

Document of
The World Bank

Report No: ICR00003537

IMPLEMENTATION COMPLETION AND RESULTS REPORT

ON A

GRANT

FROM THE

GLOBAL ENVIRONMENT FACILITY TRUST FUND

IN THE AMOUNT OF US\$10 MILLION

TO THE

REPUBLIC OF KENYA

FOR A

KENYA AGRICULTURAL PRODUCTIVITY AND SUSTAINABLE

LAND MANAGEMENT PROJECT

June 20, 2017

Agricultural Global Practice

Africa Region

CURRENCY EQUIVALENTS
Currency Unit = Kenya Shillings (Kshs)

At Appraisal (June 30, 2010)

Kshs75 = US\$1
US\$1.49 = SDR1
US\$1.00 = SDG 2.0

At Completion (December 2016)

Kshs102.55 = US\$1
US\$1.34 = SDR1
US\$1.00 = SDG 2.0

FISCAL YEAR
October - September

ABBREVIATIONS AND ACRONYMS

AL	Alternative Livelihoods
BMPs/BMTs	Best Management Practices/Best Management Technologies
CACs	Catchment Area Coordinators
CDD	Community-Driven Development
CEC	County Executive Committees
CIG	Common Interest Groups
CRA	Community Resource Assessments
CTT	Country Technical Teams
DRSRS	Department of Remote Sensing and Resource Survey
GDP	Gross Domestic Product
GEO	Global Environment Objective
GIS	Global Information System
GoK	Government of Kenya
IDP	Internally Displaced People
KACC	Kenya Anti-Corruption Commission
KAPAP	Kenya Agricultural Productivity Agribusiness Project
KAPSLMP	Kenya Agricultural Productivity and Sustainable Land Management Project
KARI	Kenya Agriculture Research Institute
KSIF	Kenya Sustainable Land Management Investment Framework
M&E	Monitoring and Evaluation
MEMR	Ministry of Environment and Mineral Resources
MIS	Management Information System
MoA	Ministry of Agriculture
NBSAP	National Biodiversity Strategy and Action Plan
NLP	National Land Policy
NEMA	National Environment Management Agency

NGOs	Non-Governmental Organizations
NRM	Natural Resource Management
NSC	National SLM Committee
PDO	Project Development Objective
PES	Payments for Environmental Services
RF	Results Framework
SLM	Sustainable Land Management
SP	Service Providers
SRA	Strategy for Revitalizing Agriculture
SSA	Sub-Saharan Africa
WRMA	Water Resource Management Authority
WRUA	Water Resource User Association

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KENYA
Kenya Agricultural Productivity and Sustainable Land Management Project
(KAPSLMP)

Data Sheet

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MAP

A. Basic Information			
Country:	Kenya	Project Name:	Kenya Agricultural Productivity and Sustainable Land Management Project (KAPSLMP)
Project ID:	P088600	L/C/TF Number(s):	TF-91616
ICR Date:	04/28/2017	ICR Type:	Core ICR
Lending Instrument:	GEF Grant	Grantee:	Government of Kenya
Original Total Commitment (TF 94764):	USD 10.00M	Disbursed Amount:	USD 8.22M
Environmental Category: B			
Implementing Agencies: Ministry of Agriculture Ministry of Environment and Mineral Resources			
Co-financiers and Other External Partners:			

B. Key Dates				
Process	Date	Process	Original Date	Revised / Actual Date(s)
Concept Review:	01/30/2008	Effectiveness:	17-Nov-2010	
Appraisal:	07/07/2008	Restructuring(s):	29-Dec-2015	
Approval:	17-Nov-2010	Mid-term Review:	22-Sep-2014	22-Sep-2014
		Original Closing Date	31-Dec-2015	31-Dec-2016

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

C.2 Detailed Ratings of Bank and Borrower Performance (by ICR)			
Bank	Ratings	Borrower	Ratings
Quality at Entry:	Moderately Unsatisfactory	Government:	Moderately Unsatisfactory
Quality of Supervision:	Moderately Unsatisfactory	Implementing Agency/Agencies:	Moderately Unsatisfactory
Overall Bank Performance:	Moderately Unsatisfactory	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):	Yes	Quality of Supervision (QSA):	None
DO rating before Closing/Inactive status:	Moderately Unsatisfactory		

D. Sector and Theme Codes		
	Original	Actual
Sector Code (as % of total Bank financing)		
Agricultural Extension, Research, and Other Support Activities	30	30
Irrigation and Drainage	10	10
Public Administration - Agriculture, Fishing & Forestry	22	22
Forestry	2	2
Other Agriculture, Fishing and Forestry	36	36
Theme Code (as % of total Bank financing)		
Urban and Rural Development (Land Administration)	74	74
Water Management	26	26

E. Bank Staff		
Positions	At ICR	At Approval
Vice President:	Makhtar Diop	Obiageli Katryn Ezekwesili

Country Director:	Diarietou Gaye	Kenichi Ohashi
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F. Results Framework Analysis

Project Development Objectives (from Project Appraisal Document)

Project Development Objective (PDO): Facilitate agricultural producers in the targeted operational areas to adopt environmentally-sound land management practices without reducing their incomes.

Global Environmental Objective (GEO): Reduce and mitigate land degradation in the targeted operational areas and contribute to maintenance of critical ecosystem functions and structures.

(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:	Percent increase in cultivated areas in which promoted SLM technologies and practices have been adopted in the project operational areas.			
Value (quantitative or qualitative)	4484.00	50.00		700.00
Date achieved	03-Jan-2011			31-Dec-2016
Comments (incl. % achievement)	The majority of adoption took place in the last 18 months of the project. This compressed time period makes it difficult to predict whether or how much of this adoption will be sustained.			
Indicator 2:	Percent increase in income of households from SLM-related interventions in the project operational areas.			
Value (quantitative or qualitative)	KSh 619,413,481	25.00		581.00
Date achieved		31-Dec-2016		31-Dec-2016
Comments (incl. % achievement)	Three factors should be taken into account when considering these results. Firstly, increased gross sales do not give a clear indication of incomes of			

achievement)	households as they did not account for costs of production. Secondly, these results were achieved over a limited number of cropping cycles. Thirdly, the compressed implementation period impacted the project's ability to fully assess the sustainability of the changes in income level.			
Indicator 3:	Percent completion of a national institutional framework for SLM planning, implementation and coordination.			
Value (quantitative or qualitative)	0	100.00		80.00
Date achieved		31-Dec-2016		31-Dec-2016
Comments (incl. % achievement)	There were significant delays in project implementation that negatively impacted the project's ability to develop, in a timely manner, the tools required to develop the institutional framework. The tools were eventually developed but were not been fully tested within the project period.			
Indicator 4:	Percent increase in vegetative cover in cultivated fields in the project operational areas.			
Value (quantitative or qualitative)		30.00		29.00
Date achieved		31-Dec-2016		31-Dec-2016
Comments (incl. % achievement)	Three factors to consider. Firstly, as indicated in the project's final evaluation report a large percentage of the new coverage is very young (and therefore not established). Secondly, it is not clear whether to attribute all expanded coverage entirely to project Thirdly, the compressed implementation period prevents the project from generating evidence that the methods that created the increase vegetative coverage will be sustainable options for farmers or communities			

(b) Intermediate Outcome Indicator(s)

A summary of intermediate outcome indicators can be found in Annex 6

G. Ratings of Project Performance in ISRs

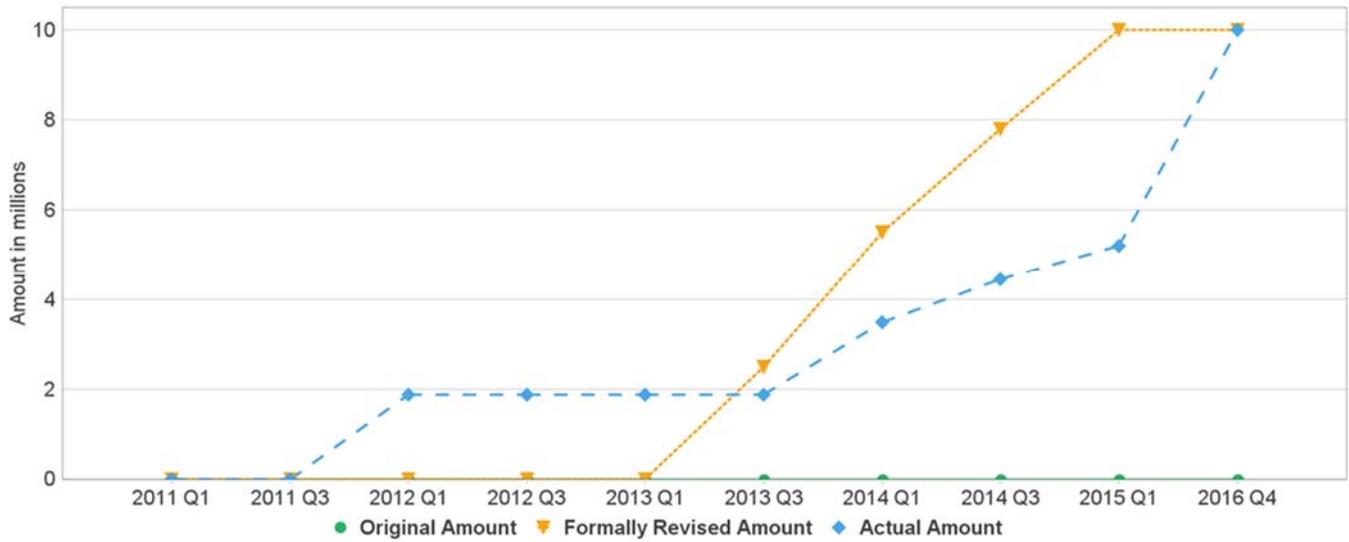
No.	Date ISR Archived	DO	IP	Actual Disbursements (USD millions)
1	11 June 2011	S	MS	0.0
2	13 Mar 2012	MS	MS	1.87
3	07 Oct 2012	MS	MS	1.87
4	24 May 2013	MU	MU	1.87
5	04 Dec 2013	MS	MS	3.49
6	18 May 2014	MS	S	5.20
7	15 Dec 2014	MS	S	5.20
8	20 June 2015	MS	S	6.74
9	30 Dec 2015	MS	MS	6.74
10	22 June 2016	MS	MS	10.00
11	20 Sept 2016	MU	MU	10.00

12	30 Dec 2016	MU	MU	8.22
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H. Restructuring (if any)

Restructuring Date(s)	Board Approved PDO Change	ISR Ratings at Restructuring		Amount Disbursed at Restructuring in USD millions	Reason for Restructuring & Key Changes Made
		DO	IP		
29-Dec-2015	Level 2 restructuring	MS	MS	6.74	Delays in project implementation led to a one-year extension

I. Disbursement Profile



1. Project Context, Development Objectives and Design

1.1 Context at Appraisal

1. In May 2008, the new coalition government launched "Vision 2030", whose aim was to transform Kenya into "a newly-industrializing, middle income country, providing a high quality of life to all its citizens in a clean and secure environment". In the Vision 2030 and the Medium Term Plans (MTPs), the agriculture sector was identified as one of the key economic pillars. These documents particularly emphasize sustainable agricultural growth as a critical element in poverty reduction and addressing inequalities.

2. Agriculture was regarded as a key economic pillar and agro-related activities contribute more than 50 percent of GDP. Sector performance greatly affected the poor, as 67 percent of the population and 80 percent of the poor lived in rural areas and depend on agricultural activities. Agriculture was growing at average annual rate of 3.5 percent in the 1980s, but declined to 1.3 percent in the 1990s. Recent government efforts focusing on reversing the poor sector performance had started to bear fruits with the compound average growth rate (CAGR) in agriculture increasing by 5.0 percent between 2001 and 2007, with even a higher export growth of 8 percent. Sectoral priorities were articulated in the "Strategy for Revitalizing Agriculture 2004-2014" (SRA), which aimed to "provide a policy and institutional environment conducive to increasing agricultural productivity, promoting investments, and encouraging private sector involvement in agricultural enterprises."

3. Furthermore, Vision 2030 recognized the lack of a coherent land policy as one of the impediments to sound land use, economic development, and a source of social and political tensions. The approval of National Land Policy (NLP) by parliament and the anchoring of the land and natural resource management in the new constitution, which was endorsed in a national referendum in August 2010, was to assist in guiding these sustainable land reforms.

4. The Kenyan Government recognized that without the ability to invest in Sustainable Land Management (SLM), rural populations produce less and face greater vulnerability. Land degradation manifests itself in multiple ways such as overexploitation of natural resources, excessive soil erosion, continued loss and degradation of forest and vegetative cover, and gradual reduction of rural family incomes. Degradation would increase food insecurity levels and vulnerability to future shocks, whether climatic or economic.

5. Multiple factors promoted land degradation and constrained the expansion of SLM. These are related *inter alia* to: (i) lack of community awareness (ii) the current policy environment (including lack of incentives for SLM); and (iii) low investment and institutional constraints. In addition, the decline in productivity and the lack of significant investment to raise land productivity generated policy debate which in turn highlighted the need to improve natural resources management (NRM) through interventions at the macro-farm, and community levels.

6. At the time of the project appraisal, the Government was preparing a National Land Policy (NLP), covering land use and administration, tenure security, and delivery systems. A review of the policy framework revealed concerns related to land tenure in Kenya, mainly the lack of a comprehensive policy on land tenure, access and rights. Several policies address this concern. The Forest and Water Acts were important among them, as they recognize community rights to access and manage natural resources. The NLP was expected to have far reaching implications on: (i) existing legislation and the institutions mandated with NRM; (ii)

land management; and (iii) the extent to which local communities can participate in these activities. In addition, NLP proposed mechanisms for removal of land rights in the interest of sustainable management of land-based natural resources, and also for the establishment of prompt and adequate compensation to communities or private entities whose land rights are extinguished. Implementing NLP would require cross-sectoral institutional mechanisms to coordinate between the relevant institutions. The approval of the NLP by Cabinet and Parliament was an important first step towards achieving progress in this area.

7. In that context, the government initiated several programs to revitalize agriculture and encourage investments in SLM, including The World Bank-supported Kenya Agricultural Productivity Agribusiness Project (KAPAP), approved in June 2009. KAPAP's main objective was to increase agricultural productivity and the incomes of participating smallholder farmers from agricultural and agribusiness activities in the Project area. The KAPSLMP was designed to support and complement the KAPAP by focusing on issues of sustainable land use.

8. KAPSLMP was also designed to address the objectives of the National Biodiversity Strategy and Action Plan (NBSAP, 2000). NBSAP recognizes encroachment for agriculture and the resulting loss of vegetation as a major threat to biodiversity. Further, it noted the link between soil erosion resulting from hillside and dry land cultivation and monoculture. KAPSLMP was designed to respond to these threats and addresses a key objective of the NBSAP by providing greater support to local communities toward sustainable farming practices that conserve agricultural biodiversity and maintain ecosystem services.

9. Furthermore, KAPSLMP was designed to play a catalytic role in formulating and implementing a programmatic Kenya SLM Investment Framework (KSIF). This recognizes the need for Kenya to develop a country programmatic SLM approach. This approach would address the difficulties inherent in coordinating the current multiplicity of interventions in SLM (that is, information flows, and lack of country ownership when donors pursue specific priorities), and include a wide range of stakeholders for successful interventions. The KSIF would be a tool to help in guiding ongoing and planned investments. The KSIF would lead to better coordination and joint planning among the various government and donor-supported interventions in the short and medium terms, and, in the longer term, to an integrated, government-led SLM program that sets out the agenda for scaling up SLM action toward greater impact on the ground.

1.2 Program Development Goals

10. The Program Development Objective (PDO) for the KASLM project was “Facilitate agricultural producers in the targeted operational areas to adopt environmentally-sound land management practices without reducing their incomes.” The Global Environmental Objective (GEO) is “to reduce and mitigate land degradation in the target operational areas and to contribute to maintenance of critical ecosystem functions and structures.”

1.3 Revised PDO and Key Indicators

11. No changes were made to the PDO during implementation.

1.4 Main Beneficiaries

12. **The Project aimed to address land degradation and improve land management in three operational areas: Taita-Taveta, Kinale-Kikuyu, and Cherangani Hills.** These

catchments are of high ecological and biophysical importance, and they face high erosion and land degradation hazards that are closely linked to elevated poverty levels. The three operational areas cover 11 administrative districts, five of which are KAPAP operational districts. Initially, five operational areas were selected, but two (Tugen Hills and Yala) were dropped because of the need to concentrate project activities on a few areas for maximum impact. Some of the beneficiaries in the Cheranani and Kikuyu-Kinale operational areas consisted of indigenous peoples.

1.5 Original Components

Component 1: Building Capacity for Sustainable Land Management (US\$2.42M)

13. The project recognized the critical need for technical, organizational and financial capacity at multiple levels and sought to address the gap between the needed and existing capacities. The project planned to address all gaps in terms of capacity on technical and methodological areas. It targeted communities and service providers for training and capacity enhancement as well as helped build a broader awareness of SLM and its impact along all levels of implementation. The project intended to address weakness in service provision by building capacity of both public and private extension agents and other service providers at the ward, sub county and county levels. The aim was to enable the service providers (SPs) to transfer information and locally adaptive technologies and practices to the communities under a demand-driven and competitive service provision framework. The project also supported capacity building among producers and resource users within communities and empowered households to analyze opportunities, identify and experiment with alternative interventions, and generate and share knowledge on adaptive management of natural resources.

Component 2: Investments in community SLM micro-projects (US \$ 3.62M)

14. This component supported community micro-projects that were identified within the micro-catchment management plans developed by communities to address land degradation and/or provide alternate means of livelihoods to communities to reduce pressure on the natural resources. Using a CDD-type approach, a community selected from a menu the Best Management Technologies (BMT) and the Best Management Practices (BMP) that addressed land degradation and generated income. The technologies were assessed through cost-benefit analysis and adapted to the agro-ecological conditions of the targeted operation area. The BMPs and BMTs were applied through micro-projects and technical assistance by provide public and private service providers. The private service providers were competitively selected and formed consortiums.

Component 3: Strengthening the enabling environment for SLM (US\$2.52M)

15. The main objective of this component was to strengthen the enabling environment necessary for mainstreaming SLM approaches through the policy and institutional landscape. The component was to also pilot the implementation of Payment for Environmental Services (PES) mechanism in watersheds of rivers that supply water to the Sasumua Water Treatment

Plant, operated by the Nairobi Water and Sewerage Company. This component supported the development of the Kenya SLM Investment Framework (KSIF)

Component 4: Project Coordination, Monitoring and Evaluation (GEF increment US\$1.42m).

16. This component supported project coordination and implementation at the national, county and grassroots levels. It also supported project monitoring and evaluation (M and E) through designing a Management Information System (MIS).

1.6 Revised Components

17. No adjustments were made to component activities.

1.7 Other significant changes

18. Adjustment to the Results Framework were informally agreed with partners in 2104. The changes included rewording the indicators in order to more accurately reflect program activities. Two indicators focusing on the measurement of the SLM enabling environment index and SLM coalition building index were added to the framework. Finally, indicators relating to measuring the training and activities on Service Providers were dropped.

19. **Implementation period.** The original project design envisioned an implementation period of five years and the original grant agreement established a closing date of December, 29, 2015. However, in June 2015 a no-cost extension was approved to extend the closing date by 1 year to December 31, 2016. The total implementation period became approximately 6 years.

20. **Allocation of funds to components.** Actual expenditures by end of project were higher than expected on capacity building (e.g. training, seminars and workshops) (see table 1 for detail). Significantly less was spent on micro grants than was planned. This is due in part to the complexity of establishing micro grants. Overall, the project was underspent by approximately US \$1. 7 million dollars.

Table 1: Summary of Project Budget and Expenditure

Budget Items	Allocated Budget in US Millions	Actual Expenditure in US Millions	Percentage
Goods and Equipment MOA	0.60	0.18	30.00
Goods and Equipment - MEMR	0.30	0.21	70
Micro-Project Grants	3.40	1.95	57
Consultant Services - MOA	1.05	0.06	6
Consultant Services - MEMR	0.55	0.44	80
Training, Seminar, Workshops - MOA	1.60	3.98	249.

Training, Seminar, Workshops - MEMR	0.50	0.56	112.
Incremental Operating Costs - MOA	0.50	0.87	174
Incremental Operating Costs - MEMR	0.40	0.50	124.
Unallocated	0.60	0.00	0.00
Totals	1000	8.22	82

2. Key Factors Affecting Implementation and Outcomes

2.1 Project Preparation, Design and Quality at Entry

21. The project design phase took approximately six years. The project concept note was approved in 2004. The project was prepared and approved in September 2010.

22. The extended time period for the design is a reflection of the complex technical/social nature of Sustainable Land Management (SLM) and the challenging institutional response to these challenges. About 70 percent of Kenya's population live on 12 percent of total land area (581,679 square kilometers) classified as being of medium to high potential for agriculture and livestock production. The rest of the population live on ecologically fragile Arid and Semi-Arid Lands (ASALs) that constitute 70 percent of the total land area. One consequence of this is that land size and its distribution varies widely, as does that of population density, which ranges from as low as 2 persons per sq. km in the ASALs to a high of more than 2,000 in high-potential areas. The growing population and the resulting increase in demand for land, energy, and water is putting tremendous pressure on the natural resources.

23. To ensure the project addressed these challenges design of KAPSLMP was informed by a number of national/global institutions initiatives and it was designed to become key informant to larger scale programs. In this context actions planned in KAPSLMP were consistent with UNCCD's call for implementing activities to prevent or reduce land degradation, rehabilitate partly degraded lands, and reclaim degraded lands through the National Adaptation Plan (NAP). The project was expected to fit within the strategic considerations of GEF's OP15, including: mainstreaming into national development frameworks, promoting cross-sectoral approaches to land management (building on synergies with the programs of partners and other development agencies) using an integrated ecosystem based approach; enhancing participation of stakeholders (especially producers and local decision makers, with a particular emphasis on participation of women); and strengthening the policy environment, information base and capacity, and investments.

24. KAPSLMP's design also addressed the objectives of the National Biodiversity Strategy and Action Plan (NBSAP, 2000). NBSAP recognizes encroachment for agriculture and the resulting loss of vegetation as a major threat to biodiversity. Further, it notes the link between soil erosion resulting from hillside and dry land cultivation and monoculture. Furthermore, the KAPSLMP responds to these threats and addresses a key objective of the NBSAP by providing greater support to local communities toward sustainable farming practices that conserve agricultural biodiversity and maintain ecosystem services.

25. The project design drew upon key lessons learned from World Bank Group programs that were implemented in Brazil (Third São Paulo Land Management Project, (Ln. 3248-BR, P006474),

China (Loess Plateau Watershed Rehabilitation Project I and II, China (Ln 4477-CH, P056216) and Egypt (Matruh Resource Management Project I and II, (Ln. 7161-EG, P074075)

26. KAPSLMP was designed to add value to KAPAP's farmer and community-level interventions through KAPSLMP's support for SLM micro-project investments. The implementation mechanisms and institutional arrangements for KAPSLMP were designed to be shared with those of KAPAP and will be mainstreamed in the MoA and MEMR.

27. Finally, KAPSLMP's link to KAPAP were designed to ensure that the SLM agenda can be taken on board in the wider reform agenda in a sustainable manner. In addition, KAPSLMP was to partly support and compliment the IDA-supported NRM and WKCDD/FM operations and linked with other ongoing Bank and GEF operations. WKCDD/FMP supported community-based projects and capacity building in the Western Kenya region. For example, the NRMP would strengthen the Water Resources Management Authorities (WRMAs) nationally and Water Resources Users Associations (WRUAs), in its seven Regional Offices, and in its 25 sub-regional offices. KAPSLMP implementation was to use the capacity of these strengthened WRMAs.

28. The protracted design process is, in part, a reflection of the time required to ensure an appropriate alignment between the multiple institutional initiatives related to SML and finding a framework through which the KAPSLMP could "scale up" its innovative approaches

29. In this context of this changing institutional landscape, the project's ambition of piloting new mechanisms for service delivery, establishing new structures of governance and designing a strategic framework for creating an enabling environment for land reform was very ambitious

30. ***In addition, the project had to find a reasonable balance between successful Sustainable Land Management and sustainable Increased Productivity.*** The Program Appraisal Document is heavily focused on describing the project's impact on Sustainable Land Management. The document pays comparatively less attention to addressing the challenge engaging farmers in new value chains in a sustainable manner. Specifically, project design did not highlight the need for either a) an analytical framework to assess key gaps in value chains and market systems or b) ***risk management strategies*** that would reduce farmer's exposure to shocks. The Beneficiary Survey Results (see annex 5) inclusion of these tools would have increased the project/s focus on sustainability and would have helped define an exit strategy more clearly.

31. ***The aspirations underpinning the project design were to establish the capacity to generate and promote evidence around new operating methodologies.*** This evidence could be used to inform or to influence policy processes and larger-scale SLM programs in Kenya. This aspiration relied on a number of assumptions including the following: (a) KAPSLMP would be able to establish and operationalize SLM activities in a timely manner; (b) M&E systems would be established and could be used to generate credible evidence of the sustainability (environmental, social and financial) of activities, and; (c) generating new evidence would have a significant influence on the enabling environment and implementation of policy and or law. The design did acknowledge capacity as risk but not appear to sufficiently anticipate the range of factors (including changing institutional mandates and subsequent incomplete implementation arrangements) which could (and would) prevent the

project from being implemented as planned. When these challenges did emerge the assumptions were seriously challenged.

32. ***The project was an opportunity to contribute to the scientific knowledge base that demonstrates the important links between improvements in the ecosystem and wider economic and social benefits.*** Indeed, the project objectives were focused on establishing environmentally-sound land management practices, reducing and mitigating land degradation and contributing to the maintenance of critical ecosystem functions and structures and the program's activities were focused on activities that are assumed to have positive impacts on the environment, land degradation, and ecosystem functions. Further, the project design placed emphasis on partnering with scientific institutions in order to enable the project to understand impact of project interventions on soil condition and quality.

33. In summary, Sustainable Land Management is a highly relevant agenda in Kenya. The design team drew upon national and international best practice. However, the design process coincided with a wider range of complex and challenging institutional reforms. In this context, establishing a project designed to pilot, innovate, generate evidence, learn lessons and generate best practice in a five-year time period was overly ambitious.

2.2 Implementation

34. The project became effective in November 2010. As previously highlighted the project that was implemented in very complex, dynamic and challenging operating environment. During implementation these factors had a direct, and largely negative, impact on program implementation. A summary of how the implementation of the project was impacted is as follows:

35. ***Implementation took place as a period of significant institutional and political change in Kenya was being developed.*** Decentralization Promulgation of the Constitution of Kenya 2010 marked a momentous point in the country's history. This new Constitution provided for, among other things, enhanced checks and balances within the government, an enhanced role of Parliament and citizens, an independent judiciary, and a most progressive Bill of Rights. Notably, the Constitution provided for a major devolution—not only of resources and functions, but also creating a whole new layer of county government.

36. Elections in March 2013 marked the official launch of decentralization, as 47 new county governors and county assemblies were elected and began the challenging work of setting up new institutions, as well as a new national senate representing each county. Functions and funds have been transferred to the new counties, and new county institutions are gradually taking shape.

37. ***Coordination was challenging.*** The rationalization of government ministries and functions in 2014 led to the collapse of key coordination structures which affected the project. Specifically, the oversight and steering function disintegrated. Although a National SLM Project Committee was created, its oversight and steering responsibilities remained weak and its meetings ad hoc. In response, project sub-committee, created earlier by the KAPAP national project steering committee, continued to function effectively alongside the CTTs.

38. ***Shifts in institutional responsibility.*** Changes in Ministerial mandates resulted in a split of the institutional and implementation arrangements which negatively impacted the delivery of Component 3 and other project components. The project implementation was

also affected by funding and procurement delays. This problem was most debilitating at Ministry of Environment and Natural Resources (MENR) where protracted delays in flow of funds and procurement disrupted the implementation of work plans and procurement of consultancy services.

39. ***Delays in financing created significant limitations on project capacity to assess sustainability and, therefore influence.*** The protracted delays resulted in approximately fifty percent of the total budget being disbursed in the last 18 months of the project. As a result, the majority of project activities were established in the final twelve months. Consequently, the project had a very limited timeframe within which to mobilize communities, establish micro grants, and fully and robustly assess the impact and viability (economic, social and environmental) of its interventions.

40. ***Extension and advisory services.*** The application of the contracted service delivery model during KAPSLMP implementation encountered some challenges. Initially the project engaged individual service providers, only to find them lacking the capacity to deliver required services. This necessitated a change of the approach which led to requiring individual service providers to form consortia with complementary skill sets. While the decision made a technical sense, it forced the creation of consortia to satisfy contractual requirements but did not necessarily bring together individuals who had a common vision or business ethos. As a result, conflicts began to emerge, which compromised service delivery. To resolve these conflicts and ensure continued service delivery to farmers, the project increasingly got entangled in the management of consortia. One example of this was to take from the Principal Service providers the responsibility to pay grassroots service providers. While these interventions may have ensured that the GRPs were paid; it undermined the growth of strong consortia by taking away the authority of Principal Partners to reward or demand results from their juniors.

41. ***The lack of a clear exit strategy.*** The highly-compressed period of implementation increased the project management's focus on establishing activities and reduced the focus on developing a comprehensive exit strategy.

42. These issues were raised and recommendations were made during frequent Implementation Support Missions and there was a Mid Term Review. In response to these recommendations the project was extended and aspects of project management implementation have improved (for example, increased focus on accelerating implementation of key activities).

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

43. The design of the project's M&E system, was to on draw on a number of information sources, including: (a) administrative data collected through the project information system; (b) specially designed qualitative and quantitative household survey instruments; (c) use of existing and new georeferenced data; and (d) specially collected environmental and ecosystem health indicators. The M&E system would build on the successful experience of previous projects, in particular the ALRMP in Kenya and Tanzania First Social Action Fund Project (TASAF). The M&E framework would enable regular monitoring of project inputs, outputs, and outcomes. Key measures of the project's success would include indicators of SLM, appropriate alternative livelihoods diversification and protection of critical ecosystems in the project areas. Special attention was to be given to measuring farmers' capacity to engage in SLM activities. This was to be assessed through a combination of qualitative and quantitative techniques. Resource management success would be measured by tracking

biodiversity and ecosystem health markers. Technically the design of the M&E framework was relevant to the objectives of the program. However, the implementation of the framework was reliant upon the implementing institution agency having a strong implementation capacity. As the project moved to implementation, the delays in financial disbursements also impacted the establishment and functioning of the M&E system. Overall, the program consistently struggled to implement the full M&E framework as it was originally designed.

44. The project started with 21 intermediate outcome indicators and was required to collect baseline data (market access, hydrological data, water quality, soil erosion, land use cover, and GPS mapping of degradation). Managing data collection systems for this number of indicators would place heavy demands on any project management and, as a result, data on a number of indicators were not collected.

45. In 2014 there was an informal review and rationalization of the number of intermediate outcome indicators. The goal was to better link expected outputs, activities and inputs to their respective outcome indicators and support project management in monitoring progress and making corrective decisions. As result of the rationalization process the total number of indicators was reduced from 21 to 19, and there was a stronger focus on key areas of implementation including: (a) Percentage of micro catchment committees that are functional; (b) Percent change in earnings for three selected enterprises per catchment; (c) SLM-enabling environment index; (d) SLM-coalition-building index, and; (e) a functional implementation framework for PES established with lessons for scaling up. These changes sought to rationalize the number of project indicators with the capacity of the program.

46. However, even with the change in indicators the project continued to struggle with regular collection of data on key indicators. For example, the last reporting on the Results Framework (see annex 6) in the final aide memoire showed no data had been collected on either SLM-enabling environment index or SLM-coalition-building index. In addition, an agreed approach to collect data on the Percent reduction of sedimentation in the Sasumua water reservoir failed to become operational.

47. In addition, to the challenges of collecting data, the project had a dramatic expansion of project activities over the final 18 months. As a result, M&E system could not fully assess and report on the financial, environmental and social sustainability of the interventions being implemented.

48. In summary, the M&E may have been technically sound. However, the design failed to take into account the institutional capacity, potential delays in establishing capacity, the focus on decentralization in Kenya and the complex realities of project implementation. As a result, the M&E system really did not contribute data that could support effective management of project implementation.

2.3 Safeguard and Fiduciary Compliance

49. *Safeguards.* The key to effective mainstreaming in CDD projects which is evident in this project, is to ensure that environmental and social safeguard measures are taken into account during project design and implementation. There was adequate in-country institutional capacity at the national, county and local levels for managing community development plans. An effective decentralized government technical structure – County Technical Team (CTT) to support the target community during proposal development, subproject implementation was instituted in each Catchment and was also critical for

ensuring that these types of community subprojects are successful. The government technical structure was on interphase with a service provider wing that drove quality and real time technical messages to the beneficiaries. More importantly, stakeholder consultation was an integral part of project design and implementation that ensured communities drove the process.

50. The project, in its implementation approach had all selected community micro-projects screened for impacts using a standardized safeguards screening checklist, which was an annex to the KAPSLMP ESMF. All project implementers as well as beneficiaries trained on administration and application of the screening checklist. After screening the micro projects: those with negligible negative impacts had ESMPs formulated while those that required ESIA's; these studies were done i.e. water pans. Due diligence was done on the ESIA's. In addition, the project did strengthen its focus on understanding how and when agro-chemicals were used on project sites. Specifically, the project documented date of training, attendants, training manuals etc. The project ensured that beneficiaries submitted names of agrochemicals, active ingredient and where/what, the application will be for IDA no objection before procurement. This practice provided assurance on safeguards compliance but more importantly, these actions demonstrated that communities were seeking to understand the links between pesticide usage and ecosystem management. The risk rating was moderate.

51. **Financial Management.** The project's main challenges were slow flow of funds from the Designated Account (DA) to project accounts; and the inherent low budget absorption capacity, which have been highlighted in past FM supervision reports. In addition, weaknesses were noted in records management resulting in delays in submission of supporting documents. The project did submit quarterly Interim Financial Reports (IFRs) to the Bank within the timelines stipulated in the Financing Agreement (FA). However, the project took time to address outstanding audit qualification issues relating to financial statements. Overall the project was given a financial management risk rating of substantial.

52. **Procurement.** Procurement risk was rated at moderate. There were significant delays in the procurement process at critical times in the program implementation. For example, there were major delays in recruiting the consultants to develop the KSIF. Overall the risk rating was moderate.

2.5 Post-completion Operation/Next Phase

53. **Elements of the institutional architecture and capacity necessary to sustain project activities and investments have been established.** New committees and groups have been formed and provided with training, MOUs have been signed between service providers and communities, and farmers have been adopting new technologies. The KSIF has been approved and is available to key stakeholders. In addition, investments in SLM remain a priority for government.

54. However, as the period for on-the-ground implementation was very compressed, project interventions were not exposed to variations in climatic, economic and social conditions. As a result, there has been insufficient time to fully assess the sustainability and/or the long-term environmental/economic/social impact of the project activities.

55. Regardless, the project has generated huge wealth of highly relevant technical, institutional and social knowledge. Every effort has been made to ensure that these lessons

have been disseminated and integrated into design and management into the design of the new Kenya Climate Smart Agriculture Project, approved in February 2017.

3. Assessment of Outcomes

3.1 Relevance of Objectives, Design and Implementation

Rating: Substantial

56. The project's objectives of sustainable land management and building a resilient system of agriculture are highly relevant to the country's development priorities and remained so over the implementation period. The Kenyan Government, like in many Africa government, is committed to ensuring the resilience and improving the productivity of agriculture. It is widely agreed that sustainable land and soil management are the cornerstones for ensuring increased productivity in the sector. In this context, the project's PDO/GEO remains highly relevant.

57. The activities of the project were focused on empowerment, new community driven approaches to sustainable land management, exploring the links between productively and sustainable, private sector engagement, developing new systems of coordination, and generating evidence to inform key policy processes. All these activities were highly relevant, important and should have enabled the project to achieve its objectives.

58. Furthermore, the quality of KAPSLMP results framework and management plan were in theory technically sound. However, translating the conceptual project into reality proved to be very complex. The program would have benefited from being more solidly grounded in the institutional context in which it was operating. Nevertheless, the implementation of the project has generated important lessons on issues ranging from institutional partners to working with youth and excluded populations to selecting appropriate technologies and inventions, etc. These lessons (even if interventions did not work entirely as expected) would be vital to other programs.

3.2 Achievement of Project Development Objectives

Rating: Modest

59. Progress towards achieving the PDO/GEO is monitored through the following key outcome indicators: (a) percent increase in cultivated areas in which promoted SLM technologies and practices have been adopted; (b) percent increase in average income of households from SLM-related interventions; (c) percent completion of a national institutional framework for SLM planning, implementation and coordination; and (d) percent increase in vegetative cover in cultivated fields in the project operational areas.

PDO Indicator 1: Percent increase in cultivated areas in which promoted SLM technologies and practices have been adopted.

60. KAPSLMP undertook Community Resource Assessments (CRA) in 127 micro-catchments that were identified and prioritized by communities for implementation of project activities. However, KAPSLMP activities were implemented in 112 micro-catchments. The CRAs were led by County Technical Teams (CTT) and opinion leaders in the respective catchments, and through them, communities identified problems and opportunities with the

micro-catchments that were then prioritized and later developed into Community Action Plans.

61. The project worked with 28,664 (17,617 Men, 11,047 Women) direct beneficiaries. The distribution is summarized in the following table.

Table 2: Distribution of project beneficiaries among the three catchments

		Kikuyu Kinale	Cherangani	Taita
Micro catchments		29	60	23
No Beneficiaries	Male	3,905	9,753	3,959
	Female	2,544	4,500	4,003
	Total	6,449	14,253	7,962
CIG		180		220

62. The project recruited Service Providers (SP) for the three catchment areas through a competitive approach (Expression of Interests- EOIs). During Trainer of Trainer sessions, the project opted to introduce an innovation for the proposed community driven development and service provision by reorganizing the SPs into consortia instead of individual service providers. This process led to formation of consortia along three value chains (fruits, nuts and vegetables, dairy, meats, and Natural Resource Management) the project was implementing (as selected by the beneficiaries). A total of 15 consortia were formed in the three catchment areas, Cherangani had nine, and Taita and Kikuyu-Kinale had three consortiums each. A total of 327 grass root partners were recruited to conduct training and demonstrations at the community level.

63. As a result of these interventions a total of nine SLM interventions (technologies and practices) were promoted in the three catchments implementing the project. A summary of these interventions is provided in Table 3.

Table 3: Summary of SLM Achievements

SLM achievement	Kikuyu Kinale	Cherangani	Taita
New area under SLM practices and technologies (Acres)	1,851.5	27,862.3	1,688.6
Terrace laying (km)	1,149.4	4,758.7	8,368.7
Terrace construction (km)	416.0	2,388.4	7,923.8
COD (metres)	133,399.0	354,527.0	6,384.1
Retention/infiltration ditches (metres)	79,823.0	54,337.8	42,604.2
Trashlines/Grass Strips (metres)	437,561.6	1,809,132.5	311,244.3
No of Forest trees planted	589,746.0	2,189,333.0	50,083.0
No of Fruit trees planted	84,948.0	699,137.0	26,516.0
Protection of river bank identified (km)	124.0	7,645.3	373.0
Composting (tonnes)	3,895.5	21,655.5	4,636.1
Area under Pasture (Acres)	875.8	1,605.1	736.3
Area under CA (Soil cover, Crop rotation, Minimum tillage (Acres))	9.5	3,758.1	135.6

64. These results demonstrate that the project had the potential to disseminate and encourage the adoption of new SLM technologies. Adoption of new technologies take time.

However, project's engagement with communities and farmers was compressed. In addition, the Final Evaluation Report highlights that adoption rates for many SLM interventions were at approximately 50%, this is much lower than the anticipated rate of 100%. The reasons for lower adoption range lack of access to land, appropriate tools and labor. This raises questions as to whether the technologies being promoted were always relevant to the beneficiaries.

65. In addition, two factors should be taken into account when assessing these achievements, a) the compressed implementation period makes it difficult to predict whether or how much of this adoption will be sustained and b) not all the project's baselines were undertaken. In this context, this PDO indicator has been assessed to be only partially achieved.

PDO Indicator 2: Percent increase in average income of households from SLM-related interventions.

66. Using a CDD-type approach, communities selected from a menu of technologies and practices to address land degradation and generate income. There were 112 supported community micro-projects identified within the micro-catchment area. Plans were developed by communities to address land degradation. These technologies were assessed through cost-benefit analysis and adapted to the agro-ecological conditions of the targeted Project areas. The menu included inventions focused on soil and water conservation, water harvesting, reseeding of degraded lands, forest rehabilitation, pasture management, high-yielding crop and livestock varieties and genotypes and soil fertility maintenance. A summary of the income generating activities undertaken can be found in annex 2.

67. Farmer training was undertaken by contracted service providers. This approach was designed to enhance the uptake and adoption of these technologies. Some of these micro-projects, including water springs protection and conservation, gully control, rehabilitation of degraded land, tree seedling production (greenhouses), dam, wetland conservation and drainage works led to improved soil productivity through reduced run-off and soil loss, improved moisture retention and use, better crop management, and promotion of more market-oriented enterprises.

68. As a result, the project reported that crop yields, even in previously less-productive areas, have improved by between 2 – 4 percent due to better pest and disease control and soil productivity management. From the increased crop yields and market orientation, average gross sales by beneficiaries using the SLM interventions increased by 481percent, with the sales from 28,000 farmers involved in the three value chains (i.e. fruit, nuts and vegetables; dairy and meats; and natural resource management) supported by the project standing at KSh.2.9 billion, up from KSh.619 million.

69. Three factors should be taken into account when considering these results. Firstly, increased gross sales do not give a clear indication of incomes of households as they did not account for costs of production. Secondly, these results were achieved over a limited number of cropping cycles. Thirdly, the compressed implementation period impacted the project's ability to fully assess the sustainability of the changes in income level. As result this objective was only partially achieved.

PDO Indicator 3: Percent completion of a national institutional framework for SLM planning and implementation.

70. The component sought to address the gaps in the policy framework and to support institutional capacity for cross-sectoral integrated planning and monitoring of SLM interventions. The successful delivery of this component required to a) undertake analytical work and stakeholder consultations, b) develop the Kenya Sustainable Land Management Investment Framework (KSIF) c) remove policy and legal barriers, d) strengthen institutions that promote SLM by improving capacity, coordination and information sharing project, and e) pilot the Payment of Environmental Services (PES) approach.

71. Within the project implementation period the project did complete five key diagnostic studies in Kenya: (i) background paper on SLM; (ii) land degradation assessment/GIS diagnostic study; (iii) diagnostic study on the resources mobilization strategy and public expenditure review for SLM; (iv) cost-benefit analysis of SLM interventions, and; (v) assessment of policy, legislative and institutional frameworks for SLM.

72. In addition, the KSIF was designed. The KSIF aims to guide coordination of ongoing and future SLM interventions in Kenya, with a long-term view of moving towards an integrated, government-led national program on SLM that avoids duplication of efforts among sectors and stakeholders.

73. The fact that project was able to deliver KSIF marks an important milestone in the development of a practical, progressive, responsive and flexible policy on sustainable land management. However, KSIF was delivered just as the project was closing. As result it hard to fully assess the relevance and impact of this important tool.

74. The project was able to pilot the Payment of Environmental Services (PES). This initiative involves farmers entering a contract with a company that benefits from a given catchment. In this pilot initiative the Government of Kenya, through this project, signed contracts for soil and water conservation structure construction. The initiative was implemented in eight micro-catchments and targeted to reach 1,020 participating farmers (591 males and 429 females). The farmers were reimbursed 30 percent of the structures construction costs incurred. The scheme was designed to continue after the project closed. The pilot showed initial promise with 41 percent of the farmers having been paid and another 40 percent undergoing evaluation in readiness for payment by November 30, 2016.

75. Under this objective the project was able to develop and/or pilot important policy tools. In some counties e.g. Narok County tools developed by the project are being used. However, the significant delays in project implementation negatively impacted the project's ability to use these tools to reduce any significant policy gaps in Kenya. In this context, the PDO indicator has not been achieved.

PDO Indicator 4: Percent increase in vegetative cover in cultivated fields in the project operational areas. Achievement was 29 percent; 1 percent short of target

76. The project's data's shows a significant increase in tree planting, pasture production and conservation agriculture activities (e.g. soil cover, crop rotation, minimum tillage). Additional planting of forest trees (2,829,162), fruit trees (804,599), pasture area (3,217 acres), and conservation agriculture area (3,903 acres). A spatial land cover monitoring shows that project activities between 2014-2016 increased vegetative cover by 19.4 percent, 29.2 percent and 38.7 percent in Cherangani, Kikuyu Kinale and Taita catchments, respectively.

77. Based on these results KALSM claims it has achieved, on average, 29.1 percent against the project target of 30.0 percent. However, three factors potentially undermine the claims. Firstly, as indicated in the project’s final evaluation report a large percentage of the new coverage is very young (and therefore not established). Secondly, it is not clear whether to attribute all expanded coverage entirely to project Thirdly, the compressed implementation period prevents the project from generating evidence that the methods that created the increase vegetative coverage will be sustainable options for farmers or communities.

Summary of Performance against PDO Outcome indicators

Table 4: PDO Indicator Reporting

PDO Indicator	Baseline	Original target	Actuals reported by Project
Percent increase in cultivated areas in which promoted SLM technologies and practices have been adopted	4434 acres	50%	650%
Percent increase in average income of households from SLM-related interventions.	619,413,481 KSh	25%	556%
Percent completion of a national institutional framework for SLM planning and implementation	0	100%	80%
Percent increase in vegetative cover in cultivated fields in the project operational areas.		30%	29%

3.3 Efficiency

Rating: Modest

78. Appraisal assumptions. The economic and financial analysis at appraisal stage included (i) an overview of the economic aspects of SLM in Kenya; (ii) a brief summary of general issues for economic analysis of SLM projects; (iii) estimation of the potential Internal Rate of Return (IRR) and Net Present Value (NPV) for the proposed project investment; and (iv) conclusions and recommendations. Details of this analysis can be found in annex 3.

79. The following is a summary of key findings at the conclusion of the project.

ICR analysis: producer profitability.

80. The implementation completion EFA takes into account activities under component 2, Investment in community SLM micro-projects and resulting social and private benefits:

Social benefits related to SLM practices:

81. The project supported a total of 225 community micro-projects through which SLM technologies. Percent increase in cultivated areas in which promoted SLM technologies and practices have been adopted in the project operational area (PDO Indicator 1), increased by 600 percent, to 31,400 acres (12,707 ha) compared to the project target of 4,484 acres. In addition, 2.8 million trees (ca. 1,000 ha) and 0.8 million fruit trees (ca. 450 ha) were planted,

and 3,901 acres (1,578 ha) of land brought under conservation agriculture.¹ Thus, the ICR analysis accounts for 15,735 ha under SLM practices. The exact hectare area under SLM practices which was used for the appraisal stage analysis could not be obtained. For SLM activities initiated under the project, however, the full environmental impacts of adopting SLM practices, related to decreased soil erosion and reducing land degradation, typically only accrue after several years. For instance, the potential benefits of reducing sedimentation loss which can subsequently impact the maintenance cost of a water treatment plant like Sasuma plant, are unlikely to be evident today, in particular considering that the project's effective implementation period was less than 2 years.²

82. The environmental benefits of using SLM were approximated by (a) using the same assumptions as during appraisal stage and assigning a carbon sequestration potential of 0.5 tons of carbon/ha/year, which results in a carbon sink of - 7,867 tCO₂e/year; and (b) by assessing the carbon sequestration potential over 20 years using the Ex-Ante Carbon Balance Tool (EX-ACT), which is recommended for World Bank projects.³ This results in a net carbon sink of -474,674 tons of CO₂-equivalent emissions (tCO₂e) over a period of 20 years; or -23,734 tCO₂e/year. The analysis takes into account three alternative valuations for carbon: (i) market price of US\$4/ ton of CO₂-equivalent emissions (tCO₂e), which was used at appraisal stage; (ii) social value of carbon of US\$30 per tCO₂e emission, which represents the present value of the stream of future economic damages of increasing GHG emissions by one ton and is recommended by recent World Bank guidelines⁴ and; (iii) approximation of the current market prices of US\$10/tCO₂. A recent World Bank report about carbon pricing states that 75 percent of the emissions covered by carbon markets are priced below US\$10.⁵

83. The analysis shows that the project had a higher potential to achieve environmental benefits than assumed at appraisal. In particular, if, as proposed by recent World Bank guidelines, the carbon accounting tool EX-ACT and the social value of carbon is applied. However, carbon benefits are conditional on a sustained adoption of the SLM practices over a time horizon of several years which, in the context of the compressed implementation of KAPSLM, cannot be confirmed.

Private benefits of adopting SLM practices.

84. The detailed financial analyses for adopting SLM practices at project appraisal stage were not available. At project completion (i) insufficient information was available through the MIS system to conduct a comprehensive assessment of beneficiaries' incremental financial benefits or household income, and (ii) the effective project implementation period was short so that financial or economic benefits have not yet been realized and could not be

¹ Estimates on trees and area under conservation agriculture are from: Final Report: Evaluation of Kenya Agricultural Productivity & Sustainable Land Management Project (KAPSLMP) Submitted by ETC-EA to KAPP

² The project suffered from protracted delays in disbursement. Approximately, fifty percent of the total budget was disbursed in the last 18 months of the program.

³ The assumptions are the following: Implementation period 2 years; and capitalization period of 18 years – as it is recommended to use EX-ACT over a time period of 20 years to ensure soil carbon equilibrium. 12,707 ha under SLM are expected to avoid further land degradation (current and without project scenario: moderately degraded; with project scenario: non-degraded); ca. 1,000 ha of afforestation on previously set aside land and ca. 450 ha under perennials planted on agricultural land. 1,578 ha fell under conventional practices with the project which were previously under traditional crop management practices.

⁴ The shadow price of carbon, or social cost of carbon (SCC), presents the marginal damage cost of carbon emission. It is estimated as the present value of the stream of future economic damages of increased GHG emissions. For 2015, the World Bank proposes using an SCC of US\$30/t in the economic analysis. World Bank (2014): "Technical guidance note on the social value of carbon".

⁵ World Bank (2016): State and trends of carbon pricing. Washington DC

collected. The financial analysis is based on data received from Project Coordination Unit and service providers and reflects experience in selected communities in the project areas Taita-Taveta and Cherangani Hills. The data reflects the situation of well-performing beneficiaries in the project area, who could double their yield increase after full development (year 3). In absence of a comprehensive MIS system it is not possible to verify whether these estimates are a reflection of the average situation. However, the project’s impact assessment showed that project yield increased up to 4 percent after implementation. It can thus be concluded that the available data may overvalue the financial and economic benefits of the project. Also, project implementation was too short to make a robust assessment about sustained adoption rates of the SLM practices over the next years.

85. Results across project sites for each commodity are presented in Table 7: including net benefits in the without project scenario, year 1 and year 2 of the with project scenario, as well as the NPV over 50 years. The results for year 1 and year 2 show negative or low net benefits, which can be explained by the initial investment and slow yield increases. As implementation was compressed within two years, it remains to be seen whether the adoption of SLM practices remains sustainable. If so, the resulting average NPV and IRR across commodities of US\$870 per acre (or US\$2,088 per ha) and 41 percent, i.e. seem in line with average estimates at appraisal stage (US\$2,784 per ha, 38.9 percent).

86. For a sensitivity analysis similar assumptions as in the appraisal stage analysis were assumed: (i) reduction in commodity price by 50 percent of all commodities in the with project scenario; (ii) increase of fertilizer price of 50 percent (for tomatoes and Irish potatoes); (iii) maize price reduction and increase in fertilizer price by 50 percent. For a 50 percent reduction in commodity price the average NPV per acre (across area and commodity) is US\$-2,590; for an increase in fertilizer price, the NPV decreases to US\$705 over 50 years; the for a joint reduction in commodity price and increase in fertilizer price, the average NPV decreases to US\$-2,755.

Table 7: Financial analysis (before grants) of key commodities, average across project sites, in US\$/acre

	Average Grant received	Average Net Benefits (before grants)			Private NPV (@10%, 50 years)	Private IRR (%)
		Without project	Year 1	Year 2		
Poultry	211	-4	-98	-9	398	39%
Potatoes	not available	119	-149	34	1,382	56%
Tomatoes	not available	197	-57	174	830	26%

ICR analysis: Economic Analysis

87. Poultry, potatoes and tomato value chains cover 9,063 beneficiaries, thus approximately 30 percent of targeted beneficiaries. Given that project implementation was delayed and quite short, it seems reasonable to assume that 30 percent of targeted beneficiaries achieve an increase in net benefits with project. In the economic analysis the returns to project’s investment, i.e. US\$8.3 million, are spent in year 3, 4 and 5, are measured against (i) the private benefits of 30 percent of beneficiaries, thus their incremental net benefits; and (ii) the public good benefits derived from the monitored adoption of SLM practices – measured with appraisal stage method and currently recommended method; and (iii) joint private and public benefits, where public benefits are measured with appraisal stage method and currently recommended method. Similar to the appraisal stage, the analysis uses financial prices, an implementation period of 50 years is assumed, and a discount rate of 10

percent is assumed. In addition, a discount rate of 6 percent is applied which is currently recommended by World Bank guidelines.⁶ Benefits start to realize from year 4 onwards.

88. The analysis shows that including only (i) private benefits results in an NPV of US\$528,045 and IRR of 11 percent; (ii) only social benefits lead to an economic NPV of US\$-6.8 million and -6 percent IRR for the carbon benefits estimation method applied at appraisal; and US\$-706,417 and an IRR of 9 percent if the currently recommended methodology to account for carbon benefits is applied; (iii) if private and public benefits jointly are applied, the resulting NPV is either US\$810,874 and IRR of 11 percent or US\$6.9 million and IRR of 17 percent. While the results show that the project is profitable, in particular when accounting for social benefits, the results are lower than suggested during appraisal stage.

89. Conclusion: The project seems economically sound at an interest rate of 6 percent and inclusion of social benefits; the financial models on per hectare value show that, given adoption of SLM practices is sustained positive NPVs and favorable IRRs can be achieved on average. The results have to be interpreted with caution. Due to lack of data and information through the MIS system and final Impact assessment, the EFA relied on selected point observations provided by the PIU and scarce information about yield increase from the impact assessment survey. Given the short timeframe the observations may show an above-average scenario and may not give a truthful picture of the profitability of the project at completion stage.

3.4 Justification of Overall Outcome Rating

Rating: *Moderately Unsatisfactory*

90. The project has been successful in establishing a large number of activities that are highly relevant to the policy environment in Kenya. However, the project is still rated moderately unsatisfactory due to Modest rating on both PDO achievement and efficiency. This rating is a result of critical delays in implementation. These delays compressed the time available for agricultural producers in the operational areas to adopt environmentally-sound land management practices without reducing their incomes and to reduce and mitigate land degradation in the targeted operational areas and contribute to maintenance of critical ecosystem functions and structures. The majority of project activities were simply not in operation long enough to ensure practices were adopted, incomes increased and ecosystems maintained.

3.5 Overarching Themes, Other Outcomes and Impacts

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

91. The areas selected for the program were rural communities with a declining natural resource base. Project investments in SLM, alternative livelihoods and new systems for service delivery had an indirect and positive impact on poverty in communities, in addition to the direct productivity and environmental improvements.

⁶ Technical Note on Discounting Costs and Benefits in Economic Analysis of World Bank Projects (World Bank, 2016)

92. The project supported a community of the vulnerable groups [internally displaced persons (IDP)] in Maai Mahiu that was identified in the Kikuyu Kinale catchment as part of the social safeguards. This group was supported with training in SLM, group dynamics and business management, as well as an egg incubator as an alternative livelihood option. As a result of the micro-project, group members reported that the project has improved their nutrition as well as increased their income

93. In all catchments, KAPSLMP supported 21 youth groups. The support was in form of training in SLM, agribusiness, environmental and social safeguards focusing on certification and standardization of processes and products for food safety and sustainable livelihoods.

94. In terms of gender, the project had a target of ensuring 50% of SLM adopters would be women. By the close of the program, it had achieved the 40% mark. Once again, the compressed implementation period reduced the timeframe that would have allowed to fully understand the social dynamics around sustainable management and implementation of the project activities.

(b) Institutional Change/Strengthening

95. ***Building community organizations to support SLM.*** The project addressed a number SLM capacity issues through: training of both public and private advisory service providers (SPs) and common interest groups (CIGs) in targeted communities, and; by creating awareness of SLM impact on productivity and ecosystem functions. This enabled SPs to transfer adaptive technologies, improved management practices, and market information to the communities, using a demand-driven and competitive service provision model. Through capacity building, producers and resource users were able to identify viable interventions and to share knowledge on adaptive management of natural resources.

96. ***Kenya Sustainable Land Management Investment Framework.*** Project investments have contributed to the development of the KSIF. The framework was designed as a tool to foster a programmatic approach to scaling up SLM practices across relevant sectors. The KSIF is designed to improve coordination of ongoing and future SLM interventions in Kenya, with a long-term view of moving towards an integrated, government-led national program on SLM that avoids duplication of efforts among sectors and stakeholders. However, the establishment of the KSIF was significantly delayed and, as a result, its effectiveness as a tool to influence national or even local policy processes was never tested at scale.

97. The project also piloted the implementation of Payment for Environmental Services - this was implemented in the Sasumua watershed, which supplies about 20 percent of Nairobi's water. The sub-component was designed to have a functioning PES program in place by the end of the project, with the objectives of generating direct benefits for the Sasumua water treatment plant and of providing lessons for other possible PES applications in Kenya. The establishment of the component was delayed. The limited timeframe made it unlikely to conclusively demonstrate whether the PES pilot is reducing sediment delivery, for two reasons: (i) it takes time for conservation measures to have an effect (indeed, in the case of mechanical measures, such as terraces, sediment delivery might increase at first because of the construction), and; (ii) sediment delivery is highly variable from one year to the next, making it impossible to separate the effect of the conservation measures from that or other factors.

(c) Other Unintended Outcomes and Impacts

98. Some of the SLM investments were located in communal and private land with no clear established land ownership or user rights. Although the communities had made informal agreements to safeguard the investments made under the project, the risk, over time, of these investments becoming inaccessible would-be beneficiaries remains real due to lack of these formal ownership and user rights.

99. The three catchment areas where the project was implemented are characterized by small land holdings, which are expected to shrink further due to population pressure. While the communities and households appreciate the need to invest in SLM, the opportunity cost for land used for such investments is viewed as high, and the cost of labor and other inputs needed for such investments is also becoming prohibitive.

4. Assessment of Risk to Development Outcome

Rating: High

100. **Policy risk.** The primary instrument for influencing policy push was the formulation and implementation of the KSIF. The KSIF was to enhance SLM sector coordination and catalyze more funding. However, as previously indicated, while the KSIF had been developed by the project closing date, there was insufficient time for it to be adopted by both the national and county governments, and stakeholders. Therefore, the implementation of its recommendations currently cannot be assured.

101. There are indications that government agencies and individual communities are willing to forge ahead to adopt and implement the strategy, but the funding and institutional mechanisms for this undertaking may not yet be fully in place. This, therefore, remains a key risk to the developmental outcome of the project given the emphasis and resources expended so far to develop KSIF and its background studies.

102. **Institutional risks.** As agricultural services were being devolved to the county governments, it was expected that the project would forge working relationships with these governments to take on board and sustain the SLM and AL investments. Attempts were made to initiate relationships and collaboration with the county governments and some supported the approach. New investments are being established in the areas covered by KAPSLMP. In addition, there is evidence, in a limited number of areas, that user fee schemes may continue. However, an institutional gap will be left behind after the project and this may jeopardize the community mobilization and investments. Furthermore, anecdotal evidence indicates that most counties were more interested in the more visible, physical infrastructure investments as compared to the soft investments such as extension services.

103. **Political/social changes.** The main political risk in the SLM interventions supported by KAPSLMP was to keep squatters off ecologically-sensitive areas - especially hillsides, forests and riparian areas. The social pressures that manifest as land subdivision mean that fewer individuals may be willing to invest in soil and water conservation structures because they are seen to compete with food production for land as well as other quick-pay investment alternatives existed for the scanty available capital resource.

104. **Environmental.** In Taita Catchment the greatest risk to KAPSLMP implementation and sustainability strategy was the prevailing situation of opening up very steep slopes for human settlement by local political leaders who support these unsustainable environmental and livelihood strategies for political expediency. The second risk arises from artisanal

mining for gemstones high in hills especially in Chawia using rudimentary tools and without any measures in place to rehabilitate or ameliorate the environmental impact. These two activities negated the good work the project aimed to achieve in its design.

105. ***Integrating into value chains.*** Beneficiaries had difficulty with newly introduced crops such as strawberries and tree tomatoes in relation to accessing sufficient quantities of clean planting materials. In the case of livestock and fisheries enterprises, the main constraint was obtaining artificial insemination services for cows, healthy fingerlings for aquaculture, chicks and eggs for poultry farmers and brood stock for rabbit farmers.

5. Assessment of Bank and Borrower Performance

5.1 Bank Performance

(a) Bank Performance in Ensuring Quality at Entry

Rating: Moderately Unsatisfactory

106. The PCN was reviewed in October 2004, the Decision Meeting was held in August 2007 and the project was finally approved in September 2010. Despite the protracted design period the evidence clearly suggests the final project was overly ambitious given the low capacity and changing institutional environment. Furthermore, the M&E was too complicated to be implement.

(b) Quality of Supervision

Rating: Moderately Unsatisfactory

107. The Bank undertook regular supervision with task team leader and staff based within the region. The supervision teams were generally responsive to dealing with issues. However, there were times when the World Bank's performance could have been improved. First, it could have been better at promptly responding to requests made by project staff. In some instances, the Bank took long to respond to or approve requests for "No Objection" by the project staff. For instance, requests for approval of consultants to undertake studies in preparation for KSIF were unduly delayed. Second, the Bank's technical capacity and experience could have helped improve project M&E, had it been appropriately applied. The weaknesses in the M&E were noted very early into the project implementation, as a carryover from KAPAP. In addition, there were too many changes in the Results Framework that were not followed up for approval and documentation. One outcome of this situation is that the selected enterprises for monitoring income and yield changes in the catchments differed from one report to another. Finally, some indicators in the M&E framework remained unclear to the end of the project.

(c) Justification of Rating for Overall Bank Performance

Rating: Moderately Unsatisfactory

108. The rating is based on a moderately unsatisfactory rating for both the quality at entry and the quality of supervision.

5.2 Borrower Performance

(a) Government Performance

Rating: Moderately Unsatisfactory

109. A number of broad government related challenges impacted the startup phase and overall implementation of the project. The process of devolution and shifting institutional mandates are two important examples. These wider institutional transformations are well beyond the direct influence of the project. However, the transformation clearly contributed to the complexity of the implementation process. In addition, the situation was compounded by the slow disbursement of funds.

110. The GoK, as recipient of the grant, was expected to establish the institutional framework for implementation of the project and set up a fiduciary management system. The GoK was also expected to provide counterpart funds of US\$ 2.17 million and ensure that the beneficiary communities contributed at least ten percent of the cost of the micro projects.

111. Financial Management. The project has a financial management system which is in line with the GoK system and is currently manual. Cash basis accounting was followed in recording, processing and accounting for project transactions. Cash basis accounting recognizes transactions when cash is received or paid out. The financial statements were prepared in accordance with International Public Sector Accounting Standards (IPSAS) with particular emphasis on Cash Financial Reporting under the Cash Basis of Accounting. KAPSLMP Project used a manual financial system to record its transaction. A manual cashbook, specially designed for that purpose, was used to record funds received from either GOK or IDA and payments made for goods and services. The cashbook was regularly reconciled with the bank statement and confirmed by the Finance Specialist and Project Coordinator. All payment vouchers, together with supporting documents either in the form of office memos, approved work plans, budgets, request for funds and third party invoices or contracts, were sequentially filed for easy access.

112. Receipt of Funds. The Treasury opened the designated/special account for KAPSLMP in 2011 at I & M Bank, as per the requirements of the Grant Agreement. KAPSLMP project account was also opened at Kenya Commercial bank. However, the account for MENR was opened much later at the Central Bank of Kenya (CBK). The GoK made an initial deposit of Kshs 13,000,000 to the KAPSLMP Project account on 28/10/2011. An initial deposit of IDA funds amounting to Kshs 99,525,409 was made to the account on 20/11/2011. While the GoK was expected to ensure beneficiaries contributed to project financing, this information is not documented.

113. However, the funds to the project accounts did not flow as designed. It had been planned that funds would flow from the designated account to the two project accounts. In the case of MENR the funds were first paid to MoALF account, then transferred to KAPSLMP account, and eventually to MENR account at CBK. This convoluted process is one of the major causes of delays in the implementation of Component 3.

(b) Implementing Agency or Agencies Performance

Rating: Moderately Unsatisfactory

114. The KAPAP/KAPSLMP Secretariat was established and qualified personnel employed or seconded from other GOK departments. Two senior personnel, the component manager and his deputy, were recruited to spearhead the component 3 activities. The project

finance office was adequately staffed with a Finance Specialist and two Accountants. An Internal Auditor for KS was deployed by the National Treasury through MoALF. The GoK also provided support staff including M&E officers, accountants and drivers to each catchment area.

115. The GoK deployed qualified Catchment Area Coordinators (CACs) to each catchment area. The CACs had a financial oversight role and ensured that Micro-Project Grants were remitted to the CIGs bank accounts.

116. The Community Grant Management Manual (CGM) was prepared and used to guide the disbursement of Micro-Project Grants to beneficiaries. According to the manual, CIGs were required to complete and sign a grant agreement before release of grants. These provisions were adhered to including CIGs being registered by the Department of Social Services.

117. Despite the achievements of the project the delays in the flow of funds resulted, a weak procurement capacity resulted in a slower than expected implementation of activities, especially in the targeted communities. As a result, the number of Micro-Project Grants established was significantly below the number outlined in the program design. This reduced the overall impact of the program. In addition, there was insufficient time (a key commodity in SLM interventions) to be fully assessed and understood. The M&E framework was poorly implemented so the project was unable to fully report on results. Finally, the development of tools to influence policy were only developed at the very end of project implementation. Overall, the issues related to the funding flows critically undermined project's capacity to achieve its overall objective.

118. In addition, delays in establishing a fully function M&E system prevented the project from collecting and analyze evidence that would help inform and influence other programs and key policy processes.

(c) Justification of Rating for Overall Borrower Performance

Rating: Moderately Unsatisfactory

119. Overall borrower performance is rated moderately unsatisfactory ratings for both Government and Implementing Agency performance.

Key lessons learned

120. ***Adoption of SLM technologies takes investment in time.*** Overall, adoption rates were below 50 percent. However, planting of fruit and timber trees and digging terraces were the most adopted technologies. Beneficiaries cited several reasons for the lower-than-expected adoption rates including lack of or inadequate tools, money and even labor to undertake some of the SLM measures. Others complained of small land sizes. It was noted that many farmers were skeptical about the SLM technologies, especially the soil and water conservation measures like cut-off drains and terraces or any structures that ordinarily seemed to reduce the soil of land or was regarded as being labor intensive.

121. It was also observed that the actual roll out of the project activities operated at scale during the last two years of implementation. Farmers require time to internalize and institutionalize new ideas. For many, the project came to an end when farmers were just starting to realize the importance and benefit of the SLM technologies.

122. ***Partnerships and links with larger projects can be challenging*** KAPSLMP was designed to operate under the shadow of KAPAP in order to leverage on the institutional and support structures of KAPAP. The intention was to reduce the administrative costs of implementing the project and reduce the start-up period. While the project costs may have been reduced, this arrangement led to underestimation of staff requirements and other logistical needs of the project. Where a project is hosted by another, as KAPSLMP was hosted by KAPAP, there is need in the project design to synchronize their implementation. When KAPAP implementation closed in September 2015, it left KAPSLMP without both the capacity support structure and a mechanism by which to scale up. A more strategic approach to partnership with larger scale projects would have been appropriate.

123. ***Develop clear risk management strategies when engaging in value chains.*** The project sought to address the challenges of sustainability by connecting farmers to commercial ventures and new value chains. Evidence shows that this approach has significant risks. Future SLM programs that adopt this approach should place increased emphasis on value chain assessment and risk management strategies.

124. ***Where possible making funding flows as simple as possible.*** KAPSLMP project implementation was severely affected by funds release delays, which were due to convoluted flows and bureaucracy. As a result, the project lost three months of implementation each financial year. A key lesson must be to keep these procedures as simple as possible. Enhancing access to funds will increase the potential for successful implementation.

125. ***Making Monitoring and Evaluation SMART principles.*** There are number of Baselines need to be established early in order to effectively contribute to project management, to monitor progress, and because later project staff who may not have been around at project inception need to understand the implementation and evolution of activities. The design of MIS should cater for all components and implementing agencies throughout the life cycle of the project. Overall the M&E should have followed the “SMART” principle—simple, measurable, accurate, reliable timely. Need to tailor M&E to local capacity

Annex 1. Project Costs and Financing

(a) Project Cost by Component (in USD Million equivalent)

Components	Appraisal Estimate (USD millions)	Actual/Latest Estimate (USD millions)	Percentage of Appraisal
Component 1: Building Capacity for Sustainable Land Management	2.42	3.75	155
Component 2: Investments in Community SLM micro projects	3.62	1.37	48
Component 3: Strengthening the Enabling Environment	2.52	0.73	30
Component 4: Project Management and Supervision	1.42	1.26	88
Total Baseline Cost	10.00	7.03	70
Physical Contingencies	0.00	0.00	0.00
Price Contingencies	0.00	0.00	0.00
Total Project Costs	10.0	8.22	
Project Preparation Costs	0.00	0.00	.00
	0.00	0.00	.00
Total Financing Required	0.00	0.00	

(b) Financing

Source of Funds	Type of Co-Financing	Appraisal Estimate (USD millions)	Actual/Latest Estimate (USD millions)	Percentage of Appraisal
GOK		2.17	2.17	100
GEF		10	8.22	82

Annex 2: Summary of Component Outputs and Activities

Component 1: Building Capacity for SLM (GEF Increment US\$2.42M)

KAPSLMP undertook Community Resource Assessments (CRA) in 127 micro-catchments that were identified and prioritized by communities for implementation of project activities. However, KAPSLMP activities were implemented in 112 micro-catchments. The CRAs were led by County Technical Teams (CTT) and opinion leaders in the respective catchments, and through them, communities identified problems and opportunities with the micro-catchments that were then prioritized and later developed into Community Action Plans.

In each micro-catchment, SLM-related priority AL opportunities and micro-projects and community SLM micro-projects were identified. Beneficiaries were given choices of AL value chains after the enterprises were put through a rigorous Gross Margin analysis. The SLM-related AL activities are implemented along three key value chains per catchment. These activities informed the formulation of Community Integrated Plans and Community Action Plans. As a policy, gender and social concerns were integrated in all these processes to ensure that women, men, youth and indigenous people participated and their issues taken into account. KAPSLMP adopted the one-third gender rule to achieve the participation of vulnerable gender groups in the CRA and grant management structures.

The project worked with 28,664 (17,617 Men, 11,047 Women) direct beneficiaries. Table 1 gives a breakdown of project beneficiaries in the three catchment areas.

Table1: Distribution of project beneficiaries among the three catchments

		Kikuyu Kinale	Cherangani	Taita
Micro catchments		29	60	23
No Beneficiaries	Male	3,905	9,753	3,959
	Female	2,544	4,500	4,003
	Total	6,449	14,253	7,962
Community Integrated Plans		180		220

In mobilizing the beneficiaries, KAPSLMP identified and brought on board members from the Indigenous Peoples using the framework that KAPAP developed. The IPs were not only brought on board, but were also given special considerations, micro-projects and positions within the community structures.

In each micro-catchment, committees were set up to oversee the development of the micro-catchment plans and activities. In addition, special committees were set up for specific activities e.g. committees on the various value chains, committees on specific micro-project activities (hot spot rehabilitation, protection of springs, development of dams etc.). In this way, the beneficiaries felt empowered.

All the project participants were given training tailor-made to suit their chosen value chains and micro-projects, in addition to trainings on sustainable land management including soil and water conservation. Consortia of service providers, contracted by the beneficiary micro-catchment committees, facilitated the trainings.

Building the Capacity of Service Providers. CACs recruited Service Providers (SP) for the three catchment areas through a competitive approach (Expression of Interests- EOIs). During Trainer of Trainer sessions, the project opted to introduce an innovation for the proposed community driven development and service provision by reorganizing the SPs into consortia instead of individual service providers. This process led to formation of consortia along three value chains (fruits, nuts and vegetables, dairy, meats, and Natural Resource Management) value chains the project was implementing (as selected by the beneficiaries). A total of 15 consortia were formed in the three catchment areas, Cherangani had nine, and Taita and Kikuyu-Kinale had three consortiums each. A total of 327 grass root partners were recruited to conduct training and demonstrations at the community level.

The implementation procedures were revised to incorporate the consortia of service providers approach and all service providers trained on the procedures during the three training workshops, which were held in the respective catchments at the commissioning stage. The County Technical Teams (CTTs) in all the Catchments were sensitized on the contracted service delivery approach.

The project trained the SPs on various aspects of the project including specific value chains, but SLM and community approaches were the over-arching themes.

A summary of key training activities:

- The project trained 108 SPs/CACs/CTT on Conservation Agriculture.
- Four capacity building workshops for indigenous peoples' development targeting Service Providers (SPs), County Agriculture Sector Projects Steering Committee (CASPS) members, Indigenous Peoples' Organizations (IPOs) and CSUs/CACs were carried out.
- Four trainings on Environmental and Social Safeguards focusing on certification and standardization of processes and products towards food safety and sustainable livelihoods were held in February/March 2013 in all the three catchments. The target group was the County Technical Teams (CTTs), Catchment Area Coordinators (CACs)/CSUs and Representatives of the Indigenous Peoples (IPs). A total of 241 (women 59, men 141 and youth 41) persons were trained.
- Training workshops for 15 consortia were held in all the three catchments on the introduction/promotion of alternative livelihoods.
- A total of 109 SPs and CTTs were trained as trainers for the Grass Root Partners and communities on SLM and AL.
- Training on Gender mainstreaming was conducted targeting the GRPs and 120 GRPs were trained.

- GIS and mapping training for monitoring and visibility. This training was aimed at providing capacity to the Catchment Area Coordinators and the Monitoring and Evaluation Officers to collect process and transmit data to the online web portal for enhanced visibility. A total of 17 (15M + 2F) participants were trained
- Agribusiness training for CSU/CAC, SPs and GRPs. This training was recommended by the mission especially for the alternative livelihoods A total of 196 (134M + 58F) were trained.
- Business plan preparation training for Cherangani Catchment: This training had the following objectives; to develop business plans for Kapkarwa and Kapterit Micro-Catchments targeting water bottling investments, and, to enhance knowledge and skills in business plans writing for community leaders and service providers from Kapolet and Talau micro-catchments. A total of 40 participants were trained.
- Grant Rationalization Workshop for the catchments. In this workshop that was held in Naivasha in February 2016, the work plan and budgets for the three catchments was discussed, analyzed and grants allocated to the 109 micro-catchments.
- Grant Management training for CSUs/CACs, SPs and community leaders was carried out in all the catchment. The objective was to train the SPs and leaders on the management procedures in the utilization of the grants. 325 participants were trained.
- Social Accountability, Disclosures, Group dynamics, Conservation plans and proposals preparation TOT training held in all the catchments to provide knowledge and skills to the SPs to improve on accountability, project ownership and improve the quality of the Micro-catchment conservation plans and proposals. This training was carried out in May 2015. A total of 169 SPs/CSU/GRPs/CTT participated.

Component 2: Investments in Community SLM Microprojects (GEF increment US\$3.62M)

The supported community micro-projects identified within the micro-catchment area. Plans were developed by communities to address land degradation. Using a CDD-type approach, communities selected from a menu of technologies and practices to address land degradation and generate income. These technologies were assessed through cost-benefit analysis and adapted to the agro-ecological conditions of the targeted Project areas. The menu included inventions focused on soil and water conservation, water harvesting, reseeded of degraded lands, forest rehabilitation, pasture management, high-yielding crop and livestock varieties and genotypes and soil fertility maintenance. A summary of the activities undertaken can be found in table 2.

Table 2: Summary of SLM projects in Catchment Areas.

Catchment	Kikuyu Kinale	Cherangani	Taita	TOTAL
Number of Micro-catchments	29	57	23	109
Type of Micro-project				

Water Spring Protection and conservation	29	149	14	192
Land rehabilitation (Gully Control)	2		3	5
Degraded land rehabilitation	9	2	7	18
Tree seedling production (Green House)	3	9	3	15
Wetland Conservation	1			1
Dam catchment Conservation	4	2		6
Drainage works	2			2
Conservation Agriculture Demonstration	1			1
Hill Top Afforestation	2	14		16
Total	53	233	27	313

Table 3 provides a summary of the SKLM achievement generated as a result of these interventions

SLM achievement	Kikuyu Kinale	Cherangani	Taita
New area under SLM practices and technologies (Acres)	1,851.5	27,862.3	1,688.6
Terrace laying (km)	1,149.4	4,758.7	8,368.7
Terrace construction (km)	416.0	2,388.4	7,923.8
COD (metres)	133,399.0	354,527.0	6,384.1
Retention/infiltration ditches (metres)	79,823.0	54,337.8	42,604.2
Trashlines/Grass Strips (metres)	437,561.6	1,809,132.5	311,244.3
No of Forest trees planted	589,746.0	2,189,333.0	50,083.0
No of Fruit trees planted	84,948.0	699,137.0	26,516.0
Protection of river bank identified (km)	124.0	7,645.3	373.0
Composting (tonnes)	3,895.5	21,655.5	4,636.1
Area under Pasture (Acres)	875.8	1,605.1	736.3
Area under CA (Soil cover, Crop rotation, Minimum tillage (Acres))	9.5	3,758.1	135.6

Creating opportunities for linking investments in SLM technologies with commercial ventures and marketing. This component created incentives for environmentally sensitive land management. Investments were aimed to address priorities identified in the micro-catchment plans through the identification of viable solutions and the identification of whether action was required on-farm or off-farm. Table 4 provides a summary of the type of activities supported by the project.

Table 4: Types of micro-catchment projects supported by KAPSLMP

Value chain	Kikuyu Kinale				Cherangani				Taita			
	Groups	Male	Female	Total	Groups	Male	Female	Total	Groups	Male	Female	Total
DAIRY AND MEATS												
LOCAL POULTRY	9	136	179	315	39	1307	828	2135	39	997	1392	2389
DAIRY COW	33	673	421	1094	52	2201	1038	3239				
DAIRY GOAT	4	29	23	52								
FODDER									35	866	741	1607
RABBIT									27	421	322	743
SHEEP & GOATS					22	823	401	1224				
FRUITS, NUTS AND VEGETABLES												
BULB ONIONS					21	485	126	611				
PASSION FRUIT					14	430	236	666				
TOMATOES					28	676	203	879				
CABBAGE					20	382	131	513				
GROUNDNUTS									8	93	85	178
FRENCH BEANS									26	479	584	1063
IRISH POTATOES	24	1175	763	1938	22	434	296	730	29	244	379	623
STRAWBERRY	9	64	63	127								
TREE TOMATO	19	539	261	800								
NATURAL RESOURCE MANAGEMENT												
APICULTURE	27	312	129	441	44	742	178	920	14	160	41	201
AQUACULTURE	13	173	84	257	35	404	173	577	15	142	64	206
TREE NURSERY	42	804	621	1425	58	896	409	1305	27	557	395	952
Total	180	3905	2544	6449	355	8780	4019	12799	220	3959	4003	7962

Annex 3. Economic and Financial Analysis

Appraisal assumptions

1. The economic and financial analysis at appraisal stage included (i) an overview of the economic aspects of SLM in Kenya; (ii) a brief summary of general issues for economic analysis of SLM projects; (iii) estimation of the potential Internal Rate of Return (IRR) and Net Present Value (NPV) for the proposed project investment; and (iv) conclusions and recommendations.
2. To assess private financial benefits, the EFA used case studies of adopting SLM practices such as (a) agro-forestry (e.g. Calliandra and Napier Grass); (b) integrated soil fertility management (ISFM) and (c) soil and water conservation practices. Yield increases were assumed to be a consequence of reduced soil erosion and reduced soil fertility mining. The Revised Universal Soil Loss Equation (RUSLE) was used to quantify the erosion-crop yield relation; and a Feasible Generalized Least Squares (FGLS) model was used to compute yields with and without SLM practices. The analysis highlights that profitability is only one and not a sufficient condition to explain the adoption of SLM practices, but an understanding of socio-economic realities (e.g. population pressure, market access, access to finance, land tenure, policy reforms) is crucial to explain the adoption of SLM practices.
3. Besides on-site private benefits, SLM practices generate off-site, costs and benefits, e.g. social benefits related to externalities such as reduced sedimentation loads of reservoirs and other facilities downstream, carbon sequestration, regulation of water flows or biodiversity, most of which are difficult to measure.⁷ To assess the value of the positive externalities, the analysis selected the watershed in Kinale-Kikuyu for an in-depth analysis, where the Sasuma Water Treatment plant is located (ca. 17 percent of the project's target area). This example was used to exemplify how reduced soil sedimentation can decrease water treatment cost and save the plant around US\$140,000 per year. Further it was assumed that SLM practices can sequester 0.5 tons of carbon per hectare and per year, which was valued at a market price of US\$4/ton. There were no details on how the carbon benefits were included in the analysis.
4. The ex-ante EFA found that farmers across operational areas can realize on average an IRR of 39 percent and a NPV of US\$2,784 per ha, over a period of 50 years. The average social NPV/ha and social IRR per ha were US\$3,020 and 36 percent. The highest returns to the recommended investments can be expected in Cherangani (private IRR of 54 percent and NPV of US\$3,636 per ha; social IRR of 46 percent and NPV of US\$3,904). The results did not report model results for specific crops and or SLM. (Table 1). Sensitivity analysis indicated that the adoption of SLM practices is profitable over a four different input and output price scenarios,

⁷ The analysis elaborated on the difficulty in quantifying the benefits of SLM practices, SMS practices are likely to generate positive on-site effects such as increased yields through reduced soil erosion which usually can be measured. The analysis states that the precise quantification of the complex relation between watershed management activities, their physical effects (for example, stabilization of top soil, reduced flooding), and their translation into value measures require substantial amount of long-term biophysical and agricultural data at different scales which is usually not available.

thereby only referring to the crop maize. For different scenario, private/social ERR varied between 6 percent/12 percent (no use of calliandra and napier biomass, no fodder used in the dairy industry) and 32 percent/31 percent (reduction of maize price by 50 percent) (Table 2)

Table 1. NPV and IRR for Selected KAPSLMP Operational Areas over 50 Years, assessed at appraisal stage

Operational area	Social NPV/ha (US\$)	Private NPV/ha (US\$)	Social IRR (%)	Private IRR (%)
Cherangani	3,904	3,636	46.3	54.1
Kinale-Kikuyu	2,391	2,176	30	30.7
Taita/Taveat	2,766	2,539	31.3	32.1
Average	3,020	2,784	35.9	38.9

Table 2. NPV and IRR under Various Sensitivity Scenarios (average across all operational areas), assessed at appraisal stage

Scenario	Social NPV/ha (US\$)	Private NPV/ha (US\$)	Social IRR (%)	Private IRR (%)
Maize price reduction 50%	2,116	1,895	31.1	21.3
Fertilizer price increase 50%	2,376	2,075	26.5	25
Maize price reduction 50% + fertilizer price increase 50%	1,471	1,186	20.1	17
No use of calliandra and napier biomass.	758	326	11.6	5.8

ICR analysis: profitability

5. The implementation completion EFA takes into account activities under component 2, Investment in community SLM micro-projects and resulting social and private benefits:

Social benefits related to SLM practices:

6. The project supported a total of 225 community micro-projects through which SLM technologies. Percent increase in cultivated areas in which promoted SLM technologies and practices have been adopted in the project operational area (PDO Indicator 1), increased by 600 percent, to 31,400 acres (12,707 ha) compared to the project target of 4,484 acres. In addition, 2.8 million trees (ca. 1,000 ha) and 0.8 million fruit trees (ca. 450 ha) were planted, and 3,901 acres (1,578 ha) of land brought under conservation agriculture.⁸ Thus, the ICR analysis accounts for 15,735 ha under SLM practices. The exact hectare area under SLM practices which was used for the appraisal stage analysis could not be obtained. For SLM activities initiated under the project, however, the full environmental impacts of adopting SLM practices, related to decreased soil erosion and reducing land degradation, typically only accrue after several years. For instance, the potential benefits of reducing sedimentation loss which can subsequently impact the maintenance cost of a water treatment plant like Sasuma plant, are unlikely to be evident today,

⁸ Estimates on trees and area under conservation agriculture are from: Final Report: Evaluation of Kenya Agricultural Productivity & Sustainable Land Management Project (KAPSLMP) Submitted by ETC-EA to KAPP

in particular considering that the project’s effective implementation period was less than 2 years.⁹

7. The environmental benefits of using SLM will be approximated by (a) using the same assumptions as during appraisal stage and assigning a carbon sequestration potential of 0.5 tons of carbon/ha/year, which results in a carbon sink of - 7,867 tCO₂e/year; and (b) by assessing the carbon sequestration potential over 20 years using the Ex-Ante Carbon Balance Tool (EX-ACT), which is recommended for World Bank projects.¹⁰ This results in a net carbon sink of -474,674 tons of CO₂-equivalent emissions (tCO₂e) over a period of 20 years; or -23,734 tCO₂e/year. The analysis takes into account three alternative valuations for carbon: (i) market price of US\$4/ ton of CO₂-equivalent emissions (tCO₂e), which was used at appraisal stage; (ii) social value of carbon of US\$30 per tCO₂e emission, which represents the present value of the stream of future economic damages of increasing GHG emissions by one ton and is recommended by recent World Bank guidelines¹¹ and; (iii) approximation of the current market prices of US\$10/tCO₂. A recent World Bank report about carbon pricing states that 75 percent of the emissions covered by carbon markets are priced below US\$10.¹² Results are presented in Table 3.

Table 3: Valuation of social benefits provided by KAPSLMP using different estimation and valuation methods. The values are provided in US\$/year.

Valuation method	(a) Appraisal stage assumptions	(b) Ex-ante carbon balance tool
Carbon sink tCO ₂ -e/year	- 7,867 tCO ₂ e/year	- 23,734 tCO ₂ e/year
Price per tCO ₂ -e:		
(i) US\$4	US\$31,468	US\$94,936
(ii) US\$10	US\$78,640	US\$237,340
(iii) US\$30	US\$235,920	US\$712,020

8. The analysis shows that the project has a higher potential to achieve environmental benefits than assumed at appraisal. In particular, if, as proposed by recent World Bank guidelines, the carbon accounting tool EX-ACT and the social value of carbon is applied. However, it needs to be kept in mind that carbon benefits are conditional on a sustained adoption of the SLM practices over a time horizon of several years, which cannot be confirmed at this point in time. For the calculation of the economic internal rate of return of the project, appraisal stage assumptions, (a) and (i), will be used as well as the assessment based on current World Bank recommendations, (iii) and (b).

⁹ The project suffered from protracted delays in disbursement. Approximately, fifty percent of the total budget was disbursed in the last 18 months of the program.

¹⁰ The assumptions are the following: Implementation period 2 years; and capitalization period of 18 years – as it is recommended to use EX-ACT over a time period of 20 years to ensure soil carbon equilibrium. 12,707 ha under SLM are expected to avoid further land degradation (current and without project scenario: moderately degraded; with project scenario: non-degraded); ca. 1,000 ha of afforestation on previously set aside land and ca. 450 ha under perennials planted on agricultural land. 1,578 ha fell under conventional practices with the project which were previously under traditional crop management practices.

¹¹ The shadow price of carbon, or social cost of carbon (SCC), presents the marginal damage cost of carbon emission. It is estimated as the present value of the stream of future economic damages of increased GHG emissions. For 2015, the World Bank proposes using an SCC of US\$30/t in the economic analysis. World Bank (2014): “Technical guidance note on the social value of carbon”.

¹² World Bank (2016): State and trends of carbon pricing. Washington DC

Private benefits of adopting SLM practices.

9. The detailed financial analyses for adopting SLM practices at project appraisal stage were not available. At project completion (i) insufficient information was available through the MIS system to conduct a comprehensive assessment of beneficiaries' incremental financial benefits or household income, and (ii) the effective project implementation period was short so that financial or economic benefits have not yet been realized and could not be collected. The financial analysis is based on data received from Project Coordination Unit and service providers and reflects experience in selected communities in the project areas Taita-Taveta and Cherangani Hills. The data reflects the situation of well-performing beneficiaries in the project area, who could double their yield increase after full development (year 3). In absence of a comprehensive MIS system it is not possible to verify whether these estimates are a reflection of the average situation. However, the project's impact assessment showed that project yield increased up to 4 percent after implementation. It can thus be concluded that the available data may overvalue the financial and economic benefits of the project. Also, project implementation was too short to make a robust assessment about sustained adoption rates of the SLM practices over the next years.

10. The here presented analysis uses following assumptions: implementation period of 50 years, as proposed during appraisal stage analysis, starting in year 4 of the project. Crop yield increases of 4 percent are assumed in year 5, which increase by 30 percent and 60 percent in year 6 and 7 (full development). The calculation of the private NPV and IRR is based on appraisal assumptions: duration is 50 years and discount rate of 10 percent, to capture the rural rate of borrowing. An exchange rate of USD-KES 101.4 is used. The appraisal analyses report on the commodity maize, which was not identified as priority commodities during project implementation. Instead, the ICR analysis focuses on three commodities which were promoted under the project: tomatoes, Irish potatoes and local poultry, and the application of integrated soil fertility management, which can demonstrate yield increases in the same or following year of application. Local poultry was adopted by 87 groups and 4,839 beneficiaries; tomatoes was adopted by 28 groups and 879 beneficiaries; and Irish potatoes was adopted by 75 groups and 3,291 beneficiaries. It is assumed adoption took place on 1 acre per beneficiary.¹³

11. Results across project sites for each commodity are presented in Table 4: including net benefits in the without project scenario, year 1 and year 2 of the with project scenario, as well as the NPV over 50 years. The results for year 1 and year 2 show negative or low net benefits, which can be explained by the initial investment and slow yield increases. As implementation was compressed within two years, it remains to be seen whether the adoption of SLM practices remains sustainable. If so, the resulting average NPV and IRR across commodities of US\$870 per acre (or US\$2,088 per ha) and 41 percent, i.e. seem in line with average estimates at appraisal stage (US\$2,784 per ha, 38.9 percent).

¹³ Final Report: Evaluation of Kenya Agricultural Productivity & Sustainable Land Management Project (KAPSLMP) Submitted by ETC-EA to KAPP.

12. For a sensitivity analysis similar assumptions as in the appraisal stage analysis were assumed: (i) reduction in commodity price by 50 percent of all commodities in the with project scenario); (ii) increase of fertilizer price of 50 percent (for tomatoes and Irish potatoes); (iii) maize price reduction and increase in fertilizer price by 50 percent. For a 50 percent reduction in commodity price the average NPV per acre (across area and commodity) is US\$-2,590; for an increase in fertilizer price, the NPV decreases to US\$705 over 50 years; the for a joint reduction in commodity price and increase in fertilizer price, the average NPV decreases to US\$-2,755.

Table 4: Financial analysis (before grants) of key commodities, average across project sites, in US\$/acre

	Average Grant received	Average Net Benefits (before grants)			Private NPV (@10%, 50 years)	Private IRR (%)
		Without project	Year 1	Year 2		
Poultry	211	-4	-98	-9	398	39%
Potatoes	not available	119	-149	34	1,382	56%
Tomatoes	not available	197	-57	174	830	26%

ICR analysis: Economic Analysis

13. Poultry, potatoes and tomato value chains cover 9,063 beneficiaries, thus approximately 30 percent of targeted beneficiaries. Given that project implementation was delayed and quite short, it seems reasonable to assume that 30 percent of targeted beneficiaries achieve an increase in net benefits with project. In the economic analysis the returns to project's investment, i.e. US\$8.3 million, are spent in year 3, 4 and 5, are measured against (i) the private benefits of 30 percent of beneficiaries, thus their incremental net benefits; and (ii) the public good benefits derived from the monitored adoption of SLM practices – measured with appraisal stage method and currently recommended method; and (iii) joint private and public benefits, where public benefits are measured with appraisal stage method and currently recommended method. Similar to appraisal stage, the uses financial prices, an implementation period of 50 years is assumed, and a discount rate of 10 percent is assumed. In addition, a discount rate of 6 percent is applied which is currently recommended by World Bank guidelines.¹⁴ Benefits start to realize from year 4 onwards.

14. Results are presented in Table 5. The analysis shows that including only (i) private benefits results in an NPV of US\$528,045 and IRR of 11 percent; (ii) only social benefits lead to an economic NPV of US\$-6.8 million and -6 percent IRR for the carbon benefits estimation method applied at appraisal; and US\$-706,417 and an IRR of 9 percent if the currently recommended methodology to account for carbon benefits is applied; (iii) if private and public benefits jointly are applied, the resulting NPV is either US\$810,874 and IRR of 11 percent or US\$6.9 million and IRR of 17 percent. While the results show that the project is profitable, in particular when accounting for social benefits, the results are lower than suggested during appraisal stage.

¹⁴ Technical Note on Discounting Costs and Benefits in Economic Analysis of World Bank Projects (World Bank, 2016)

15. For sensitivity analysis the appraisal analysis suggested a classical diffusion model with logistic distribution, for a diffusion rate of 0.1, 0.25 and 0.5. The key parameters for the analysis at appraisal stage were not available. For the completion analysis a bass diffusion model is used, which assumes that initial adoption of 30 percent of a total beneficiary population, spreads to the total population of 28,000 at alternative diffusion rates. The results reveal that NPV and IRR can increase to up to US\$14 million and 19 percent, under appraisal assumptions.

Table 5: Project NPV and IRR under various diffusion scenarios.

	Private benefits	Public benefits		Joint private and public benefits	
		Appraisal method	Currently recommended method	Public benefits: Appraisal method	Public benefits: Currently recommended method
Base scenario – 30 percent adoption rate (constant)					
NPV@ 10%	528,045	-6.8 mio	-706,417	810,874	6.9 mio
NPV @ 6%	7.05 mio.	-7.08 mio	2.92 mio	7.5 mio	17.5 mio
IRR	11%	-6%	9%	11%	17%
Scenario: r=0.1, initial 30 percent adoption rate					
NPV@ 10%	12.7 mio	-	-	13.05 mio	19.1 mio
NPV @ 6%	32.56 mio	-	-	33.03 mio	43.04 mio
IRR	18%	-	-	18%	23%
Scenario: r=0.25, initial 30 percent adoption rate					
NPV@ 10%	13.2 mio	-	-	13.56 mio	19.6 mio
NPV @ 6%	33.3 mio	-	-	33.7 mio	43.7 mio
IRR	19%	-	-	19%	24%
Scenario: r=0.5, initial 30 percent adoption rate					
NPV@ 10%	13.8 mio	-	-	14.1 mio	20.2 mio
NPV @ 6%	34 mio	-	-	34.5 mio	44.5 mio
IRR	19%	-	-	19%	24%

16. Conclusion: The project seems profitable at an interest rate of 6 percent and inclusion of social benefits; the financial models on per hectare value show that, given adoption of SLM practices is sustained positive NPVs and favorable IRRs can be achieved on average. The results have to be interpreted with caution. Due to lack of data and information through the MIS system and final Impact assessment, the EFA relied on selected point observations provided by the PIU and scarce information about yield increase from the impact assessment survey. Given the short timeframe the observations may show an above-average scenario and may not give a truthful picture of the profitability of the project at completion stage.

17. The appraisal stage analysis did not provide full insights in the method and variable used. However, the comparison with the appraisal stage analysis shows comparable values for the financial analysis. However, the values prove to be very sensitive to changes in commodity price and fertilizer, which was not found at appraisal stage. The overall project profitability was assessed lower than during appraisal stage, which may relate to assumptions about lower adoption and low crop yield increase in the first year after implementation.

Annex 4. Grant Preparation and Implementation Support/Supervision Processes

(a) Task Team members

(a) Task Team members

Names	Title	Unit	Responsibility/ Specialty
Lending			
Arati Belle	Consultant	GSU18	
Sandra Jo Bulls	Program Assistant	AFTN1 - HIS	
Andrew Mwihia Karanja	Senior Agriculture Economist	GFADR	
Lucie Muchekehu	Program Assistant	AFCE2	
Supervision/ICR			
Ladisy Komba Chengula	Lead Agricultural Economist	GFA07	
Joseph Oryokot	Senior Agriculture Specialist	GFA07	
Joel Buku Munyori	Senior Procurement Specialist	GGO01	
Dahir Elmi Warsame	Consultant	GGO01	
Tesfaye Ayele	Senior Procurement Specialist	GGO01	
Henry Amena Amuguni	Sr Financial Management Specialist	GGO31	
Abel Lufafa	Sr Agricultural Specialist	GFA13	
Banu Setlur	Senior Environmental Specialist	GEN05	
Edward Felix Dwumfour	Senior Environmental Specialist	GEN01	
Gibwa A. Kajubi	Senior Social Development Specialist	GSU07	
Hope Nanshemeza	Team Assistant	AFCE2	
Joyce Cheruto Bett	Program Assistant	AFCE2	
Sophie Nelly Rabuku	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		
FY05		102.71
FY06		233.96
FY07		112.13
FY08		92.58
Total:		541.38
Supervision/ICR		
Total:		0.00

Annex 5. Beneficiary Survey Results

The survey showed high levels of beneficiary' satisfaction with the service contracted extension service delivery showed that the use of CDD is an appropriate approach in the dissemination of SLM technologies and practices.

The survey showed the use of incentives also contributed significantly towards enhancing the planting of trees both in the individual farms and at the selected hot spots. However, the cost of labor is a key limiting factor particularly for the labor intensive SLM structures. Incentives had a dramatic positive effect on adoption of the SLM measures, though their impacts on the future SLM efforts sustainability of the SLM interventions may be negative beyond the project period.

The study also showed that despite the expectation by the project that the service providers would organize farmers for marketing and link them to good markets; this had not been achieved by the time of the survey. The beneficiaries were still selling their produce cheaply to brokers and locally leading to substantial amounts of unsold produce.

The survey recommends on the following:

Considering the importance of local poultry and its potential as an AL for vulnerable groups, further studies need to be done to assess the factors contributing to its lack of profitability and to identify ways to avert the situation.

- The gains made by the project need to be up scaled in order to reach more farmers and enhance the adoption SLM technologies and practices.
- Incentives in SLM efforts should be well thought-out and planned in a way that they include inbuilt sustainability attributes and address the high labor costs.

ANNEX 6: Results Framework: Kenya Agricultural Productivity and Sustainable Land Management Project

Outcome and Intermediate Indicators	Baseline	Cumulative Targets	Achieved 2012/13	Achieved 2013/14	Achieved 2014/15	Achieved 2015/16
PDO Indicator 1 Percent increase in cultivated area in which promoted SLM technologies and practices have been adopted in the project operational areas	4,484 (acres)	30%		255% (11,444 acres)	698% (31,309 acres)	700% (31,401 acres)
PDO Indicator 2 Percent increase in average income (earnings) of beneficiaries from SLM-related intervention in the project operational areas.	Ksh 619,413,481	25%	158% 978,756,444	436% 2,706,345,596	577% 3,578,371,792	581% 3,600,382,514
PDO Indicator 3 Percent completion of the establishment of a national institutional framework for SLM planning, implementation and coordination	0	100	10%	40%	50%	60%
PDO Indicator 4 Percent increase in vegetative cover in cultivated fields in the project operational areas		5	20	20	29	30
Intermediate Indicator 1 Number of direct beneficiaries disaggregated by gender						8684 women 14,005 men
Intermediate Indicator 2 Percent of land users who have adopted recommended SLM practices disaggregated by gender and operational areas	30,000		14,421	15,228	28,664	30,000
Intermediate Indicator 3 % of implemented SLM micro-projects rated as satisfactory or better by the beneficiaries				61%	62%	76%
Intermediate Indicator 4 % of micro catchment committees that are functional				56%	55%	65%
Intermediate Indicator 5 Percent Change in earnings for selected 3 enterprises per catchment				0	97%	0
TAITA Catchment Area						

Dairy and Meats-	44,290,025	97%	0	44,290,025	0	97%
Fruits, Veg and Nuts	10,615,133	97%	0	10,615,133	0	97%
Natural Resource Management	5,642,142	96%	0	5,642,142	0	96%
KIKUYU KINALE Catchment Area						
Dairy goat-					56%	100%
Strawberry					150%	150%
Aquaculture					25%	0.875
CHERANGANI Catchment Area						
Cabbages-	14,226,183			-0.26	332%	81%
Irish onions	112,276,766			-0.76	29%	137%
Local Poultry	5,686,394			-0.18	355%	431%
Intermediate Indicator 6 Kenya Country SLM Investment Framework (KSIF) developed and a national institutional mechanism for SLM is established and functioning					50%-60%	75%
Intermediate Indicator 7 Percent completion of the required policy-oriented studies and background papers on SLM.				25%	60%	100%
Intermediate Indicator 8 Percent of joint work programming on SLM-related matters at the district level.				40%	40%	50%
Intermediate Indicator 9 Synthesis of lessons and strategy developed for PES pilot and scaling up					50%	50%
Intermediate Indicator 10 Percent reduction of sedimentation in the Sasumua water reservoir					No data collected	No data collected
Intermediate Indicator 11 SLM enabling environment index					No data collected	No data collected
Intermediate Indicator 12 SLM coalition building index					No data collected	No data collected
Intermediate Indicator 13 A functional implementation framework for PES established with lessons for scaling up					75%	No data collected
Intermediate Indicator 14 Number of SLM micro projects implemented	0			112	151	225

Annex 7. Summary of Grantee's ICR and/or Comments on Draft ICR

Value Chain and Risk Management. Important for the ICR to recognize the models for implementing within selected value chains was lifted from KAPAP which had clear vision on the necessary analysis on value chains and market systems. The project did not only focus on productivity but also on ensuring SLM were implemented.

Delays in Project Implementation. The factors that affected project implementation, in particular flow of funds, were way beyond normal assumption that one could factor into project design.

Measuring the changes soil condition: The ICR should reflect that efforts were to provide farmers soil testing kits analyze the soil conditions.

Project Coordination. Despite the apparent weakness of the oversight and steering functions highlighted in the ICR, it is important to note the SLM project sub-committee, the technical arm created earlier by the KAPAP national project steering committee, continued to function effectively alongside the CTTs in the respective project Counties.

Exit Strategy. The ICR highlights the absence of a clear exist strategy. This statement is partially true because at the farmer level, significant efforts were made to address this issue. Examples include the following:

- Creation of cooperatives for the youth and one of the micro-projects for spring had started a cooperative to initiate process of bottling water.
- There was a deliberate effort to link community in Sasumua with the Nature Conservancy (TNC) and an MOU agreed and signed.
- Deliberate involvement of the Counties in the project activities through the CTTs. The Taita County Government had committed to continue supporting the micro-projects under the project.
- There was initiation of the Regional and County SLM platforms.
- In Taita, the Kenya Water Towers agency, agreed to support some of the ongoing community KAPSLMP activities

M&E Functions; Clear efforts were made to decentralize M&E functions. Specifically, M&E specialists were recruited at every County. Further the communities were involved in data collection, aggregation and validation. The secretariat mainly handled aggregation and final analysis of the data and information submitted.

Baseline: A baseline was carried out during the Community Resource Assessments and during the enlisting of the CIGs by the farmers and were never delayed. In addition, the Department of Remote Sensing and resource survey carried out an initial baseline survey on vegetative cover for 2010 and subsequently 2014 and 2016. The change in vegetative cover was clearly monitored.

Measuring Intermediate Indicators. An expert's opinion survey on Enabling Environment and Coalition Building Effort indices;- two performance indicators for Component 3 of KAPSLMP was done in line with the PIP document. The results represented the findings of year 3 of the project. Towards the end of the project, a SWAT was undertaken and the data that indicated some actual and also projected reduction in sedimentation within the 4 micro catchments under PES was also documented.

Policy Tools: It would be important to note that some of the policy tools were developed are being positively at county level e.g. Narok County, it is important to reconsider the rating.

Risks to the Management of Public Goods. It is important the ICR consider areas with investment had clear public ownership under the communities and apparently had minimal risks. Tradition and cultural beliefs for most communities are that water resources are public goods and therefore the potential risks for communities loosing user rights are minimal. The project withdrew from areas considered to be of high risks.

Regarding the risks to the sustainability of the project interventions. The risks may not be as great as anticipated in the ICR. Sustainability measures had been factored in some of the investment through the introduction of the 'user fee' for springs, formation of cooperative, linkages to County Governments and capacity building.

Lessons learnt section emphasizes more on challenges/negatives aspects but fails to highlight on the positives like opportunities created, capacity building, involvement of the youth and the deliberate targeting of the vulnerable and marginalized group like the internally displaced persons (IDPs).

Annex 7. List of Supporting Documents

1. Project Appraisal Document (2010)
2. Project Implementation Manual (2010)
3. Grant Agreement between Government of Kenya and IDA/GEF
4. 1st ISR Aide Memoire (June 2011)
5. 2nd ISR Aide Memoire (Mar 2012)
6. 3rd ISR Aide Memoire (Oct 2012)
7. 4th ISR Review Mission (May 2013)
8. 5th ISR Aide Memoire (April 2013)
9. 6th ISR Aide Memoire (Dec 2013)
10. 7th ISR Aide Memoire (May 2014)
11. 8th ISR Aide Memoire (Dec 2014)
12. 9th ISR Aide Memoire (June 2015)
13. 10th ISR Aide Memoire (Dec 2015)
14. 11th ISR Aide Memoire (June 2016)
15. 12th ISR Aide Memoire (Sept 2016)
16. Project Progress Reports (2010-2016)
17. End of Project Evaluation (2016)
18. Beneficiary Satisfaction Survey (2016)

KENYA

- CITIES AND TOWNS
- ⊙ COUNTY CAPITALS*
- ⊛ NATIONAL CAPITAL
- RIVERS
- MAIN ROADS
- RAILROADS
- COUNTY BOUNDARIES
- - - INTERNATIONAL BOUNDARIES

* not all County Capitals are shown.



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