as bags/acre)

(b) PDO outcome indicators

- i. Number of farmers benefitting from the project
- ii. Farmers receiving improved seeds and fertilizer through input vouchers
- iii. Area cultivated with hybrid maize
- iv. Area cultivated with orphan crops
- v. Farmers adopting at least one improved food production technology

1.3 Revised PDO (as approved by original approving authority) and Key Indicators, and reasons/justification

6. The PDO and key indicators remained unchanged.

1.4 Main Beneficiaries

7. The primary target group for the input voucher scheme was smallholders operating on one acre or less of land in areas with medium to high potential for increased production of maize. Although farm size of less than one acre was among the criteria for targeting, the inputs provided were for one acre. For the OCP, smallholders in areas with marginal rainfall were targeted using the same criteria. Under both programs, beneficiaries were selected by community committees composed of various stakeholders

(local administration, agriculture and social services officers, church leaders, community leaders, village development committees, Community Based Organizations (CBOs), and Non-Governmental Organizations (NGOs) operating in the area). For the agricultural credit program, smallholder farmers, agro-input dealers, and other value chain players in the agricultural sector were targeted according to the lending criteria established by the participating financial institutions. Agro-dealers participating in the program were also beneficiaries of training programs, as well as of the increased business generated by voucher redemption.

1.5 Original Components (as approved)

8. There were four components under the EAPP:

Component A. Scaling up the existing Agricultural Credit Program (Kilimo Biashara) (€5.07 million): The project built on the partnerships already established between the GoK, International Fund for Agricultural Development (IFAD), Alliance for Green Revolution in Africa (AGRA), and Equity Bank Limited. The objective was to enhance targeted access of affordable financial services and capacity to agricultural sector value chain players. The overall strategy was to provide a 10 percent guarantee fund on the basis of which Equity Bank would provide credit facilities of up to US\$50 million to smallholder farmers, agro-input dealers, and other value chain players in the agricultural sector. Sixty percent of the funds under this component (around €3 million) were used to expand the Equity Bank facility while the remainder was used to establish similar facilities in three other financial institutions, one of which was geared towards women farmers. Under EAPP, the original design of the facility was maintained whereby the participating financial institutions were to lend their own funds, equivalent to ten times the amount deposited in the guarantee scheme. The financial institutions were to use their established credit appraisal and repayment procedures. The participating financial institutions undertook 90 percent of risk while the guarantee scheme absorbed 10 percent of the risk, in case of any default.

Component B. Scaling up the existing input voucher scheme (Kilimo Plus) (€9.47 million): This seed and fertilizer voucher scheme targeted 150,000 smallholder farmers in 85 districts who could not access inputs for various reasons. Each beneficiary under the Kilimo Plus program received a voucher with a total face value of KSh 6,100⁷ (approximately €56) to cover the cost of 10 kg of hybrid maize seed, 50 kg of basal fertilizer, and 50 kg of top-dressing fertilizer, inputs sufficient for approximately 1 acre (0.4 ha) of maize. In addition, this component supported the training and accreditation of agro-dealers, especially in new districts. The agro-dealers and their capacity were important as they played the critical role of supplying actual inputs to the beneficiaries. Retroactive financing for eligible expenditures made after April 1, 2009 was included in the legal agreement to allow for financing of the 2009/10 short rains and 2010 long rains planting seasons.

⁷ Based on 2009 prices of KSh 3,000 for DAP/basal fertilizer, KSh 2,000 for CAN/top dressing fertilizer, and KSh 1,100 for 10 kg of hybrid seed.

The scaling up of the program was done in areas with good potential for increased production to provide the greatest increment to domestic supply. The 85 districts were identified based on the poverty index (i.e., they had a poverty index of 30 percent or more) and their potential for maize production. The selected districts were spread across the country.

Component C. Scaling up the Orphan Crop Program (€3.02 million): This component focused on supplying planting materials of orphan crops to smallholder farmers in semi-arid areas. This involved promoting farmer involvement in seed bulking and multiplication of orphan and other crops, including sorghum, cassava, and millet, which are drought-tolerant, more suitable for such areas, and could be important substitutes for maize. The OCP involved production of about 1,500 MT of seeds and other planting materials for distribution to 100 districts spread across the country.

Component D. Support to project administration costs (€1.57 million): This component covered GoK operating costs, monitoring and evaluation (M&E), and communications and information sharing.

1.6 Revised Components

9. There was no revision of the project components during project implementation.

1.7 Other significant changes

10. The following changes were made during implementation (see Annex 2 for details):
 - a) The EAPP contribution to the voucher scheme was scaled up by €1.45 million through cost savings under training activities and currency gains due to depreciation of the Kenya shilling.
 - b) The modalities for voucher redemption were decentralized to the districts in the second year of the program.
 - c) The closing date of the grant was extended by two months, to February 29, 2012, to allow for completion of the civil works under the OCP component and other activities such as soil testing and development of an electronic voucher (e-voucher) system for payments to agro-dealers.

2. Key Factors Affecting Implementation and Outcomes

2.1 Project Preparation, Design and Quality at Entry

11. The EAPP was designed to scale up and improve existing government programs, which allowed it to be prepared quickly under emergency procedures. Kilimo Plus, the voucher scheme, had been running since 2006 and was an earlier beneficiary of a World Bank-administered emergency grant of US\$5 million from the GFRP in 2009.⁸ This allowed for lessons to be incorporated in the EAPP. Similarly, Kilimo Biashara has been operating since 2009 with a risk-sharing guarantee facility funded by IFAD and AGRA in partnership with Equity Bank, which was scaled up by IFAD in 2010. The EAPP was fully blended with an ongoing World Bank sector support program, the KAPAP, which provided an adequate safeguards and fiduciary framework. Given the experience already gained, there was a reasonable expectation that the incremental funds provided by the grant, as designed, would be able to be absorbed in a scale-up of these three programs. Risks were correctly identified, and included capacity to implement a scaled up voucher scheme at the national, district, and community levels. Risk of misuse of funds at the local level was also assessed and was mitigated through increased audit and social accountability mechanisms. In addition, weather-based risks were correctly identified as the major risk to achieving the anticipated impact for all three project activities.

2.2 Implementation

12. The Ministry of Agriculture (MoA) had overall responsibility for project implementation. The implementation of the input voucher scheme went well as its implementation started on time and it was able to surpass its set targets. However, the implementation of the ACGS and OCP components was delayed due to institutional challenges. Implementation was facilitated by the establishment some important partnerships and collaborations with the GoK, agencies such as the World Food Programme (WFP), and the private sector. For example, market outlets for Gadam sorghum were established with the National Cereals and Produce Board (NCPB) and East African Breweries Limited (EABL). The EAPP supported a number of communication and visibility activities, such as documentaries and radio and TV programs, believed to have reached large audiences in rural areas, also instrumental to project success. Some of the challenges faced in implementation of the main project components are highlighted next and further detailed in Annex 2.

13. *Agricultural Credit Program (Kilimo Biashara)*. This Agricultural Credit Guarantee Scheme (ACGS) was launched in May 2008 in partnership with IFAD, AGRA, MoA, and Equity Bank and was significantly expanded in 2010 using EAPP funds. Through the EAPP, the ACGS was expanded in scope and outreach to include

⁸ Agricultural Input Supply Program, TF-94287. The project was approved in April 2009 and closed in June 2010.

three more financial institutions: Cooperative Bank, Family Bank, and Kenya Women Finance Trust. Equity Bank was also retained as a participating financial institution. The EAPP made available an additional €5million to the ACGS to complement the existing scheme funded by IFAD and AGRA. The process of identifying potential participating financial institutions started in April 2010 and was not completed until June 2011. There were further delays in obtaining Treasury authority for private financial institutions to open special accounts and to deposit the guarantee funds as agreed. There were also changes in the agreed interest rates, which rose by 10 percent over the 18-month delay, resulting in further delays in signing the agreements with the participating banks. Funds were finally disbursed in November 2011. This resulted in delays in disbursing loans to farmers, which finally commenced in February 2012. An Inter-Ministerial Committee was formed to address the issue of interest rates and overall management of the credit program. Due to these delays, the Bank and the European Commission (EC) agreed to the GoK's proposal to retain the unutilized funds in the post-project period and to use them to continue and further enhance the ACGS.

14. *Input Voucher Scheme (Kilimo Plus)*. EAPP funds allowed for expansion of the ongoing NAAIAP input voucher program from 2009 to 2011. The MoA developed a comprehensive "Program Design and Guidelines" manual setting the structure of NAAIAP, including the oversight bodies as well as the eligibility and voucher redemption processes. Rules and guidelines for beneficiary selection were well known and already being used by MoA staff and communities. As a result, beneficiary selection processes went smoothly. However, delays in refunding agro-dealers for the inputs that they had supplied to beneficiaries greatly impacted the confidence of suppliers and hence reduced the potential impact of the program. This was despite the decentralization of the payment system to the district level in the second year. The delay in paying stockists also delayed supplying inputs because they could not replenish their stocks when their working capital was tied up. To help address this problem, the EAPP financed the design and pilot of an e-voucher system, which is pending implementation.

15. Understaffing in the field offices and lack of appropriate skills among available staff negatively impacted the monitoring of project activities and capacity building for farmer beneficiaries, particularly due to inadequate knowledge of post-harvest management of produce. However, the project progressively addressed this constraint through training and other capacity-building activities. By the close of the project, over 3,000 national and district level staff had been trained on various aspects related to project activities.

16. *Orphan Crops Program*. Since inception, the OCP was mainly funded by the GoK, implemented under the MoA's Department of Crop Management. Its outreach has been limited. Seed production was contracted to Kenya Agriculture Research Institute (KARI), whose capacity to produce such seed was to be enhanced. A technical committee was constituted to oversee the component; its membership included the relevant technical Departments of MoA, KARI, and representatives of agro-dealers, AGMARK, and other stakeholders.

17. Seed production did not proceed as planned. The main limiting factor was the availability of good quality foundation seed for the production and multiplication of planting materials for the orphan crops. The orphan crops foundation seed were only available from KARI's seed unit as no commercial seeds were available. This major constraint was not anticipated at the design stage. This has mainly arisen due to the fact that the seeds are grown under rainfed conditions, and the inadequate rainfall in 2010 severely limited the production of seed.

18. Further complicating matters, procurement of irrigation equipment and civil works for KARI and Agricultural Training Centers remained incomplete as of the project closing date. Spreading component activities over too many districts limited its true reach, allocating resources too thinly. Lastly, overreliance on district agricultural staff with inadequate means to carry out activities limited the number of beneficiaries reached.

2.3 Monitoring and Evaluation (M&E) Design, Implementation and Utilization

19. The grant utilized the existing monitoring structures under NAAIAP in particular and the MoA as a whole to collect data on project performance. Food production data were collected by frontline extension workers and compiled at the district level by district agriculture staff. These data were deemed sufficient to document incremental production arising from the input voucher scheme and the OCP. Data on the credit guarantee scheme from the four participating banks were only received in 2012 due to the delays in getting the component started, but have been adequate to evaluate the component (see section below).

20. A comprehensive impact evaluation was carried out by LOG Associates and international consultants, and was completed in December 2011. The evaluation team analyzed data collected by the MoA and carried out extensive interviews with key stakeholders. A beneficiary assessment of 625 beneficiaries was carried out. The results of this evaluation were used to complete this assessment (see Annexes 5 and 7).

2.4 Safeguard and Fiduciary Compliance

21. *Safeguards.* The project was assigned environmental category B, as it had minimal if any potential adverse impacts on human populations or environmentally important areas. The project did trigger the environmental assessment and pest management safeguard policies. The Environmental and Social Management Assessment and Pest Management Plan developed in 2009 for the KAPAP program were used to guide the implementation of the program. This included the use of a checklist for screening the impact of physical investments and guidelines for safe handling of agricultural inputs. In this regard, training of farmers and agro-dealers in safe handling and disposal of any chemical waste was carried out as part of the voucher scheme.

22. *Financial Management and Procurement.* The project did not comply with the agreed arrangement of maintaining a segregated bank account. Despite opening a separate project account, MoA continued to finance project activities through Ministry

development accounts. In addition, expenditures totaling KSh 14,834,056.55 (about US\$174,000) were declared ineligible due to lack of supporting documents and payments made without following the established guidelines and procedures. The Recipient has been requested by the Bank to refund this amount. To date GoK has not yet refunded KSh 2,247,597.40 (€20, 432.40), the undisbursed balance as of the time of the project closing date. There were initial procurement delays regarding training of agro-dealers and for irrigation equipment for KARI. However, these procurements were finalized before the project closing date.

2.5 Post-completion Operation/Next Phase

23. During implementation, the EAPP worked with several partners to realize specific objectives. To expand market outlets, the project linked beneficiaries to the WFP, which purchased maize in Trans Mara and Nandi North districts. In addition, the project worked with the NCPB and EABL, which purchased Gadam sorghum. These linkages were established with the help of various organizations, namely: Equity Bank, Cereal Growers Association (CGA), East African Grain Council (EAGC), and Farm Concern International (FCI). These organizations also carried out capacity building for project beneficiaries on post-harvest management and grain quality control. The project partnered with AGMARK, Agrochemical Association of Kenya (AAK), and International Fertilizer Development Corporation (IFDC) to facilitate agro-dealer training, which was supervised by the NAAIAP Secretariat. The partnership with FCI trained MoA staff as trainers, who then trained the target groups. Finally, Financial Service Providers (FSPs) and the MoA collaborated in training staff and farmers on financial matters. These partnership arrangements will continue to strengthen program performance.

24. The project design did not anticipate the lack of grain storage facilities at the farm level as a constraint but their absence led to a loss of grain arising from aflatoxin infestation. The regions most affected were the lower parts of the Eastern Province. However, the GoK, through the Economic Stimulus Program, provided mobile grain driers and standard community stores. The drier for Makueni district has already been delivered to the site identified by the community. Farmers have also been linked to other service providers who have provided storage facilities.

25. The processing of vouchers was tedious and time consuming. For instance, at the district level, the District Agricultural Officers (DAOs) were required to match each voucher to the beneficiary farmer and each agro-dealer was required to issue an invoice for all redeemed vouchers. The need for an e-voucher system to enhance effectiveness was identified early on, and its development was financed under the program. The e-voucher transaction platform was built upon a technological platform designed to reduce the paperwork inherent in the payments to large numbers of farmers across the country, improve accountability, and enhance monitoring of the entire program. The EAPP program piloted the e-voucher system in five districts and trained field staff on its operation. It is expected to reduce the time, cost, and human intervention in the administration of the voucher scheme. The full-blown e-voucher system is planned for rollout by the next short rains planting season in late 2013.

26. The EAPP program also facilitated soil testing to establish the types and rates of fertilizers suitable for the different agro-ecological zones where maize production is carried out. This was necessitated by the declining yields in some regions where di-ammonium phosphate (DAP) fertilizer was in use and the claim that soil acidity may be increasing in some areas. It is hoped that in the future, location-specific fertilizer use will be encouraged to replace the current practice whereby general recommendations are applied across all regions.

27. The GoK suspended the input voucher program in November 2012 pending resolution of the audit queries mentioned above. The program is being evaluated, and the e-voucher scheme is expected to be rolled out before the scheme re-commences, most likely during the 2013 short rains planting season. The GoK has committed to maintain the KSh 250 million annual budget funding for the input voucher scheme. Through IFAD, the EU has committed €14 million to support a follow-on project that will focus on the input voucher system, post-harvest loss management, and further expansion of the OCP.

3. Assessment of Outcomes

3.1 Relevance of Objectives, Design and Implementation

28. The rationale and objectives of the project (i.e., to increase access to agricultural inputs and technologies among targeted smallholder farmers⁹) were relevant against the background of the 2008 food and fuel price crisis, which had major economic and agricultural impacts in Kenya. The official overall inflation rate in Kenya increased from 12 percent in December 2007 to 31.5 percent in May 2008 before easing off to stand at 18.4 percent in August 2009. Poor rains in 2009 escalated the food emergency, leading to an estimated 4 million people requiring famine relief. The predicted maize production for the 2009 long rains season was estimated at 1.84 million metric tons (MT), 28 percent below normal. There was growing apprehension that the estimated production would be revised downwards further due to insufficient and erratic rains in some parts of the main maize producing areas in the North Rift Valley. Continued export bans in neighboring countries (particularly Tanzania) were likely to reduce cross-border maize inflows by 46 percent. The reduced levels of production and imports were compounded by the tightening maize supply situation. High food prices persisted throughout the country, with the average price of maize 100-130 percent above normal. As a result, the terms of trade of pastoralists, agro-pastoralists, and marginal agriculture farmers and the purchasing power of urban households deteriorated significantly, as over 65 percent of Kenyans are net buyers of maize.

29. High fuel prices in 2008 resulted in increased prices of farm inputs. Kenya has a well-established fertilizer market, which is fully liberalized with the bulk of fertilizers imported and distributed by the private sector. The GoK, through various agencies, intervened in the market by importing around 241,000 MT of fertilizers, some of which were financed by a credit from the African Development Bank and support from Japan. This intervention was seen as temporary and was aimed at stabilizing the market. The GoK also waived the import duty on maize imports until January 2010. It was planned that a total of 670,000 MT of maize would be imported by the GoK and the private sector to close the consumption gap. While most of these interventions were geared towards easing the food shortage, there was also a need to boost production in the coming seasons, thereby ensuring adequate supply in the coming years.

30. Although maize is Kenya's main staple food, there is an overdependence on maize both at the national food policy level and amongst households. This is despite the fact that in the recent past, the non-cereal components of agricultural Gross Domestic

⁹ The MoA has developed criteria for the selection of farmers as recipients of the Kilimo Plus/ Bora package, including: low income and limited farm size; ability and intention to produce maize on at least one acre; membership to farmer groups for ease of training and logistical support; land preparation is completed before receipt of inputs; and priority to women and child-headed households.

Product (GDP) have performed significantly better than cereals, particularly maize. Given that the country seems to be headed for a structural maize deficit arising from population growth, urbanization, and poor and erratic weather conditions, shifting consumption and production patterns towards other cereals and non-cereals food items had become a necessity. This would not only help improve food security, but would also help to diversify farmers' incomes while assisting them with coping with the effects of climate change.

31. The grant helped to demonstrate clearly that poor smallholder farmers can realize higher staple food production when supported with critical farm inputs such as fertilizers and seeds and other services such as extension. As Kenya's commercial sector is better developed than in many other African countries, the design choice to support a strategy of building the capacity of and stimulating demand for agro-dealers to serve smallholder farmers needs was relevant. The use of the agro-dealer model demonstrated that the objective of offering subsidies to targeted farmers can be achieved while minimizing distortions in commercial market operations (e.g., inputs were priced at the going market price and the vouchers were redeemed from commercial traders (the agro-dealers)). Nevertheless, more can be achieved in this regard when a better structured and more efficient voucher redemption system is put in place. The strategy of graduating voucher recipients as potential customers for private sector seasonal credit programs and providing a modest amount of risk coverage for the financial institutions, which are already present in Kenya's rural space, also remains sound.

32. The objective of encouraging diversification at the farm level through adoption of traditional high-value crops in marginal agricultural areas also proved to be relevant. This was particularly the case where market/commercial opportunities existed. A case in point is the promotion of sorghum for brewing, which the project was able to catalyze in Kenya's Eastern lowlands. The grant also convinced the GoK to decentralize management of the input scheme to the district level, although the success of this approach in the first season was mixed. Lessons learned from this experience helped the GoK to: (i) improve the flow of documentation and funds, speeding up the process for the 2011 season; and (ii) pilot an e-voucher system.

3.2 Achievement of Project Development Objectives

33. This emergency project was put into place to respond to the 2008 food price crisis. However, delays in implementation led to few real impacts before the 2012 season. While the project largely ultimately achieved its objective of increasing farmers' access to agricultural inputs and technologies, such that the project met or exceeded most of its overall impact targets, it is not clear that it was sufficiently timely enough to be deemed effective. Based on overall impact indicators, the EAPP:

- Achieved an incremental staple production in targeted areas of 281,677 MT, more than three times the projected target.
- Contributed to increased maize yields in targeted areas to 14 bags per acre, exceeding the baseline of 6 bags per acre (a 133 percent increase) but under the original target by 1 bag per acre.

- Directly benefited a total of 542,647 farmers (excluding credit guarantee scheme beneficiaries). Some 290,000 farmers benefited from training and capacity-building activities while another 260,000 beneficiaries were able to access publicity and other materials from the project.¹⁰ The number of direct beneficiaries *did not* reach the original target of 1,150,000, however, mainly due to constraints encountered in multiplication of the orphan crops planting materials. Thus, this indicator was 47 percent under its targeted value, a significant shortcoming.
- Failed to meet the target of farmers adopting at least one improved food production technology; only about 43 percent of farmers did so.

34. An impact assessment of beneficiary households indicated that household income and welfare improved as a result of participating in the EAPP. The increased income at household level enabled some families to invest in other income-generating investments, such as the motorcycle taxi business (*bodaboda*). Some beneficiaries acquired assets such as improved housing, land, cattle, and goats. The increased income also enabled some farmers to diversify into cattle and goat rearing, horticultural farming, mushroom growing, and value addition of maize through milling and branding.

35. The achievements made in each of the project components as per development outcome indicators are summarized below.

36. **Input Voucher Component:** This was the main component of the project, with an allocation of over 60 percent of the total grant amount. This component had three main outcome indicators relating to both the number of farmers receiving improved seeds and fertilizers and the area cultivated with hybrid maize. Through the EAPP's interventions:

- A total of 244,364 farmers in 89 districts received improved seeds and fertilizers through input vouchers, exceeding the target of 150,000 farmers.
- Arising from this, a total 31,424 MT of fertilizers and 3,142 MT of seed were procured and distributed to farmers during the project implementation period. These represented 134 percent of the targeted volume of fertilizer; incremental maize seed distributed exceeded its target by 70 percent.
- The fertilizers and seed were used to cultivate an additional 77,580 hectares with hybrid maize, surpassing the target of an additional 61,100 hectares.

37. To facilitate the redemption of input vouchers, the project supported the training and accreditation of agro-dealers throughout the country. Through this support:

- 2,685 agro-dealers were trained against a target of 2,000, which helped decrease the distance that farmers traveled to acquire inputs, from 15-35 km to 9-15 km.

38. The impact assessment indicated that agro-dealers have started to report increased sales of inputs across the country due to increased demand for fertilizer and certified

¹⁰ A significant number of trainees are also direct project beneficiaries.

seed. This is a clear indication that some of the beneficiary farmers have started to purchase inputs on their own. Through the EAPP, the concept of cereal banking has also picked up¹¹; 172 cereal banks were formed to help farmers manage their harvest and reinvest in farming. Some of these cereal bank groups have started to apply for loans from the ACGS.

39. **Orphan Crops Program Component:** The area cultivated with orphan crops was the main outcome indicator under this component:

- An additional 62,008 hectares were cultivated with orphan crops against an incremental target of 130,000 hectares, or about 70 percent of the target.
- By the close of the EAPP, 298,407 farmers (176,885 female and 121,522 male) had received and planted orphan crops planting materials.

40. In addition, there is evidence that orphan crops increased nutritional outcomes, as some beneficiaries retained grain legumes produced from drought-tolerant seeds for home consumption, thereby enriching their diets. Lastly, arising from the EAPP support, about 15,000 farmers were organized into 15 commercial villages where they grow, package, and sell seeds and other plantings as a business venture.

41. **Agricultural Credit Guarantee Scheme Component:** During project design, no outcome indicator was assigned to this component as it was felt that the activities supported under it were not directly linked to the PDO. Despite implementation delays, the participating financial institutions are making progress in implementing the credit guarantee scheme funded under EAPP as indicated below:

- Equity Bank, which had previous experience in managing Kilimo Biashara, had loaned KSh 637,906,505 (US\$74 million) to 7,396 borrowers by the end of November 2012.
- Ninety-six percent of the loans were made to smallholder farmers and 4 percent to agro-dealers.
- Two other banks (Family Bank and Cooperative Bank) that joined the scheme in 2011 had made loans totaling KSh 20.3 million to 98 farmers and agro-dealers by December 2012.
- Defaults to date remain low, at 3 percent.

42. These numbers seem to indicate that the design of the ACGS was sound. Farmers supported through input vouchers are graduating and are able to form cereal banking groups and to access loans through the ACGS. The results of the beneficiary survey show that in 2007/08, 73 percent of input voucher beneficiaries graduated to Kilimo Biashara. In 2008/09, 24 percent graduated; in 2009/10, 23 percent; and in 2010/11, 34 percent. Amongst those interviewed, 74 percent had taken credit to purchase farm inputs.

¹¹ Cereal banks are formed by farmers coming together after harvest to store their grain in a common warehouse/store, thereby enabling them to use the stored grain as collateral or to sell the grain when the price improves in the market.

3.3 Efficiency

43. The Emergency Project Paper prepared by the World Bank in March 2010 estimated that the incremental benefit from the input voucher scheme alone would be valued at €27 million. This was due to an assumption of an incremental production of 9 bags per acre valued at KSh 2,200 per bag, resulting in 121,500 MT of maize. The value of production expected from other staple crops was estimated at €13.8 million. The ICR end-of-project estimates exceed those appraisal estimates. Incremental production of maize from the voucher scheme is now 281,677 tons; valued at KSh 25,000 per ton, this yields a total value of €60.4 million. The incremental value of production resulting from the OCP component is estimated at €9.5 million. The total incremental value is estimated to be €75.53 million (see Annex 3 for further details).

44. Data limitations precluded the conduct of a full economic analysis. A simple return on investment (ROI) was calculated using the total project investment of €19.13 million and the estimated €75.53 million in returns from the three components (at current prices); this yields an overall ROI of 295 percent and a benefit/cost ratio of about 3. However, these figures are likely to be significant overestimates, as they use only project costs in their calculation, rather than incorporating the opportunity costs of items not covered in the direct project costs (e.g., labor).

3.4 Justification of Overall Outcome Rating

45. Rating: Moderately Unsatisfactory

46. Despite delays and implementation hitches, the design of the program, which built on existing, ongoing programs, allowed agreed targets for the main input voucher component to be exceeded. This ensured that the project met or exceeded most of its overall impact targets. However, the other components did not meet their targets and the project implementation encountered several fiduciary and institutional shortcomings. On balance, a rating of Moderately Unsatisfactory is justified based on the partial achievements of the outcome indicators and the significance of the implementation challenges encountered.

3.5 Overarching Themes, Other Outcomes and Impacts

(a) Poverty Impacts, Gender Aspects, and Social Development

47. *Improved household incomes.* The increased income at the household level has enabled some families to invest in other income-generating investments (such as money transfer services on a mobile telephone platform (M-Pesa) and motorcycle taxi businesses (*bodaboda*)), and to venture into other agricultural enterprises (such as horticultural farming, dairy production, and poultry keeping). Some beneficiaries have improved their housing and the lighting for their homes and some have purchased assets such as cattle, goats, sheep, and land.

48. *Positive impact on education.* Child retention in schools increased from 78 percent to 98 percent in the Eastern Province due to the increased availability of food at the household level in the 2010 crop season. There has also been a substantial reduction in secondary school fee debts due to the improved financial capability of beneficiaries.

49. *Gender impact.* One-third of the recipients of agricultural loans under the Kilimo Biashara component were women. Over half of the recipients of planting materials under the OCP component were women. Information disaggregated by gender of input voucher scheme recipients was not found as the benefit was linked to household ownership.

(b) Institutional Change/Strengthening

50. The EAPP carried out a substantial number of capacity-building activities. Training of public servants included process and technical training at the community, district, and national levels. Study tours to observe other voucher schemes took place. A training of trainers course in sorghum production and marketing was especially useful to link dryland farmers to markets. Over 200,000 farmers were trained under all three project components. Agro-dealer training was an important activity under the voucher scheme component. Commercial trainers were trained by AGMARK, and over 2,600 agro-dealers were trained under the project.

51. The most serious implementation issue, delays in paying input suppliers, undermined the reputation of the input voucher scheme. As a result, many credible stockists avoided transacting with the program for fear of delays in payments. The decentralization of payments to the district level helped to address these delays. However, the design of the e-voucher system financed by the EAPP should more comprehensively address this problem in the future.

(c) Other Unintended Outcomes and Impacts (positive or negative)

52. *Establishment of cereal banking.* Beneficiaries of the input voucher program were encouraged to collect surplus grain in common stores. These cereal banks provide a source of grain close to the communities and serve to increase the value of the grain retained by the producers from the sale of surpluses. A total of 172 cereal banks were established, with over 7,000 bags of maize collected in the banks when the weather was favorable.

53. *Piloting of an e-voucher system.* This was necessitated by the large volume of paperwork required to redeem the input vouchers and, thereafter, process payments for the suppliers. This exercise is ongoing, with data from five pilot districts already fed into the trial system. In addition, a farmers' hand-card was developed that will serve as a monitoring tool to track the progress of beneficiaries.

3.6 Summary of Findings of Beneficiary Survey and/or Stakeholder Workshops

54. A beneficiary survey of 625 respondents from nine districts was conducted as part of the end-of-project impact evaluation exercise. The survey mainly focused on the

voucher scheme, and found that 96 percent of voucher scheme recipients considered the selection process “good or fair”; 91.3 percent had received training; 96 percent reported increased productivity; and 58 percent reported greatly improved food security. Among agro-dealers, 70 percent received training; 42 percent indicated that high transaction costs and transport costs were their biggest constraint. Regarding the Kilimo Biashara program, 74 percent of participants had taken credit to purchase farm inputs. A summary of the main findings of both the beneficiary survey and a related impact assessment can be found in Annex 5.

4. Assessment of Risk to Development Outcome

55. Rating: Moderate

56. The risk to development outcomes is rated moderate, due to the implementation risks remaining for the ACGS and the restructuring of the input voucher scheme and the OCP. Delays in the disbursement of funds for Kilimo Biashara/ACGS mean that farmer/agro-dealer repayment rates are still unknown. However, indications from the past loan repayments point to a low default rate, especially given that the financial institutions involved are using time-tested screening and repayment appraisal procedures. Furthermore, the GoK has committed itself to the institutionalization of the scheme into an agricultural credit guarantee fund, and a detailed plan has already been developed. The e-voucher system has been designed and tested on pilot basis, and is proposed for scale-up under the EAPP follow-on project to be implemented in 2013 through further support from the EU. The GoK has started restructuring the voucher scheme in readiness for its rollout in the October 2013 season. On the positive side, farmer graduation from the voucher scheme to the credit scheme is robust, and Kenya has the necessary private sector enabling environment to support a sustainable, private sector-driven input supply system for small farmers.

5. Assessment of Bank and Borrower Performance

5.1 Bank Performance

(a) Bank Performance in Ensuring Quality at Entry

57. Rating: Moderately Satisfactory

58. Preparation was done efficiently in accordance with the emergency procedures. The preparation team appraised the operation such that it was most likely to achieve planned development outcomes given the short implementation period. The experience and lessons learned in implementation of other sector projects, and in particular the IDA-supported KAISP, were used to inform the design and implementation arrangements. The provisioning for retroactive financing also allowed the GoK to initiate the input voucher scheme and other activities on time. However, in hindsight, the appraisal clearly underestimated the time required to produce and distribute the orphan crops materials. This led to overly ambitious outcome indicators for this component.

(b) Quality of Supervision

59. Rating: Moderately Satisfactory

60. A Nairobi-based task team leader carried out World Bank supervision of the grant. This allowed for regular and effective liaison with the government's NAAIAP management team at the national level. International technical staff participated as part of regular supervision as did Nairobi-based EC staff. Implementation problems were covered comprehensively in supervision reports and time-bound plans for improvement were agreed. Although regular fiduciary supervision was carried out, including an in-depth review in 2012, the EAPP ended up with several fiduciary issues that could have been identified and resolved earlier. The significant delay in the ICR itself is noted as a shortcoming. A more pro-active follow-up on institutional development issues across the four components would have been welcome.

(c) Justification of Rating for Overall Bank Performance

61. Rating: Moderately Satisfactory

62. Preparation was timely and efficient. The project design was simple and the Bank's internal review was comprehensive. Supervision was undertaken regularly but there were several fiduciary weaknesses that could have been resolved during implementation. Again, the delay in the ICR is identified as a detractor to a higher rating.

5.2 Borrower Performance

(a) Government Performance

63. Rating: Moderately Satisfactory

64. The GoK made known its interest to use and scale-up existing programs and was open to suggestions for improvement and requirements for monitoring during preparation. Coordination between MoA and Treasury on Kilimo Biashara was lacking and caused significant delays. Slow release of funds from Treasury to MoA further exacerbated program delays.

(b) Implementing Agency or Agencies Performance

65. Rating: Moderately Unsatisfactory

66. Despite recognition of implementation problems in all three components as outlined above, many of these problems persisted up to the end of the project. Project benefits, while substantial, could have been greater with quicker action on procurement, financial management (including comingling of funds), and better coordination between financial institutions and other private sector entities. Problems in the cash flow system for reimbursement of agro-dealers persisted and were the cause of audit queries. While there continues to be commitment, and plans have been developed to improve these processes, implementation remains a challenge.

(c) Justification of Rating for Overall Borrower Performance

67. Rating: Moderately Unsatisfactory

68. The Borrower showed strong commitment during preparation, despite the shortcomings mentioned. However, the fiduciary risks occasioned by poor recordkeeping and the non-operationalization of a segregated project account could have been avoided through better oversight and management. On balance, therefore, the Moderately Unsatisfactory rating is justified.

6. Lessons Learned

69. *In-country systems – input distribution, agricultural credit, diversification support -- must adequately support emergency operations.* Although the Bank has expedited procedures that allow for quick preparation and disbursements for emergency projects, the EAPP was constrained by delays in disbursements, procurement, and other procedures and processes in the country. A case in point is the delays witnessed in the ACGS due to in-country procurement and disbursement procedures. It will be therefore be prudent in the future to review and agree during project design on the in-country procedures that can support and facilitate the implementation of emergency operations. The strategy to scale up the ongoing GoK program did help, to a certain extent, in addressing the human and institutional capacity gaps which could have otherwise been a major constraint to the implementation of an emergency project. However, in the future, more attention should be focused on appraising and supporting capacity building as an important success factor.

70. *The fiduciary management capacity of the implementing agency at the national and lower levels needs to be enhanced.* Although the technical support to the project activities was adequate, the fiduciary management at the national and district levels was inadequate. The management of financial records including vouchers and of operational expenses was cumbersome and led to some ineligible expenses. Given the magnitude of the records to be kept, there is need to adequately provide for capacity building of national and district level staff and to encourage computerization and simplification of most of the records.

71. *Inclusion of some critical post-harvest interventions could improve project outcomes.* Although the three main components and activities supported under the EAPP were considered adequate, a significant proportion of the maize harvested from farms supported under the project was lost in 2010 due to an aflatoxin infestation in the Eastern Province. This clearly indicates that whenever production-enhancing technologies are promoted, it is advisable to also support other off-farm activities such as storage and marketing.

72. *Cross-sectoral and international experience, especially in the input voucher scheme, should be incorporated.* Social protection programs in Kenya (orphans' support and cash transfers, for example) have several years of experience using electronic means of transfer. The MoA should emulate existing transfer mechanisms proven successful in Kenya. Additionally, there could be better incorporation of lessons learned from other countries. For example, under the input voucher program, there is a need to consider support for more than one season in line with common practice in other countries. Location-specific input packages and voucher pricing, among other issues, should also be considered.

73. *Existing programs provide useful platforms on which to build and gradually scale up service activities* such as the ones pursued under this project. However, doing so takes time and requires more time than the 22 months provided under the EAPP.

74. Overall, the EAPP was justified given the context of Kenya's import dependence and rising food and fuel prices. The selected activities were appropriately chosen to achieve quick results and to reach vulnerable populations. However, the EAPP's overall rating of moderately unsatisfactory reflects the serious challenges encountered in implementation, and the lackluster evidence regarding the project's outcomes (themselves hindered by the limited data available for economic analysis). In hindsight, a better assessment of the GoK's capacity to implement the activities would have been helpful and a stronger pre-negotiated agreement on the treatment of special accounts could have mitigated some of the implementation issues encountered. It seems clear now that the OCP component was not amenable to an emergency approach, but this was not apparent at the time the project was prepared, particularly given the circumstances under which it was developed. Presumably, these lessons learned can help inform future emergency projects.

7. Comments on Issues Raised by Grantee/Implementing Agencies/Donors

Please refer to Annex 7 and Annex 8.

Annex 1. Project Costs and Financing

(a) Project Cost by Component (in € million equivalent)

Components	Appraisal Estimate (€ millions)	Actual/Latest Estimate (€ millions)	Percentage of Appraisal
1. Upscaling Kilimo Biashara Agricultural Credit Guarantee Scheme Program	5.07	4.55	90%
2. Upscaling Input Voucher Scheme (Kilimo Plus) Input Vouchers and Training and Accreditation of Agro-dealers	9.48	10.00 ¹²	105%
3. Support to Orphan Crops Program	3.08	3.08	100%
4. Government Coordination and Operating Costs (including Visibility and Communications)	1.50	1.5	100%
Total Project Costs	19.13	19.13	100%

(b) Financing

Source of Funds	Type of Cofinancing	Appraisal Estimate (€ millions)	Actual/Latest Estimate (USD millions)	Percentage of Appraisal
Trust Funds		19.13	19.13	100%
Borrower ¹³		2.27	2.27	100%

¹² Increase of €1.45 in input supply and decrease of €0.94 in training of agro-dealers as Ministry staff conducted training.

¹³ Cannot disaggregate by component as government costs were provided in kind and program-wide.

Annex 2. Outputs by Component

The project met most of its outcome indicators, namely:

- (i) Overall, a total of 542,771 farmers directly benefited from the project (excluding ACGS beneficiaries). Some 290,000 farmers benefited from training and capacity-building activities while another 260,000 beneficiaries were able to access publicity and other materials from the project.¹⁴ However, the number of direct beneficiaries did not reach the original target of 1,150,000 mainly due to constraints encountered in multiplication of the orphan crops planting materials;
- (ii) An additional 244,363 farmers received improved seeds and fertilizers through input vouchers, exceeding the target of 150,000 farmers;
- (iii) 77,580 hectares were cultivated with hybrid maize, surpassing the target of 61,101 hectares;
- (iv) The area cultivated for orphan crops increased by 62,008 hectares; and
- (v) An additional 295,415 farmers adopted at least one technology for food production, such as a hybrid maize production system, improved orphan seeds varieties, improved production systems, or use of organic fertilizers.

The project achieved an incremental staple production of 281,677.5 tons in targeted areas, far exceeding the target of 85,050 tons. Maize yields in targeted areas reached an average of 14 bags per acre. Due to insufficient rainfall, this was lower than the target of 15 bags per acre but far exceeded the baseline of 6 bags per acre. Participating farmers were able to produce sufficient grain for household use and generated income from the surplus grain to buy inputs. In addition, orphan crops increased nutritional outcomes, as some beneficiaries retained grain legumes produced from drought-tolerant seeds for home consumption, thereby enriching their diets.

The following activities were carried out for each of the components:

Component 1 - Scaling up the existing Agricultural Credit Guarantee Scheme (Kilimo Biashara). Agreements for the enhanced scheme under EAPP were signed in June 2011 and guarantee funds of KSh 500 million were disbursed to the four participating banks: (i) KSh 300 million to Equity Bank; (ii) KSh 70 million to Cooperative Bank of Kenya; (iii) KSh 69 Million to Family Bank; and (iv) KSh 61 million to Kenya Women Finance Trust. However, lending under the Agricultural Credit Guarantee Scheme (ACGS) has been delayed due to the base lending rate rising to 18 percent from about 8 percent when the loan's interest rate of 12 percent was negotiated and included in the scheme agreements. It took almost four months of negotiations for the banks to secure MoA approval to adjust the lending rates from 12 percent to 15 percent. An Inter-Ministerial Coordinating Committee (ICC) was formed to oversee the running of the ACGS and to address the issue of interest rates and utilization of guarantee funds in the post-project

¹⁴ A significant number of trainees are also direct project beneficiaries.

period. In spite of this delay, ancillary activities related to this component are ongoing. For example, a total of 261 MoA staff were sensitized in six workshops about the scheme in preparation for rollout. The Equity Bank Foundation trained an additional 258 field implementers in six workshops on financial literacy. They will, in turn, train farmer groups.

Many of the farmer groups introduced by the MoA to the banks as being ready for loans turned out not to be ready, for two reasons. First, those farmers assumed that Kilimo Biashara loans were regular GoK loans where no collateral was required. They were therefore shocked when the banks gave them the terms and conditions of the loans. Second, the groups were not linked to organized market outlets that the banks could use to recover the loans. Subsequently, many small-scale farmers opted not to acquire the loans because they could not comply with these conditions. The hands of the banks were also tied because they had to comply with Central Bank of Kenya requirements to ensure that all their lending was properly secured. However, the banks have recruited more clients and enhanced their relationship with farmers. Equity Bank attributes the development of its agricultural portfolio to Kilimo Biashara, especially in the new areas, as it enabled the bank to identify new clients.

Component 2 - Scaling up the existing input voucher scheme (Kilimo Plus). The scale-up of the existing input voucher scheme exceeded program targets. A total of 19,395 MT of fertilizers and 1,936.5 MT of maize seeds were procured and distributed to farmers in 94 districts. This exceeded the incremental target of 15,000 MT of fertilizers and 1,500 MT of seeds. The extra input vouchers were a result of changes in the exchange rate between the Euro and Kenyan shillings, reallocation of unspent funds from other components of the project, and a decline in input prices. In addition, a total of 2,685 agro-dealers (exceeding the target of 2,000) and 305 staff were trained and accredited during this period. The training of agro-dealers has helped to decrease the distance farmers travelled to acquire inputs, from 15-35 km to 3-9 km.

Component 3 - Scaling up of the Orphan Crops Program. The OCP had an initial target of 1,500,000 beneficiaries. One-third (500,000 beneficiaries) were to be reached directly through the distribution of seeds and planting materials, with the rest of the households benefitting later from the seed multiplied by the original 500,000 households. This target was revised downwards to 250,000 beneficiaries due to unavailability of planting material and the inability to complete another round of multiplication. The OCP ultimately exceeded this revised target by reaching 298,407 beneficiaries, of which 59 percent were women farmers. The involvement of the private sector in the OCP is still rudimentary. The OCP also faced the challenge of inadequate storage space for retrieved materials. This was overcome by having seeds retained at group stores at the community level or having members of the community select a trusted group member to temporarily store the seeds for other members. Retrieved seed is also stored at DAOs' stores, as in the case of Mwala district. Poor weather in 2010 also hindered production. A total of 860 MT of assorted orphan seeds, 2,624,000 cassava cuttings, and 2,447,000 sweet potato vines were distributed in 101 districts. An estimated 163,658 MT of food were produced from

the planting materials issued and a total of 206 MT of assorted seeds, 320,202 cassava cuttings, and 170,960 sweet potato vines were retrieved for redistribution.¹⁵

Component 4 - Support for project administration. The project supported the coordination and operating costs associated with the operation, covering: (i) printing of input vouchers; (ii) purchase of three vehicles for supervision of the projects; (iii) training costs for farmers and extension staff; (iv) transport, subsistence, office, and seed distribution costs; (v) M&E and impact assessment costs; (vi) visibility and communication costs; and (vii) audit costs.

¹⁵ Crops included green grams, cowpeas, sorghum, beans, sweet potatoes, and millet.

Appendix to Annex 2: Experiences of Equity Bank in Kilimo Biashara

Equity Bank received KSh 300 million as credit guarantee under the Kilimo Biashara scheme and by November 30, 2012 had loaned out KSh 637,906,505 to 7,396 borrowers, making it the largest commercial lender in the Kenyan agricultural sector. Of those borrowers, 7,295 were smallholder farmers while 101 were agro-dealers.

The majority of the small-scale farmers clients were drawn from the Rift Valley; they comprised 71 percent of the clients but borrowed 85 percent of the funds. These borrowers were concentrated in Eldoret, Kitale, Nakuru, and Ol Kalou towns. On the other hand, most of the agro-dealers clients were from the Central and Rift Valley provinces, comprising 45 percent of the clients in this category but only accounting for 43 percent of the agro-dealer portfolio.

Also by November 30, 2012, the borrowers had already repaid some KSh 90,897,364, with the remainder (KSh 547,009,141) being loan balances. The default rate has been low and according to Equity estimates, only about 3 percent of the loanees have delayed repayments. Weather and market-related risks are an integral part of agriculture production systems. To hedge against risks, Equity Bank is also working with Syngenta Foundation to support crop insurance under Kilimo Salama Programme.

Table A2.1: Equity Bank Summary as of November 30, 2012

Total balances up to November 2012	547,009,141.00
Total loans paid up to November 2012	90,897,364.00
Interest rate	12% p.a
Total no. of female borrowers	2,657
Total no. of male borrowers	4,638
Total number of other borrowers (agro-dealers)	101
Total number of borrowers up to November 2012	7,396

Equity Bank attributes its success to a number of factors, namely:

- (i) It built the capacity and structures to support agricultural lending. For instance, at the time of the evaluation, the Bank had 290 members of staff specialized in agriculture manning the agricultural credit department, spread over 123 branches across the country.
- (ii) The Bank invested in building the capacity of MoA frontline extension staff by training them in financial literacy from the outset. It reinforced the messages through field visits organized jointly with the MoA. This reduced information distortion to clients regarding the ACGS, which was identified as the greatest constraint by the other participating financial institutions.

- (iii) The Bank's management was very supportive of Kilimo Biashara, underwriting the high cost of training Bank and MoA extension staff. In summary, Equity Bank invested heavily to make Kilimo Biashara grow, identified new opportunities for agricultural credit, and explored innovative ways to engage other stakeholders across different production systems and value chains.

In addition to these key factors, Equity Bank attributes this success largely to its ability to leverage the loan guarantee scheme on new and emerging programs in the agricultural sector by building partnerships with other players in the sector. Its key partners were: Kenya Seed Company, which traditionally financed small-scale farmers to undertake seed multiplication through bank overdrafts; the National Irrigation Board, which financed infrastructure development in irrigation schemes from exchequer but maintained the systems through user fees; and the Mount Kenya Smallholder Horticulture Project and Mitunguu Irrigation Project, financed by IFAD and KfW, respectively. In addition, Equity Bank established partnerships with organizations financing innovative products in the Kenyan agricultural sector. These include warehouse receipt systems (WHR) established in partnership with: (i) Lesiolo Grain Handlers Ltd, which provides post-harvest management of grain for wheat, maize, barley, and sorghum; (ii) Mama Millers in Moi's Bridge, which handles maize and wheat; (iii) Garnets Enterprises in Kasikeu, which handles pulses and legumes; and (iv) Kasikeu Multipurpose Co-operative in Mbitini, which handles pulses and legumes.

Equity Bank is working in partnership with the World Food Programme (WFP) to finance production and aggregation of staple food under the Purchase for Progress (P4P) initiative with farmers in Eldoret participating in the Academic Model Providing Access to Healthcare (AMPATH) program. As the world's largest humanitarian agency, WFP is a major buyer of staple food. The P4P uses WFP's purchasing power and its expertise in logistics and food quality to offer smallholder farmers opportunities to access agricultural markets, to become competitive players in those markets, and thus to improve their lives. The five-year pilot initiative links WFP's demand for staple food with the expertise of a host of partners who support farmers to produce food surpluses and sell them at a fair price.

Equity Bank also entered into a partnership with East African Breweries Ltd to finance commercial production of sorghum through the ACGS, which in turn created new cash crops suitable for areas that had no other alternatives.

Annex 3. Economic and Financial Analysis

The Emergency Project Paper prepared in March 2010 estimated that the incremental benefit from the input voucher scheme alone would be valued at €27 million. This is the result of an assumption of an incremental production of 9 bags per acre valued at KSh 2,200 per bag, resulting in 121,500 MT of maize. The value of production expected from producing other staple crops was estimated at €13.8 million.

Data limitations precluded a detailed economic analysis of the project's outcomes. Based on the methodology used in the appraisal document, simple returns on investment (ROI) were calculated for each of the three components. Even this was complicated by the fact that there was a wide variety of traditional high-value crops (i.e., the orphan crops), spread across different agro-ecological systems. It was assumed that the yields achieved from on-farm production were 50 percent of that obtained in the research stations. Another simplifying assumption was that the average price for each of the crops applied countrywide. Given the short duration of the project, no discounting was applied.

In terms of production, the ICR end-of-project outcomes exceeded the appraisal estimates. Incremental production of maize from the input voucher scheme is 281,677 MT; at KSh 25,000 per ton, this would be valued at €60.4 million (using an exchange rate of KSh 116 to €1). The incremental value of production resulting from the OCP component is estimated at 9.5 million.

Thus, the total investment was €19.13 million, while the simple returns from the three components were estimated to be €75.53 million at current prices, yielding an overall return on investment (ROI) of 295 percent. A benefit/cost ratio of about 3 is obtained. However, it should be kept in mind that the costs are project costs only, and do not include the opportunity costs of items not covered by the project (e.g., labor). Thus, the ROIs calculated (by component and for the total project) are likely to be significantly overestimated.

The ROI for orphan crops was 226 percent. However, it does not capture the investment by project beneficiaries in terms of land preparation, weeding, harvesting, and labor. The ROI for Kilimo Biashara is estimated to be 10.5 percent, while the ROI for Kilimo Plus is estimated to be 537 percent. The ROI for Kilimo Plus was high due to the high benefits generated from the good yield response that was realized. A significant number of the beneficiaries were able to realize yields over three times their baseline. The price of maize also remained high during the period. As in the case of the OCP, this figure should be treated with caution, as the ROI for Kilimo Plus did not take into account all of the incremental costs incurred by the beneficiaries.

$$\text{ROI} = \frac{\text{Total Benefits} - \text{Total Costs}}{\text{Total Costs}} \times 100$$

Return on Investment 226

Total Costs 341,880,000

Total Costs = € 3.02 million

Rate = KSh/€ 111

Rate = KSh/€ (18 Feb 2013) 116.614

Total Benefits in KSh 1,112,845,175

Total Benefits in Euro € 9,544,127

	Investment (mill)	Returns	
Kilimo Biashara	€ 5.07	€ 5,607,538	€ 5.60
Kilimo Plus	€ 9.47	€ 60,393,975	€ 60.39
Orphan Crops	€ 3.02	€ 9,544,127	€ 9.54
Project Admin	€ 1.57		
Total	€ 19.13		€ 75.53
Total Return on Investment			295%

Annex 4. Grant Preparation and Implementation Support/Supervision Processes

(a) Task Team Members

Name	Title	Unit
Lending/Grant Preparation		
Andrew Karanja	Sr. Agricultural Economist (TTL)	AFTAR
Christine Cornelius	Program Coordinator	AFTAR
Dahir Warsame	Sr. Procurement Specialist	AFTPC
Henry Amuguni	Financial Management Specialist	AFTFM
Ladisy Chengula	Sr. Environmental Specialist	AFTEN
Monica Okwirry	Program Assistant	AFCE2
Nightingale Rukuba-Ngaiza	Sr. Counsel	LEGAF
Stephen Mukaindo	Counsel	LEGAF
Nyambura Githagui	Sr. Social Development Specialist	AFTCS
Joel Buku Munyori	Procurement Specialist	AFTPC
Luis M. Schwarz	Sr. Finance Officer	CTRFC

Supervision/ICR	Title	Unit
Andrew Karanja	Sr. Agricultural Economist (TTL)	AFTAR
Christine Cornelius	Program Coordinator	AFTAR
Dahir Warsame	Sr. Procurement Specialist	AFTPC
Henry Amuguni	Financial Management Specialist	AFTFM
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Monica Okwirry	Program Assistant	AFCE2
Nightingale Rukuba-Ngaiza	Sr. Counsel	LEGAF
Stephen Mukaindo	Counsel	LEGAF
Nyambura Githagui	Sr. Social Development Specialist	AFTCS
Joel Buku Munyori	Procurement Specialist	AFTPC
Patrick Piker Umah Tete	Sr. Financial Management Specialist	AFTFM
Hermann Pfeiffer	Sr. Agricultural Specialist	FAO-TCIA
Shamis Salah Musingo	Program Assistant	AFCE2

(b) Staff Time and Cost

Stage of Project Cycle	Staff Time and Cost (Bank Budget Only)	
	No. of staff weeks	USD thousands (including travel and consultant costs)
Lending ¹⁶		
Total:		
Supervision/ICR		
2010	21.38	69,294
2011	22.14	64,888
2012	11.23	65,752
Total:	54.75	199,934

16 Note that the staff time and cost for lending cannot be provided as this project was linked to an IDA project in the system and cannot be disaggregated from it.

Annex 5. Impact Assessment and Beneficiary Survey Results

As part of the NAAIAP/EAPP evaluation, LOG Associates carried out an impact assessment and beneficiary survey of 625 respondents from a stratified random sample of nine districts. The evaluation was mainly focused on the voucher scheme. A complete record can be found in their report (NAAIAP Program Evaluation, December 2011, LOG Associates). A summary of their findings follows.

Voucher Scheme Recipients

- 96% of those interviewed considered the beneficiary selection process good or fair
- 91.3% reported they had received training from the program
 - 23% on mobilization of their own resources
 - 31% on farming as a business
 - 25% on storage and post-harvest handling
 - 20% on safe use and handling of agri-inputs
- 85% reported on being supervised by MoA staff
- 95% rated the voucher redemption process efficient
- 69% are now using both certified seed and fertilizer
- 96% reported increased productivity
- 58% reported greatly improved food security, 39% reported slightly improved food security

Agro-dealers

- 70% received training
- 91% would like financial institutions to redeem their vouchers
- 42% indicated high transaction costs and transport costs their biggest constraint

Kilimo Biashara

- In 2007/08, 73% of voucher beneficiaries graduated to Kilimo Biashara; in 2008/09, 24% graduated; in 2009/10, 23%; and in 2010/11, 34%
- 74% had taken credit to purchase farm inputs

Summary of Impact Assessment

Kilimo Plus

1. *Supply and distribution of inputs*: Whilst the Program has made considerable efforts to provide the inputs to the farmers on time, there were delays experienced in their delivery which led to late planting, impacting negatively on production. The inputs were received late due to lack of inputs during the onset of the season, lack of adequate capacity of local agro-dealers, and the lack of reliable transport infrastructure. More timely program planning and distribution of inputs will ensure that the inputs get to the farmers early enough in the future.

2. *Risks*: The agro-dealer is expected to bear the biggest risk since he/she is expected to source the required inputs using his/her own resources. A Risk Management strategy particularly for agro-dealers should be developed. This can be achieved by instituting a provision for voucher reimbursement at banks.

3. *Voucher processing*: The processing of vouchers was tedious and time consuming, thus there is a need to develop an e-voucher system to enhance effectiveness. The majority (91 percent) of the agro-dealers would also prefer to redeem their vouchers at financial institutions, as this would ensure that they have regular working capital. In the current system, they have to wait a long time to receive their payment.

4. *Logistical challenges*: Agro-dealers raised transportation as a major issue due to the poor state of the road infrastructure. This led to increased distribution costs to the agro-dealers and some reportedly did not give farmers inputs in time. It is recommended that central places convenient to both agro-dealers and farmers be identified where inputs can be delivered and collected.

Kilimo Biashara

There has been a gradual increase in the adoption of Kilimo Biashara, particularly of small-scale loans, from KSh 715.8 million in 2009 to KSh 1,046.4 million in 2010. To date, KSh 412.9 million has already been given to farmers. However, there has been a slow transition from Kilimo Plus to Kilimo Biashara, with most of the initial beneficiaries failing to engage in Kilimo Biashara. In FY 2007/08, only 73.6 percent of the beneficiaries graduated to Kilimo Biashara; in FY 2008/09, 23.8 percent; in FY 2009/10, 23.1 percent; and in FY 2010/11, 34 percent.

1. *Formal banking procedures and physical access difficulties*: Some farmers did not comprehend the banking procedures and the need for formal documentation mainly due to low literacy levels. There is therefore a need to demystify the loan acquisition process. Equity Bank is already training farmers to increase awareness and to demystify loan issues among borrowers.

2. *Crop insurance*: Agricultural insurance is regarded by small-scale farmers as an instrument that can only be undertaken by large-scale farmers. In addition to Kilimo Biashara, there is need for the Program to explore the crop insurance options already being marketed by various insurance companies. As explained in Annex III, various options are already being implemented on trial basis.

3. *Cereal banking*: The idea of cereal banking has not fully been accepted among the farmers due to various reasons, including: group dynamic challenges; lack of marketing channels; lack of proper storage facilities; and unsustainability of cereal banks. Establishment of physical cereal banks is a challenge due to logistical/operational issues such as storage, management, insecurity, individualistic tendencies amongst group members, and difficulties in balancing farmers' household and commercial needs. This can be solved by increased sensitization on cereal banking and development of a model cereal bank.

4. *Perception of the warehouse receipt system (WHR)*: The concept is still new amongst small-scale farmers, who perceive the WHR as a system practical for large-scale farmers. Capacity building was well done and will go a long way in sustaining the Program activities. However, more capacity building is needed to enhance the Program foundation.

Orphan Crops Program

1. *Perceptions*: The term “orphan crops” was found to sound stigmatizing in some forums, thus affecting acceptability of these crops in certain instances. This may have contributed to the low uptake by farmers. To mitigate this, the MoA proposed a change of name for the program to “traditional high-value crops.” It may also be useful to consider terms such as “drought-tolerant high-value crops.”

2. *Acceptability of inputs*: Some of the traditional high-value crops distributed to beneficiary farmers were not well received (for example, sorghum). In distributing orphan crops, the program should match the seeds with district crop performance and local requirements.

3. *Industry demand*: There already exists huge industrial demand for sorghum for the production of alcohol products. Therefore, there is an urgent need for the MoA to enhance the production of sorghum to meet the industrial demand. The increase in production can only be achieved by targeting both large-scale and small-scale sorghum farmers. Such projects can be replicated when industry and market demand is developed. The findings of the evaluation show that implementation of NAAIAP has had a positive impact on the lives of the farmers and agro-dealers. These impacts arose from: increased household food security through provision of inputs to farmers who would not have used such inputs under normal circumstances; and increased capacity of agro-dealers to supply and distribute farm inputs to farmers. This is in line with the Program goal of improving farm input access and affordability of smallholder farmers to enhance food security/availability at the household level and to generate incomes from the sale of surplus produce.

Annex 6. Stakeholder Workshop Report and Results

Not applicable.

Annex 7. Summary of Recipient’s Comments on the Bank’s ICR

General comment

The names “Orphan Crops Program” (OCP) and “orphan crops” have since changed to “Traditional High-Value Crops Program” (THVC) and “high-value traditional crops.” These changes need to be reflected in the EAPP ICR.

2. Key Factors Affecting Implementation and Outcomes

2.2 Implementation

Agricultural Credit Program (Kilimo Biashara)

The Project Document (March 8, 2010) refers to the upscaled Agricultural Credit Program as Kilimo Biashara. However, the original Kilimo Biashara partnership between AGRA, IFAD (through SHOMAP)/GoK, and Equity Bank operates on a separate agreement from the Agricultural Credit Program. Therefore, the name Agricultural Credit Guarantee Scheme (ACGS) for the EU/WB-funded credit guarantee scheme is used to distinguish between the two guarantee schemes.

6. Lessons Learned

a. Incorporate cross-sectoral learning in the voucher scheme

Pg 14; the social protection programs, orphans’ support, and cash transfers using electronic means of transfer referred to the use of smart card technology. While we agree that electronic means of transfer is useful in terms of fast-tracking payments, we also appreciate that the use of smart cards for “one-touch” inputs grant support is not cost-effective for beneficiaries who may have to bear the cost of the smart card.

OUTCOMES AND IMPACTS

In addition to the achievements detailed in Annex 2, the following have been achieved:

1. NAAIAP

- a. The concept of cereal banking has picked up, with 172 cereal banks formed to help farmers manage their harvest and reinvest in farming. Productivity at farm level among beneficiaries has increased from 3-5 bags to 22 bags (90 kg) per acre on average. There are farmers who have obtained 47, 42, and 41 bags (90 kg) per acre in Transmara West, Lugari, and Mt. Elgon, respectively.
- b. The increased income at household level has enabled some families to invest in other income generating investments such as motorcycle taxi business (*bodaboda*).
- c. Some beneficiaries have acquired assets such as improved housing, land, cattle, and goats.

- d. The increased income has enabled farmers to start diversification into cattle and goat rearing, horticultural farming, mushroom growing, and value addition of maize through milling and branding.
- e. The program has had a positive effect on education. Children retention in schools at one time increased from 78 percent to 98 percent in Eastern province due to increased availability of food at the household level.
- f. There has also been a substantial reduction in secondary school fee debts due to the improved financial capability of beneficiaries.
- g. Some beneficiaries are adopting the technologies after a one-off support, with additional follower farmers procuring farm inputs without support through NAAIAP's demonstration effect.
- h. Agro-dealers have reported increased sales of inputs across the country due to increased demand for fertilizer and certified seed. For example, an increase in sales from 500 bags to 11,000 bags has been reported in Gucha district.
- i. The new demand for inputs has created supply shortages in some areas.
- j. The training of 2,688 agro-dealers has helped decrease the distance that farmers travel to acquire inputs, from 15-35 km to 9-15 km.

Orphan Crops Program

- a. Food security - During the year that the project was implemented, a total of 163,658 MT of food was produced from the planting materials issued.
- b. Farm incomes - Apart from meeting household needs, surpluses of the food produced were sold to generate incomes. Other farmers have gone into commercial production of THVCs.
- c. Improved access to farm inputs- The project provided seeds and other planting materials to 298,407 farmers from both directly purchased and retrieved materials. Other farmers have also been able to purchase inputs such as fertilizer and pesticides from the proceeds accruing from the sale of THVCs.
- d. Livelihood improvement - Some farmers have used the proceeds from the sale of THVCs to buy assets (bicycles, cattle, and goats), open non-farm businesses, pay school fees, access healthcare, improve housing, and buy solar panels to supply power to their homes.

IMPACT OF PROJECT ON BENEFICIARIES

1. Impact on farmers

- a. The capacity building has helped beneficiaries understand the reasons for/benefits of crop rotation, such as pest and disease control and improving soil fertility (as different crops have different root systems and feed from different zones in the soil). Through training on proper maize husbandry, farmers in some regions have adopted the practice of weeding twice in maize fields, unlike before, when weeding was done once to allow growth of grass for livestock feed after the crop was harvested.
- b. Improved nutrition, as some beneficiaries are retaining some of the grain legumes produced from the drought-tolerant seeds for home consumption, thereby enriching their diets. The legumes include beans, pigeon peas, green grams, and cowpeas. The cowpea and cassava leaves are also used as vegetables.
- c. Improved livelihoods, as some beneficiaries have: improved their housing and their source of lighting for homes; purchased assets such as cattle, goats, sheep, and land; diversified to other sources of income (such as money transfer services on a mobile telephone platform (M-Pesa) and motorcycle taxi businesses (*bodaboda*)), and also ventured into other agricultural enterprises (such as horticultural farming, dairy production (cattle and goats) and poultry keeping). In the long run, this also serves to enrich household diets, as some of the produce from these enterprises is retained for consumption at the household level.

2. Impact on agro-dealers

- a. Improved business management skills from the training provided.
- b. Increased business volumes, as some of the beneficiaries return to purchase inputs on their own.
- c. Networking - After the training, some of the agro-dealers formed associations at the district level to help them address the challenges they face. The aim is to link these district based associations to the national body, the Kenya National Agro-dealers Development Association (KENADA).

3. Impact on institutional capacity

- a. The training done by NGOs for the implementers has built capacity within the Ministry of Agriculture to carry out similar trainings on its own in the future. The areas covered include commercialization of sorghum, agro-dealer business management skills, and financial literacy. This pool of trainers can be called upon to carry out further capacity building for farmers and agro-dealers.

SPINOFFS FROM THE PROJECT

1. Establishment of cereal banks - This is a concept introduced in NAAIAP, aiming to encourage beneficiaries of the grant inputs to collect the surplus grain in common stores where it can be preserved and await appreciation of the market price. The concept also seeks to promote food security at the community level. This is informed by past experiences, where farmers disposed of most of the grain at harvest time at very low prices, thereby realizing very low returns. Communities are then forced to buy the grains at a higher price when household stocks run out. The cereal banks provide a source of the grain close to communities in times of need. They also serve to increase the value of the grain retained by the producers from the sale of surpluses. A total of 82 cereal banks were established, with over 7,000 bags of maize collected in the banks when the weather was favorable. Continuity has been a challenge, however. Most of these cereal banks do not operate throughout the year as was envisioned in the concept.
2. Adaptation to climate change- the grain legumes developed by KARI for the dry lands have penetrated to other areas of the country as well due to the erratic nature of rainfall in the recent past. This has stretched the capacity of the KARI Seed Unit to satisfy the increased demand. The drought-tolerant seed varieties coupled with conservation agriculture have seen an increase in the yields of the grain legumes.
3. A wider outreach - Due to the small land sizes in some of the implementing districts, the Kilimo Plus inputs grants have been split two or more times, thereby serving more households. The project disbursed 229,240 grants and was able to reach 244,369 households.

COLLABORATION WITH STAKEHOLDERS

1. Market outlets for the produce under both NAAIAP and OCP have been accessed with the help of partners. The preferred market is the World Food Programme (WFP), which has purchased some of its requirements from the beneficiaries. Other market outlets are the National Cereals and Produce Board (NCPB) and East African Breweries Limited (EABL) for Gadam sorghum. This was the case for maize in Transmara and Nandi North districts. The linkages were established with the help of various organizations, among them Equity Bank, Cereal Growers Association (CGA), East African Grain Council (EAGC), and Farm Concern International (FCI). These organizations also carry out capacity building for the beneficiaries on post-harvest management of the grains and quality control. Some also provided storage facilities.
2. AGMARK, AAK, and IFDC facilitated the agro-dealers training. However, these partners did not carry out the supervision of the agro-dealers training as was expected. This task was taken up by the NAAIAP Secretariat.
3. The NGOs that were to train sorghum farmers (Africa Harvest and Smart Logistics) were found to lack the capacity to do so. Instead, FCI trained MoA staff as trainers, who then carried out training for the target groups.

4. Financial Service Providers (FSPs) and the MoA collaborated in training staff and farmers on financial matters.

LESSONS LEARNED

1. Kilimo Plus grants can help alleviate food shortages as they trigger yield increases. However, sustaining the yield increases is still a challenge.
2. Proper targeting leads to easier implementation of other components of the program.
3. A transparent process makes it easy to attract other collaborators to the program; e.g. Constituency Development Fund (CDF) support.
4. Collaboration with other stakeholders is enhancing linkages with other players for other services (post-harvest management, storage and marketing); e.g. Cereal Growers Association (CGA) and World Food Programme (WFP) in Transmara; East African Grain Council (EAGC) in Nandi North; and Farm Concern International (FCI) and USAID in Imenti South.
5. There is improved linkage between farmers and financial service providers.
6. NAAIAP can be upscaled through other initiatives. For instance, Rarieda district used the Economic Stimulus Program (ESP) funds to support an additional 200 farmers using the NAAIAP model.
7. Use of local agro-dealers with capacity to supply improves timeliness and reduces the distribution hiccups.
8. Where sensitization and training of staff was cascaded to divisions and locations, implementation was very effective.
9. Where payments for stockists are timely, supplies for subsequent seasons have been timely.
10. Conservation agriculture reduces the operation costs and drudgery of manual digging and weeding for beneficiaries.
11. Incorporation of water harvesting technologies improved yields by up to 30 percent in pulses production.
12. Farmers can improve their food security through good agronomy and capacity building.
13. Increased incomes can be realized through integrated pest management as a cost reduction measure.
14. Use of a group approach is effective in implementing a seed bulking program.
15. Growing Gadam sorghum in clusters can reduce bird damage.

Annex 8. Comments of Co-financiers and Other Partners/Stakeholders

Comments provided by EU Delegation, Kenya

The EAPP project fully integrated into the Government of Kenya NAAIAP programme and globally results were satisfactory. The input component was instrumental to match shortages of seeds and fertilizers during short and long rainy season preparations. In additions timely response was adequate in particular during the 2009 and 2011 drought spell. EAPP increased emphasis on drought resistant crops seeds production and multiplication contributed to support current efforts of Government of Kenya towards staple food diversification and climate change adaptation. Some delays in disbursing the guarantee funds to financial institutions were registered and this had some impact on this component.

The EU Delegation to Kenya agrees on the important leadership role that has been provided by the World Bank in the development of the agricultural sector in Kenya. The EU Delegation believes that this momentum is a very good opportunity to strengthen the partnership between the Government and the development partners and to improve the coordination between the development partners. In the light of this, the EU Delegation will be open to a renewed partnership with the WB on agricultural activities in Kenya. This renewed cooperation will of course have to take into account the final conclusions of the audit report currently undertaken by the World Bank.

Annex 9. List of Supporting Documents

1. NAAIAP Program Evaluation, Final Report, December 2011, LOG Associates.
2. NAAIAP Completion Report of the Enhancing Agricultural Productivity Project, June 2012. Government of Kenya.
3. NAAIAP Annual Report for 2010-2011, June 2011. Government of Kenya.
4. NAAIAP Annual Report for 2009-2010, March 2012. Government of Kenya.
5. NAAIAP Data Base Report May 2012. Government of Kenya.
6. Project Proposal - Rapid Scale up of Investments to Boost Smallholder Food Production in Kenya through NAAIAP, February 2009.
7. NAAIAP Annual Report 2007/08.
8. NAAIAP Program Design and Implementation Proposal May 2006.
9. NAAIAP Program Document and Guidelines 2008/09.
10. NAAIAP Program Design and Guidelines 2009/10, September 2009.
11. Innovative Financial Instruments for Agriculture, Strategy and Plan 2008-2010. May 2008, IFAD.
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KENYA

- CITIES AND TOWNS
- ⊙ DISTRICT CAPITALS*
- ⊕ NATIONAL CAPITAL
- RIVERS
- MAIN ROADS
- RAILROADS
- DISTRICT BOUNDARIES
- INTERNATIONAL BOUNDARIES

* not all District Capitals are shown.



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