

Document of
The World Bank

Report No: ICR3074

IMPLEMENTATION COMPLETION AND RESULTS REPORT
(IDA-H3770 TF-92320)

ON A

GRANT
IN THE AMOUNT OF SDR 12.5 MILLION
(US\$20.0 MILLION EQUIVALENT)

AND A

GLOBAL ENVIRONMENTAL FACILITY GRANT
IN THE AMOUNT OF US\$9.0 MILLION

TO THE

FEDERAL DEMOCRATIC REPUBLIC OF ETHIOPIA

FOR A

SUSTAINABLE LAND MANAGEMENT PROJECT

March 24, 2014

Environmental, Natural Resources, Water and Disaster Risk Management Unit 3
Sustainable Development Department
Country Department AFCE3
Africa Region

CURRENCY EQUIVALENTS

(Exchange Rate Effective March 24, 2014)

Currency Unit = Ethiopian Birr
19.15 EB = US\$1
US\$ 1.5433 = SDR 1

FISCAL YEAR

January 1 – December 31

ABBREVIATIONS AND ACRONYMS

BCR	Borrower Completion Report
BoA	Bureau of Agriculture
CBPWDG	Community-Based Participatory Watershed Development Guidelines
CDM	Clean Development Mechanism
CPS	Country Partnership Strategy
CRGE	Climate Resilient Green Economy
CSA	Climate-smart Agriculture
CSO	Civil Society Organization
CWT	Community Watershed Team
DA	Development Agent
DPs	Development Partners
ESIF	Ethiopia Strategic Investment Framework for Sustainable Land Management
FM	Financial Management
FTC	Farmer Training Center
GDP	Gross Domestic Product
GEF	Global Environment Facility
GEO	Global Environmental Objective
GIS	Geographic Information System
GIZ	<i>Deutsche Gesellschaft für Internationale Zusammenarbeit</i> (German Society for International Cooperation)
GoE	Government of Ethiopia
GTP	Growth and Transformation Plan
IDA	International Development Association
KfW	Kreditanstalt für Wiederaufbau (German Development Bank)
KWDC	Kebele Watershed Development Committee
KWT	Kebele Watershed Team
M&E	Monitoring and Evaluation
MERET	Managing Environment Resources for Transition Project (WFP)
MoA	Ministry of Agriculture

MoFED	Ministry of Finance and Economic Development
NDVI	Normalized Differential Vegetation Index
NGO	Non-Governmental Organization
NSLMSC	National Sustainable Land Management Steering Committee
NSLMTC	National Sustainable Land Management Technical Committee
O&M	Operation and Maintenance
PAD	Project Appraisal Document
PASDEP	Plan for Accelerated and Sustainable Development to End Poverty
PDO	Project Development Objective
PIF	Agricultural Sector Policy and Investment Framework
PIM	Project Implementation Manual
PFPASP	Procurement, Finance and Property Administration Support Processes
PSU	Project Support Unit
RFG	Rural Finance Groups
SIDA	Swedish International Development Agency
SIP	Strategic Investment Program for SLM in Sub-Saharan Africa
SLM	Sustainable Land Management
SLMP-1	Sustainable Land Management Project
SLWM	Sustainable Land and Water Management
SNPPR	Southern Nations, Nationalities, and Peoples Regional State
USAID	United States Agency for International Development
WB	World Bank
WFP	World Food Program
WOA	Woreda Office for Agriculture
WSC	Woreda Steering Committee
WTC	Woreda technical Committee
WWDC	Woreda Watershed Development Committee
XDR	Special Drawing Rights

Vice President: Makhtar Diop

Country Director: Guang Zhe Chen

Sector Manager: Magda Lovei

Project Team Leader: Edward Dwumfour

ICR Team Leader: Stephen Danyo / Dinesh Aryal

FEDERAL DEMOCRATIC REPUBLIC ETHIOPIA
SUSTAINABLE LAND MANAGEMENT PROJECT
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A. Basic Information

Country:	Ethiopia	Project Name:	Sustainable Land Management Project
Project ID:	P107139, P090789	L/C/TF Number(s):	IDA-H3770, TF-92320
ICR Date:	03/03/2014	ICR Type:	Core ICR
Lending Instrument:	SIL	Borrower:	GOVERNMENT OF ETHIOPIA
Original Total Commitment:	XDR 12.50M, USD 9.00M	Disbursed Amount:	XDR 11.67M, USD 8.92M
Environmental Category: B		GEF Focal Area: Land Degradation	
Implementing Agencies: Federal Ministry of Agriculture			
Cofinanciers and Other External Partners: N/A			

B. Key Dates

Sustainable Land Management Project - P107139

Process	Date	Process	Original Date	Revised / Actual Date(s)
Concept Review:	01/23/2006	Effectiveness:	10/10/2008	10/10/2008
Appraisal:	03/10/2008	Restructuring(s):		03/15/2013
Approval:	04/29/2008	Mid-term Review:	03/13/2011	04/08/2011
		Closing:	09/30/2013	09/30/2013

ET-Sustainable Land Management Program (FY08) - P090789

Process	Date	Process	Original Date	Revised / Actual Date(s)
Concept Review:	01/23/2006	Effectiveness:	10/10/2008	10/10/2008
Appraisal:	03/10/2008	Restructuring(s):		03/15/2013
Approval:	04/29/2008	Mid-term Review:	10/03/2011	04/08/2011
		Closing:	09/30/2013	09/30/2013

C. Ratings Summary

C.1 Performance Rating by ICR

Outcomes	MS
GEO Outcomes	MS
Risk to Development Outcome	Moderate
Risk to GEO Outcome	Moderate
Bank Performance	MS
Borrower Performance	MS

C.2 Detailed Ratings of Bank and Borrower Performance (by ICR)

Bank	Ratings	Borrower	Ratings
Quality at Entry	MU	Government:	MS
Quality of Supervision:	MS	Implementing Agency/Agencies:	MS
Overall Bank Performance	MS	Overall Borrower Performance	MS

C.3 Quality at Entry and Implementation Performance Indicators

Sustainable Land Management Project - P107139			
Implementation Performance	Indicators	QAG Assessments (if any)	Rating:
Potential Problem Project at any time (Yes/No):	No	Quality at Entry (QEA)	None
Problem Project at any time (Yes/No):	No	Quality of Supervision (QSA)	None
DO rating before Closing/Inactive status	Moderately Satisfactory		

ET-Sustainable Land Management Program (FY08) - P090789			
Implementation Performance	Indicators	QAG Assessments (if any)	Rating:
Potential Problem Project at any time (Yes/No):	No	Quality at Entry (QEA)	None
Problem Project at any time (Yes/No):	No	Quality of Supervision (QSA)	None
GEO rating before Closing/Inactive Status	Moderately Satisfactory		

D. Sector and Theme Codes		
Sustainable Land Management Project - P107139		
	Original	Actual
Sector Code (as % of total Bank financing)		
Central government administration	26	20
General agriculture, fishing and forestry sector	30	30
General water, sanitation and flood protection sector	32	30
Law and justice	3	
Sub-national government administration	9	20
Theme Code (as % of total Bank financing)		
Land administration and management	40	20
Other rural development	20	30
Water resource management	40	50

ET-Sustainable Land Management Program (FY08) - P090789		
	Original	Actual
Sector Code (as % of total Bank financing)		
Central government administration	26	20
General agriculture, fishing and forestry sector	30	30
General water, sanitation and flood protection sector	32	30
Law and justice	3	0
Sub-national government administration	9	20

Theme Code (as % of total Bank financing)		
Climate change	20	20
Land administration and management	40	30
Water resource management	40	50

E. Bank Staff		
Sustainable Land Management Project - P107139		
Positions	At ICR	At Approval
Vice President:	Makhtar Diop	Obiageli K. Ezekwesili
Country Director:	Guang Zhe Chen	Kenichi Ohashi
Sector Manager:	Magda Lovei	Marjory-Anne Bromhead
Project Team Leader:	Edward Felix Dwumfour	Herbert Acquay
ICR Team Leader:	Stephen Danyo / Dinesh Aryal	
ICR Primary Author:	Michael G. Carroll	

ET-Sustainable Land Management Program (FY08) - P090789		
Positions	At ICR	At Approval
Vice President:	Makhtar Diop	Obiageli K, Ezekwelisi
Country Director:	Guang Zhe Chen	Kenichi Ohashi
Sector Manager:	Magda Lovei	Marjory-Anne Bromhead
Project Team Leader:	Edward Felix Dwumfour	Herbert Acquay
ICR Team Leader:	Stephen Danyo / Dinesh Aryal	
ICR Primary Author:	Michael G. Carroll	

F. Results Framework Analysis

Project Development Objectives (from Project Appraisal Document)

The project development objective (PDO) is to reduce land degradation in agricultural landscapes and improve the agricultural productivity of smallholder farmers.

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

PDO remained unchanged during level 2 restructuring.

Global Environment Objectives (from Project Appraisal Document)

The global environment objective (GEO) is to reduce land degradation, leading to the protection and/or restoration of ecosystem functions and diversity in agricultural landscapes.

Revised Global Environment Objectives (as approved by original approving authority)

GEO remained unchanged during level 2 restructuring.

(a) PDO Indicator(s) and GEO Indicators

Indicator	Baseline Value	Original Target Values (from approval documents)	Formally Revised Target Values	Actual Value Achieved at Completion or Target Years
Indicator 1	Increase in Normalized Difference Vegetation Index (NDVI)			
Value (quantitative or qualitative) <i>Percentage</i>	0.498	TBD (as per the PAD)	0.586 (in Restructuring Paper which translates to 17%)	0.543 (9%)
Date achieved	September 30, 2008	September 30, 2008	September 30, 2013	September 30, 2013
Comments (incl. % achievement)	NDVI measures vegetation cover. The final value was below the revised target value, but increased 9% over the baseline, reflecting improvements in land productivity, and the project's contribution to the GEO.			
Indicator 2	Increase in agricultural productivity			
Value (quantitative or qualitative) <i>Percentage</i>	0	50	30	10
Date achieved	September 30, 2008	September 30, 2013	September 30, 2013	September 30, 2013
Comments (incl. % achievement)	This indicator achieved a third of the end-project target. Survey data generated during the preparation of the Borrower Completion Report had methodological issues but provides an average 10% yield increase for major crops from all watersheds, with higher values for regions where project interventions began earlier (i.e. Tigray, Amhara and Oromia).			

(c) Intermediate Outcome Indicator(s)

Indicator	Baseline Value	Original Target Values (from approval documents)	Formally Revised Target Values	Actual Value Achieved at Completion or Target Years
Indicator 3	Increase in area under sustainable land management practices in the targeted watersheds			
Value (quantitative or qualitative) <i>Percentage</i>	0	80-90	N/A	140
Date achieved	September 30, 2008	September 30, 2013	N/A	September 30, 2013
Comments (incl. % achievement)	This key target was exceeded by 140% (209,926 hectares achieved on communal and hillside land against the 2009 hectare figure of 86,892. Note: Two values (% and hectares) were given for this indicator in the Restructuring Paper; in the ICR these values are separated for clarity.			
Indicator 4	Increase in area under SLM practices in the targeted watersheds			
Value (quantitative or qualitative) <i>Hectares</i>	86,892	156,406	N/A	209,926
Date achieved	2009	September 30, 2013	N/A	September 30, 2013
Comments (incl. % achievement)	This key target was exceeded by 140%. Note: Two values (% and hectares) were given for this indicator in the Restructuring Paper; in the ICR these values are separated for clarity. No 2008 baseline hectare figure was given in PAD, but the Restructuring Paper did include the 2009 figure. No change in targets.			
Indicator 5	Increase in the amount of carbon sequestered in soil			
Value (%) (quantitative or qualitative) <i>Percentage</i>	1.87	N/A (New)	0.10	0.31
Date achieved	June 2011	September 30, 2013	September 30, 2013	September 30, 2013
Comments (incl. % achievement)	Target was significantly exceeded as the content of soil carbon in the 15 sample watersheds increased from 1.87% to 2.45%. Soil carbon is an important proxy for tracking overall ecosystem health and the flow of ecosystem services including those pertaining to land degradation as well as food and water security including soil fertility, resistance to erosion,			

	below ground biodiversity, and moisture holding capacity. This indicator, along with the vegetation cover change indicator above, is considered important for delivering on the GEO as well as PDO. Indicator added as part of restructuring.			
Indicator 6	Development Agent (DA) and Woreda experts in the project area using information on best management practices in SLM from MoA's knowledge management system.			
Value (quantitative or qualitative) <i>Percentage</i>	10	80	N/A	92
Date achieved	March 2008	September 30, 2013	N/A	September 30, 2013
Comments (incl. % achievement)	Target exceeded. The comprehensive training program implemented by the project was instrumental for the incorporation of SLM measures and practices among local extensionists.			
Indicator 7	Issuance of land certificates with geo-referencing and maps to small holder farmer households.			
Value (quantitative or qualitative) <i>Number</i>	0	700,000 parcels	70,000 certificates	59,999 certificates
Date achieved	March 2008	September 30, 2013	September 30, 2013	September 30, 2013
Comments (incl. % achievement)	Revised target partially achieved (86%), reflecting issuance of second-level certificates. A total of 59,999 level one certificates were issued, while 229,642 parcels were surveyed in preparation for issuance of second-level certificates. The indicator was significantly revised during restructuring, to reflect operational delays, changes in the Government of Ethiopia's (GoE) policies and inaccuracies identified with the survey method used initially.			
Indicator 8	Percentage increase in the number of beneficiaries with a sense of tenure security compared with non-beneficiaries.			
Value (quantitative or Qualitative) <i>Percentage</i>	N/A	70	N/A	98
Date achieved	N/A	September 30, 2013	N/A	September 30, 2013
Comments (incl. %	Target significantly surpassed according to survey of those who received certificates.			

achievement)				
Indicator 9	Planned implementation progress, based on the annual workplans, is achieved.			
Value (quantitative or qualitative) <i>Percentage</i>	N/A	90	N/A	66
Date achieved	September 30, 2008	September 30, 2013	N/A	September 30, 2013
Comments (incl. % achievement)	Target underachieved, largely due to methodological problems with measuring the indicator. Given the high disbursement rate and the results, the team believes planned implementation progress was well achieved despite the limitations of this indicator.			
Indicator 10	Timely action on implementation problems, including procurement and financial management issues.			
Value (quantitative or qualitative) <i>Percentage</i>	N/A	80	Deleted at restructuring	N/A
Date achieved	September 30, 2008	September 30, 2013	N/A	N/A
Comments (incl. % achievement)				
Indicator 11	Success rate in timely production of quarterly project monitoring and evaluation reports.			
Value (quantitative or qualitative) <i>Percentage</i>	N/A	100	Deleted at restructuring	N/A
Date achieved	September 30, 2008	September 30, 2013	N/A	N/A
Comments (incl. % achievement)				
Indicator 12	Proposed sub-projects subjected to screening with the ESMF before approval.			
Value (quantitative)	N/A	100	N/A	100

or qualitative) <i>Percentage</i>				
Date achieved	September 30, 2008	September 30, 2013	N/A	September 30, 2013
Comments (incl. % achievement)	Target achieved. PSU reports indicate that all watershed subprojects were subjected to the ESMF checklist.			

G. Ratings of Project Performance in ISRs

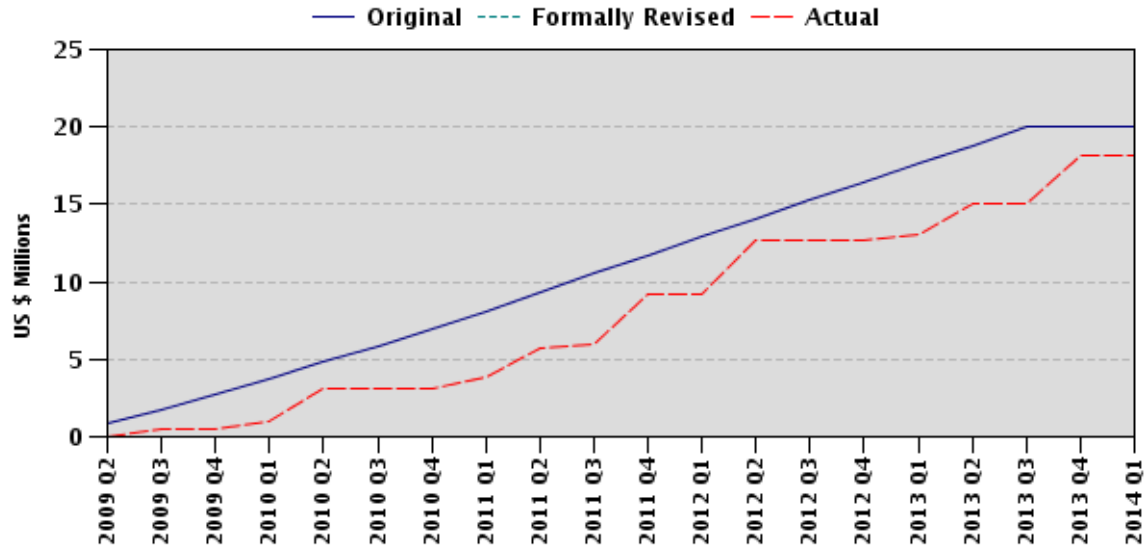
-						
No.	Date ISR Archived	DO	GEO	IP	Actual Disbursements (USD millions)	
					IDA	GEF
1	11/13/2008	S	S	S	0.00	0.00
2	04/22/2009	MS	MS	MS	0.50	0.50
3	12/15/2009	MS	MS	S	3.08	1.52
4	05/28/2010	MS	MS	S	3.08	1.52
5	03/19/2011	MS	MS	MS	5.93	2.89
6	12/20/2011	MS	MS	MS	9.17	4.52
7	06/16/2012	MS	MS	MS	12.71	6.27
8	10/01/2012	MS	MS	MS	13.05	6.43
9	07/02/2013	MS	MS	MS	18.09	8.91

H. Restructuring (if any)

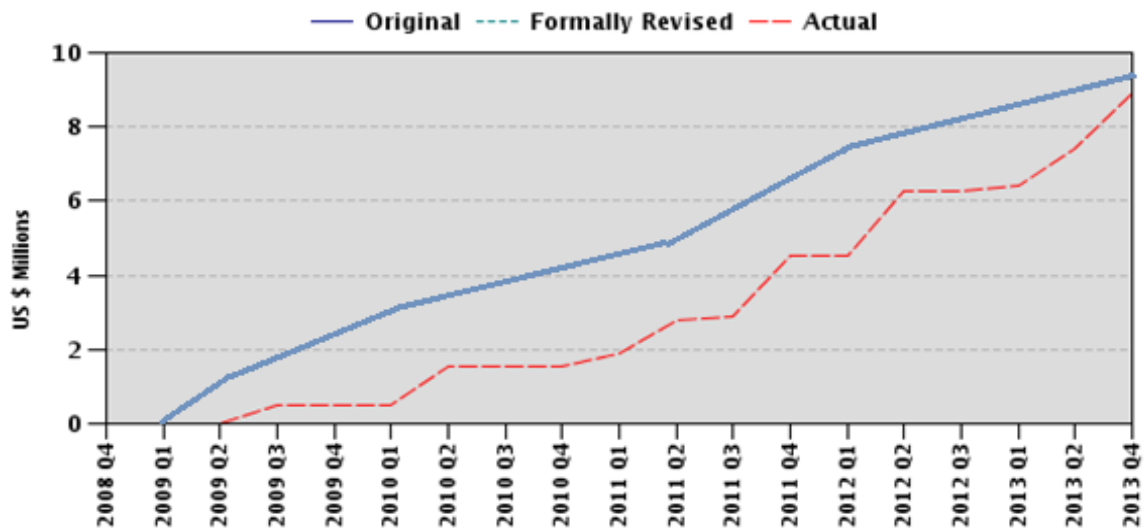
The project underwent a Level 2 restructuring in March 2013. Changes included (i) the reallocation of IDA and GEF funds among components and disbursement categories; (ii) the provision of a waiver for the use of grant funds to cover VAT expenses; and (iii) the revision of selected intermediate indicators including target values in the Results Framework, and the addition of one intermediate indicator on soil carbon.

I. Disbursement Profile

P107139



P090789



1. Project Context, Development and Global Environment Objectives Design

1.1 Context at Appraisal

1. Ethiopia had been seriously affected by land degradation due to a combination of inherently fragile soils, undulating terrain, highly erosive rainfall, and the environmentally unsustainable traditional cultivation techniques practiced by the majority of smallholders. At appraisal, the annual costs of land degradation in Ethiopia was estimated to be in the range of two to three percent of agricultural GDP, a significant loss for a country where agriculture accounts for nearly 50 percent of GDP, 90 percent of export revenues, and the source of livelihood for more than 85 percent of the country's more than 70 million inhabitants.

2. At appraisal, land degradation was considered to be a major cause of the country's low and declining agricultural productivity, persistent food insecurity, and rural poverty. In the highlands, the landscape is dominated by farming villages in valleys surrounded by steep slopes. The farming systems are predominantly based on traditional forms of: (i) low-input cereal production, which provides insufficient ground cover during the period of most erosive rainfall, and (ii) livestock management mainly based on open access to grazing lands, woodlands and forest. An estimated 75 percent of Ethiopia's 35 million cattle graze in the highlands, adding stress to areas already under high land use pressure. The expansion of grazing reduces vegetation cover in the hillsides and accelerates gully formation; at the same time, the widespread use of crop residues for feed further accelerates land degradation and soil nutrient depletion. The very high dependence on wood and other biomass, including manure for household energy (95 percent of total energy consumption), together with the expansion of agriculture into forested areas, contributes to a high rate of deforestation. Forest cover had been reduced over the past century from 40 percent of the total land area to 2.4% at the time of appraisal. Improved land use and management were required to address the mutually-reinforcing negative spiral created by land degradation and climate variability dynamics.

3. Another factor of the growing land degradation in Ethiopia was land tenure insecurity, largely related to policy failures of past governments. Tenure insecurity was undermining land users' incentives to invest in sustainable land management (SLM) practices. The need to address land degradation and tenure security was considered a primary pillar in a number of key strategic documents, including (i) the Sustainable Development and Poverty Reduction Program (SDPRP 2000-2005); (ii) the Plan for Accelerated and Sustainable Development to End Poverty (PASDEP 2006-2010); and (iii) the Federal Rural Administration and Use Proclamation (2005).

4. In response to these challenges, the Government developed, with support from the TerrAfrica partnership, the Ethiopia Strategic Investment Framework for SLM. This investment plan anchored the establishment of the GoE's new programmatic approach to scaling up SLM. Called the SLM Program, it provided the platform for convening and coordinating assistance from GIZ, Canada, WFP, and others. The SLM Program targeted 177 "high potential, food secure" watersheds (of which the Bank/GEF-financed SLMP-1 operation would target 35 initially, later expanding to 45). Before this programmatic approach was undertaken by the GoE and partners, efforts to address land degradation were piecemeal and scattered throughout the country. Despite the inherent upfront costs, adopting a programmatic approach was considered to be instrumental to convene financial and non-financial support, resulting in greater overall benefits downstream. SLMP-1 was at this time envisioned to anchor the investment and policy dialogue for this programmatic approach.

5. **Rationale for Bank Assistance:** By the time of SLMP-1 preparation, the World Bank and the Global Environment Facility (GEF) had developed a number of strategies and instruments relevant to assisting Ethiopia in scaling-up SLM, and had acquired considerable experience through the support to successful land management initiatives such as the Loess Plateau Project in China. The Bank's Interim Country Assistance Strategy (CAS) for FY2006-2007 noted that "land degradation is at the top of the environmental agenda in Ethiopia" because of the threat it poses to sustainable agricultural growth, infrastructure, and other development challenges.

6. SLMP-1 was fully consistent with (i) the World Bank's Africa Action Plan to make agriculture more productive and sustainable, and to take advantage of opportunities for NRM to promote growth and poverty reduction; and (ii) the TerrAfrica partnership, which aims to scale up investments in SLM throughout Africa.

7. Operationally, successful interventions to address land degradation and climate resilience require integrated and cross-sectoral approaches that often involve locally specific combinations of land use practices, structural and biophysical land management measures, infrastructure, watershed planning and development, livelihoods enhancements, crop and livestock management, forest management, and a strong participatory element. The Bank was in a unique position to catalyze the adoption of such innovative and untested approaches in Ethiopia because of its strong policy dialogue with the Government, convening power with development partners, and its engagement across several sectors affected by land use and management (i.e., agriculture, forest, water, energy). GEF involvement in the proposed project was aimed at focusing attention and assistance to helping smallholder farmers become more resilient to extreme climatic events, protecting ecologically sensitive landscapes, and increasing sequestration of carbon in soils and biomass. This project was expected to complement the public works component of the ongoing IDA- financed Productive Safety Net Project, which focused largely on labor-intensive structural SLM measures in "food insecure areas."

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

8. The PDO was to reduce land degradation in agricultural landscapes and improve the agricultural productivity of smallholder farmers. In the legal documents (IDA Credit Agreement and GEF Grant Agreement) the PDO and GEO added "...in selected watersheds identified in the Program Implementation Manual"

1.3 Original Global Environment Objectives (GEO) and Key Indicators (as approved)

9. The GEO was to reduce land degradation, leading to the protection and/or restoration of ecosystem functions and diversity in agricultural landscapes.

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

10. The Project was restructured in March 2013 to reallocate funds among categories and to provide a waiver for the use of grant funds to cover VAT expenses. The PDO and key indicators remained unchanged. However, the Level 2 restructuring included the revision of selected targets for certain indicators, namely the percentage increase in growth of agricultural productivity (a PDO indicator) and the number of land certificates issued (an intermediate indicator).

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

11. The GEO and key related indicators remained unchanged.

1.6 Main Beneficiaries

12. The primary target group was an estimated 500,000 beneficiaries, representing rural households living in 35 large watersheds assisted by the project. These large watersheds, with an average size of about 8,500 ha, were located in six Regional States of Ethiopia (Amhara, Oromia, Tigray, SNNP, Beneshangul/Gumuz, and Gambela). In addition, through the capacity building activities of the project, technical staff at the central (Ministry of Agriculture), regional (Woreda) and district (Kebele) levels were planned to benefit from training and improved working conditions.

1.7 Original Components (as approved)

13. Project objectives were to be achieved through the implementation of three components (see Annex 2 for additional details).

14. **Component 1: Watershed Management (US\$21.70 million):** The objective of the Watershed Management Component was to support scaling up of best SLM practices in watersheds located in the "high potential," "food secure" areas that were increasingly becoming vulnerable to land degradation and food insecurity. The design included four sub-components: (i) Capacity building; (ii) Communal land and gully rehabilitation; (iii) Farmland and homestead development; and (iv) Community infrastructure.

15. **Component 2: Rural Land Certification and Administration (US\$3.43 million):** The objective of this component was to expand the coverage and enhance the government's land certification program, with the aim of strengthening land tenure security for smallholder farmers in the project area. Project design included the scaling up of an enhanced land certification process (known as Stage 2) based on experiences from two pilot projects financed by the Swedish International Development Agency (SIDA) and the United States Agency for International Development (USAID).

16. The project also financed land certification interventions such as cadastral surveying, parcel-based land registration, and developing registries for rural land. Such interventions were expected to facilitate timely processing and issuance of land certificates, with important features such as geo-referencing and mapping of household and farm plots, and communal lands in all the participating Woredas.

17. **Component 3: Project Management (US\$1.70 million):** The component objective was to assist the Ministry of Agriculture (MoA) – called MoARD at appraisal – and the institutions at Regional, Woreda, and Kebele levels responsible for sustainable land management to effectively support coordination and implementation of the SLM project and the broader SLM Program, including procurement, financial management and monitoring and evaluation (M&E).

18. These components contributed to the GoE's broader SLM program that included four additional components which were not financed by the project: (i) Knowledge Management; (ii) Improved Framework for SLM; (iii) Strengthening the Implementation Structure for Watershed Development; and (iv) Support to Agricultural Extension Services for SLM. At appraisal, the GoE was in the process of negotiating support from German Development Cooperation, through GIZ, for the implementation of these additional program components. The amount of 11.8

million Euros was secured in 2009, and was focused on three of the six regions supported by the project (Tigray, Oromia and Amhara).

1.8 Revised Components

19. Project components remained unchanged throughout the life of the project.

1.9 Other significant changes

20. Other than the reallocation of funds, revision of indicators, and incorporation of 10 additional watersheds (which met the criteria and stipulations of the legal documents) no other significant changes took place. These revisions are described in Section 2.2 under “Restructuring”.

2. Key Factors Affecting Implementation and Outcomes

2.1 Project Preparation, Design and Quality at Entry

21. Project preparation was initiated in January 2006, and concluded at the October 2008 appraisal. Effectiveness was declared in March 2009. The preparation process took into account Ethiopia’s valuable experience in implementing pioneer work in SLM supported by USAID, World Food Program (through the MERET project), GIZ (formally GTZ), and the TerrAfrica regional partnership launched in 2006 by the World Bank and many development partners. A multidisciplinary team contributed the Bank’s knowledge, lessons learned and experience on NRM projects in Africa and other regions (in particular the successful Loess Plateau project in China via a south-south event involving the GoE).

22. Project design faced the challenge of aligning the Bank’s operation with the broader GoE SLM Program that was being developed in parallel and that was in the process of being supported by various donors. As a result, the design of the SLMP-1 project included two major components focused on investments in selected watersheds (Watershed Management, and Rural Land Certification), supported by a fiduciary-oriented third component (Project Management), leaving most of the support for policy development, knowledge management, and technical assistance to other sources of funding which were unconfirmed at the time of appraisal and, therefore, not included in the project as co-financing or parallel financing. In particular, M&E functions for the SLM Program, and to SLMP-1, were largely expected to be enabled by GTZ’s contribution, posing a risk that would later manifest in weak methodical reporting on the widely recognized SLMP-1 achievements, given the focus of GTZ on a detailed M&E system for overall program indicators rather than the indicators defined for the project. M&E budget under SLMP-1 was therefore insufficient for the requirements of the operation.

23. Technical, operational, and institutional risks were adequately identified during preparation, and acceptable mitigating measures were proposed in the PAD. However, the impact of these risks and weaknesses was not fully accounted to determine readiness for implementation (an essential element for a highly decentralized project), which was subsequently reflected in the slow implementation progress during first two years of the project.

24. Regarding quality at entry, one aspect which required considerable attention during implementation was the project’s Result Framework, both in terms of the PDO-level and intermediate indicators and expected targets. The combination of (i) certain disconnect between PDO and components; (ii) an excessive reliance on agricultural productivity increases as a key measure to determine land degradation achievements; (iii) overly ambitious targets; and (iv) the

lack of a timely and appropriate baseline, resulted in recurrent difficulties to assess project progress and achievement of objectives.

25. Consistent with good practices for projects with a high level of decentralized implementation, a Project Implementation Manual (PIM) was developed as a condition of project effectiveness. The initial PIM was amended in 2011 to include a series of revisions, including the enhancement of the Land Administration Component, and the inclusion of 10 additional watersheds. However, the assessment of regional coordinators and field staff suggested that the PIM was bulky and cumbersome to use, did not provide sufficiently clear guidance on roles and responsibilities on fiduciary matters, and lacked clarity in the subcomponent on Farmland and Homestead Development. In addition, following project completion, PSU staff and regional coordinators highlighted that the PIM did not contribute sufficiently to harmonize technical and operational procedures, and reporting requirements among the different financing partners of the SLM program, suggesting that there was an unresolved issue in some stakeholders distinguishing between the SLM Project and the broader SLM Program.

2.2 Implementation

26. The project was declared effective in March 2009, and closed 4.5 years later on the originally established date (September 2013) with no extensions granted and a very high disbursement rate. The project was considered successful by the GoE, which committed to a larger follow-on project, SLMP-2, that aims to consolidate the SLM platform and a major expansion of the number of large watersheds assisted (from 45 to 135).

27. As noted above, implementation progress was very slow during the first two years of the project. Low early disbursement is expected for watershed operations, particular those in complex operating environment and where new approaches need to be introduced, owned by local actors, and rolled out. The project faced three main challenges at this time: (i) the need for setting-up and/or training the entire implementation structure at central, regional and local levels; (ii) the time required for the participatory diagnosis and preparation of watershed development plans; and (iii) the initial difficulties in applying the Bank's fiduciary requirements at the regional and local levels.

28. Although the project was implemented within the overall conceptual and operational framework developed during preparation, and achieved highly commendable environmental and livelihood results in the treated watersheds, several factors influenced implementation. The project was constrained by inadequate M&E capacity and poor financial management and procurement capacity at the district (woreda) level. In addition, high staff workload and turnover at the local level had a negative effect on the critical function of providing technical, operational and fiduciary support to the beneficiary communities. This was further compounded by the lack of adequate working conditions (mainly transportation and internet access for communication and reporting purposes). The impact of these constraints appears to have been more acute in those regions where GIZ did not provide technical assistance, an indication that some of these constraints could have been addressed at design or by reallocating resources during implementation, particularly for TA and M&E.

Mid-Term review

29. The Bank conducted a mid-term review mission in March 2011, two years after project effectiveness. Although the MTR was not supported by any independent assessment or specially developed report, the mission's general conclusions were that (i) good progress had been made

on objectives for Watershed Management (Component 1) and Project Management (Component 3); (ii) initial delays in procurement of vehicles, office and field equipment which affected key project activities had been overcome; and (iii) that overall the project was on track to meet its objectives. However, the MTR Aide Memoire highlighted several factors requiring attention and action, including (i) the lack of reliable data to measure PDO and GEO progress; (ii) the need to incorporate the upper catchments of the selected watersheds; (iii) the poor performance of the Rural Land Certification Component mainly due to the fact that a sound technical basis for second-level certification had not yet been established; and (iv) the need to either refine, discontinue or introduce new performance indicators to more accurately track progress toward intermediate results and project objectives.

Project Restructuring

30. As a result of the MTR, agreement was reached between the GoE and the Bank to restructure the project, which would include substantial project design changes, including: (i) revising the indicators to make them measurable and relevant; (ii) incorporating new activities on knowledge management; (iii) scaling up and incorporating lessons learned from the CDM-type Humbo carbon operation; (iv) accommodating additional financing from the Government of Finland; (v) reallocating IDA and GEF funds; (vi) revising the list of assisted watersheds and incorporating 10 additional watersheds; and (vii) restructuring the Rural Land Certification Administration component to support the priorities of the Land Administration and Land Use Directorate (LALUD) of MoA and reduce the original targets for land certification.

31. The formal letter requesting restructuring was submitted by GoE on March 8, 2011, a few days prior to the MTR mission. This letter included proposed changes to indicators and other elements summarized above. Despite the confirmation and agreements reached during the mission, the restructuring process within the Bank was affected by prolonged discussions to reach agreement on the revised indicators and targets, and was only formalized by the Restructuring Paper dated February 15, 2013. It was communicated to GoE by the Bank on March 15, 2013. In this letter, the Bank informed the GoE that, due to the time lapsed and the imminent closing date and the expected approval of SLMP-2, the restructuring only included the revision of targets for certain indicators, the reallocation of funds among categories, and a waiver for the use of funds to cover VAT expenses. Available information suggests that the incorporation of additional watersheds and the restructuring of the Land Administration component were agreed by the Bank as part of a revision to the PIM.

Risk Status: The project was never declared at risk or at potential risk.

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

32. The limited functionality and utilization of the M&E system affected project progress and achievement of objectives. This was mainly due to the lack of a sound baseline and the difficulties encountered during project implementation to collect and report on progress at the local level (low institutional capacity, insufficient technical know-how, persistent staff turnover, equipment and communication deficiencies, etc.). Despite this, the PSU developed a comprehensive internal planning process, in which, as part of the budget allocation procedures, each district and region was required to annually present to MoA an extensive list of targets for field activities. In terms of utilization, this methodology was relatively effective to report on project progress by the PSU (and reflected in Annual Reports), but the value of this information was limited, as new targets were developed each year, and progress was rated usually based on compliance with these annual targets rather than the global target for each project component, or

the indicators of the Results Framework (see Annex 2 for a complete list of outputs and intermediate indicators measured).

33. Regarding the Results Framework, some of the intermediate indicators and targets were unrealistic and/or difficult to measure, including: (i) increase in the growth of agricultural productivity over non-intervention areas; (ii) increase in agricultural productivity; and (iii) number of farmer households receiving land certificates issued with geo-referenced maps. However, specific outcome-based surveys were conducted, of which two (soil carbon and NDVI) were instrumental to demonstrate the positive effects of the land management practices promoted by the project. Site visits provided confirmation of improvements in land cover.

2.4 Safeguard and Fiduciary Compliance

a. Environmental Safeguard compliance

34. SLMP-1 was not considered to have significant adverse environmental impacts and had been classified as Category B in accordance with the World Bank's Safeguard Policy (OP 4.01). Since the specific sites of interventions were not known at the time of project formulation, an ESMF was prepared to screen sub-projects before they were implemented. The potential environmental and social impacts were adequately addressed in the ESMF, which was disclosed to the World Bank's InfoShop on February 20, 2008.

35. According to the ISRs, safeguard implementation was rated as satisfactory throughout the project period. In the Aide Memoire of June 2012, it was indicated that although activities are screened, no further assessments were conducted with respect to location-specific impacts that could be associated with construction or rehabilitation of roads, irrigation facilities and spring development. It was also noted that not all Aide Memoires reported on the implementation of environmental safeguards by the Project.

36. The major challenge observed during implementation was weak documentation and reporting on environmental safeguard implementation, which should have benefited from independent auditing to ensure compliance and draw lessons to improve future implementation. Overall, safeguards are rated as moderately satisfactory.

Social Safeguards

37. The project's implementation strategy featured a number of important elements that contributed to improve the empowerment and social capital of the beneficiary communities. These included strong ownership of through participatory decision-making process and remunerated involvement of community members in the establishment of most biophysical measures (afforestation, terraces, bunds, water harvesting, etc.), enhanced security of land tenure via land certification initiatives, and provision of much needed alternative livelihood opportunities for many rural poor living in degraded lands.

38. The social screening of sub-project activities during project implementation and documented in various implementation support missions confirmed that there was no land acquisition or resettlement, as all project physical activities were carried out on existing sites and structures. However, the social checklist in the ESMF could have been used more systematically, since the project was associated with widening or rehabilitation of drainage or small irrigation infrastructure, SLM practices and land-use practices (such as community-led closures and by-laws) to protect grazing land and vegetative cover. Further, although there was an effort to ensure female participation in the Project through sharing of project related activities

and benefits between men and women, the follow-on SLMP-2 should seek ways to enhance women's participation in decision making and leadership. For these reasons, the rating for social safeguards is satisfactory.

Procurement

39. Procurement activities under the SLM-1 project were streamlined within the Government system and were carried out accordingly. At Federal level, pooled procurement of equipment such as vehicles, motorcycles and other essential equipment to be supplied to the implementing agencies at sub-national level is carried out. In the Federal Ministry of Agriculture the regional Bureaus of Agriculture (BoA) "Procurement, Finance and Property Administration Support Processes (PFPASP)" had full control over the procurement processing and administration. The role of the PSU was limited to planning, coordinating all the regional implementing agencies of the project and placing requests to the PFPASP. Procurement decisions were made within the MoA and BoAs. At Woreda level, the Woreda Finance and Economic Development Offices carry out the implementation of the procurement activities of the project based on the annual work plan and purchase requests presented by sectoral offices at Woreda level.

40. Delays in procurement of field equipment and supplies were a cause for slow implementation during the initial stages of project implementation, but were gradually resolved through intense Bank support and guidance, as well as procurement-specific training to decentralized agencies. Overall, the rating on procurement is satisfactory.

Financial Management

41. At appraisal, a comprehensive list of FM-related strengths and weaknesses was developed, based on which both the overall inherent risk and the overall control risk were rated Substantial before, and Moderate after taking into account the risk mitigating measures.

42. During implementation, the project maintained a reasonably adequate FM system which provides a reasonable assurance that the reports being produced can be relied upon to monitor the project. Generally, the project complied with the financial covenants outlined in the legal agreements which included submission of quarterly IFRs and annual audits, except some delays. However, recent IFR and audit report were not submitted by the due date. The financial management risk ratings were mostly rated Moderate except for some supervision missions, including the last one, where the risk was rated Substantial. Owing to this risk rating, the project was supervised by conducting mostly semi-annual field visit.

43. Throughout the project's life, FM supervision missions were undertaken as per Bank policies to ensure that the FM arrangements remained acceptable to the Bank. Based on this, the overall FM Implementation Status and Results (FM ISR) rating of the project was rated as Moderately Satisfactory for most of the life of the Project. No major issues related to budgeting, accounting, staffing, internal controls, audits or flow of funds affected project implementation significantly. Regarding counterpart contributions, at project closing, counterpart contributions of only US\$2.40 million had been reported. The government considered that the contribution made in kind has not been valued, recorded and properly reported contribution. At project closing, the control risk and the overall project risk were rated to be Substantial and the FM ISR rating of the project was rated as Moderately Satisfactory.

2.5 Post-completion Operation/Next Phase

44. Due to the positive results of the project and the support from other partners, MoA has continued to develop and implement the innovative, integrated and inclusive SLM Program that

supports (i) efforts to address land degradation and climate risks and productivity constraints through a landscape approach, and (ii) contributes to growth in the agricultural sector in general. On the basis of SLMP-1's promising results at all levels (farmers, rural communities, and public institutions at the central, regional and local levels), GoE requested a new Bank-financed operation (SLMP-2) aimed at (i) further scaling up and consolidating the pioneering efforts and achievements of the project, mainly through replicating the project's assistance to 90 additional watersheds; (ii) contributing to the consolidation and harmonization of MoA's multi-donor SLM program; and (iii) synergizing the project's achievements in terms of reduced soil degradation and improved water management by promoting a comprehensive livelihood improvement strategy anchored on "climate-smart" agricultural practices in beneficiary farmlands, households, and communities.

45. Prioritized in the 2013-2016 Country Partnership Strategy (CPS) adopted by the Bank's Executive Directors on August 29, 2012, SLMP-2 preserves the main pillars of SLMP-1 and will expand support to 135 large watersheds in six regions, via financing of US\$112 million from the contributions of an IDA credit fully blended with grants from GEF and Norway, which has emerged as an active new partner.

3. Assessment of Outcomes

3.1 Relevance of Objectives, Design and Implementation

46. The objectives of SLMP-1 remain highly relevant to the Bank's assistance strategy and within the major pillars of the current CPS, and the objectives of the GEF Land Degradation Focal Area. Moreover, the implementation of the broader national SLM Program remains a top priority that is anchored in GoE's sustainable investment framework (ESIF), which is receiving increasing technical and financial support from several bilateral and multilateral development partners and the emerging Climate Resilience Green Economy (CRGE) initiative of the Ministry of Finance and Economic Development (MOFED) as well as the country's Growth and Transformation Plan (GTP). As such, the implementation of SLMP-1 has laid important groundwork for improved performance of the broader SLM Program, and for the design of the recently approved scaling-up SLMP-2 operation (P133133) as well as, more broadly, the pursuit of a more focused program that promotes a landscape approach to delivering rural poverty reduction, equitable growth, climate resilience, and both local and global environmental public goods.

47. At the local level, complementing the decision to improve and expand the scope and geographic coverage of the SLM Program by MoA, GoE has established a voluntary mobilization program through which all members of urban and rural communities contribute labor for soil and water conservation practices such as terraces, stone bunds, and reforestation.

3.2 Achievement of Project Development Objectives and Global Environment Objectives

48. There is no doubt that resilient landscapes and the multiple benefits from them are now at the center of Ethiopia's development agenda, due in no small part to SLMP-1. The project has been instrumental in demonstrating the importance of a holistic soil and water conservation approach as an essential prerequisite of sustained productivity and livelihood improvements in Ethiopia, which in turn are fundamental elements of poverty reduction and equitable growth in an agrarian economy. The on-the-ground results and lessons provided by the implementation of SLMP-1 have been invaluable for the enhancement and expansion of GOE's SLM Program, including the design of the recently approved SLMP 2. Through training and capacity building at

all levels, the project has also made a major contribution to the development of sound public sector intervention strategies for NRM in rural areas.

49. Consistent with OPCS Guidelines, the achievements by Objective/Component are broken down in order to separately assess the two statements which comprise the PDO/GEO in the PAD. Achievements are described under two Objectives as follows (additional details are provided in Annex 2):

Objective 1: Provide assistance to smallholder farmers to adopt SLM practices to reverse land degradation in agricultural landscapes (*Substantially achieved*)

In addition: Global Environmental Objective: Reduce land degradation leading to restoration of ecosystem functions and diversity (*Substantially achieved*)

50. SLMP-1 has made a substantial contribution to the improvement of NRM in Ethiopia's rural areas by supporting community-driven planning and implementation of 45 participatory Watershed Management Plans which integrated a comprehensive set of soil and water conservation measures in communal hillsides and individual farmland, implemented by the communities themselves.

51. **Component 1 (Watershed Management)** was the major element of the SLM initiative that directly resulted in the reduction of land degradation, enhancement of land productivity, and improvement of livelihoods and the overall biophysical environment. Achievement of objectives was positively measured by three indicators: changes in vegetation cover; increase in soil carbon; and area treated with SLM practices.

52. The total area of the 45 selected watersheds¹ was 450,525 ha, of which the net area targeted for project interventions was 211,000 ha. By project completion, a total of 209,926 ha, or 99% of the target, were effectively covered by project interventions. In terms of beneficiaries, an estimated 84,500 households located in the project area, representing over 400,000 people (or 80% of the target), benefitted from project interventions.

53. Implementation progress during the initial years was low (13.5% progress by Year 2), given the justified need to conduct the diagnostic work and prepare the large watershed (and micro-watershed) plans, as well as providing the necessary training and institutional capacity building required to engage all relevant stakeholders (central, regional and local institutions, and communities), many of whom were engaging in new ideas and techniques. A total of 613 community-based micro-watershed management plans were prepared. As a result, over 60% of field-level interventions were concentrated in the last two years of the project (see Table in Annex 2).

54. This implementation lag does not allow for fully determining the overall outcomes at project closing (mainly due to the long-term nature of the biophysical measures promoted). However, the information collected from the earlier-implemented watersheds—through progress reports, beneficiary surveys, field visits and the Borrower Completion Report (BCR)—clearly suggests that project interventions generated significant positive outcomes, both in terms of the dramatic improvement in the conservation of natural resources and the consequent enhancement

¹ Some of the 45 selected watersheds cross several administrative boundaries (“woredas”), and the total number of woredas are 52 as indicated in the map at the end of this document.

of the livelihoods of beneficiary communities. Despite the institutional and operational difficulties encountered, the areas assisted by the project benefited from a sound intervention strategy and a coherent participatory planning process, that resulted in the implementation of a comprehensive set of soil and water management practices (a total of 39 different measures were applied), in accordance with the Government's Community-Based Participatory Watershed Development Guidelines (CBPWDG) developed in 2005.

55. Following the design of the micro-watershed investment plans, the project supported the implementation of a set of biophysical measures adapted to the individual features and constraints of each area. Such measures were mainly aimed at (i) reducing the erosive effects of rainfall; (ii) rehabilitating or protecting the vegetative cover of highly degraded hillsides (iii) controlling the expansion of gullies; and (iv) providing complementary basic and productive infrastructure (feeder roads, potable water, conservation-based water harvesting) and support to income-generating activities.

56. The combined effect of these measures has not only reduced land degradation, but has also contributed to increasing the overall moisture content in the entire landscape, and preventing seasonal and recurrent downstream water-related damage to farmland and households.

57. Two specific surveys provide quantitative evidence of the results achieved in terms of PDO and GEO. In terms of hillside rehabilitation, a study to determine the vegetation cover (using the NDVI methodology²), showed an increase of 9.1% in the intervention areas over the period 2009-2013 suggesting that gradual plant regeneration and consequent reduction of land degradation has occurred as a result of the project. In addition, a study conducted to measure the change in carbon content of soils in 15 project supported watersheds showed that during the period 2009-2013, the average carbon content in sampled soils increased from 1.87% to 2.45% providing an indication of the overall improvement in soil conditions. The positive trends and correlations in NDVI and soil carbon content values suggest that SLM practices applied on farmlands and communal areas have positively improved the ecological functions and agricultural productivity potential throughout the targeted landscapes (i.e., the large watersheds).

58. Moisture content increases due to improved infiltration allowed for the gradual the recharge of springs and underground water storage, allowing for improved availability of water for both human and animal uses, improvement of biodiversity resources, and for the production of homestead fruits and vegetables. Improved water availability and resilience to water-related disasters were both major contributors to the overall enhancement of the livelihood perspectives and quality of life of beneficiary communities. A summary of areas within communal lands benefitting from various project interventions is provided in Annex 2.

Objective 2: Reduce land degradation to improve agricultural productivity of smallholder farmers (*Partially Achieved*)

59. Identification and construction of community infrastructure consisted of a number of activities that have been implemented in SLM implementing watersheds and micro-watersheds. Most of those activities can be categorized under four main headings, namely: expansion of

² For information on the features of the NDVI and the results of the survey see *Continuous NDVI analysis in 35 World Bank funded SLM Watersheds in Ethiopia from 2008-2013 (Sept 2013)* on project files.

small scale irrigation (2,719 ha), water point construction (308 new points), community feeder roads construction and maintenance (1,464 Km), and surface water harvesting systems (2,784).

60. Although relatively limited in scope, interventions in small-scale community-based infrastructure such as water harvesting systems, feeder roads and drinking water supply points have generally improved access to social services, transportation facilities, and community relations. Besides the development of income generation schemes, construction and assistance given to maintain community infrastructure, have contributed to build community confidence to effectively and enthusiastically participate in integrated biophysical measures on individual farmlands and communal areas.

61. Complementing the activities conducted at the communal level, the project also provided support to improved soil and water management at the farm and household level, covering 95,000 ha of farmland and 36,450 households respectively. Although similarly limited in coverage, in those areas where the integrated package of measures was applied, there are clear indications of the potentially sustainable outcomes in the overall environmental and productive development of the communities.

62. An important element of the SLM strategy followed by the project was to reduce the negative impact of livestock overgrazing in communal hillside areas. Despite the limited coverage of these interventions (around 20% of the total project area), the outcomes have been significantly positive, as the adoption of enclosures, and the complementary support to alternative and improved livestock feeding systems, has contributed both to the stabilization and recovery of hillsides (including biodiversity), as well as to the improvement of livestock productivity. In most areas however, overstocking and carrying capacity limitations seem to continue to pose severe limitations to achieving a sustainable landscape production system.

63. Additional income generation activities were later added under the Watershed Management component, primarily aimed at promoting the establishment of natural resource related business opportunities by landless youth and women groups. The total number of direct beneficiaries from this successful initiative reached 16,819 households of which an estimated 40% were female. Of those who were trained, 14,823 beneficiaries (88%) also received financial and material support.

Component 2 - Land Certification and Administration

64. The project issued second level certificates³ to 59,999 households, or about 8.5% of the original target (and 86% of the revised target after the restructuring). The significantly below target result is due to several factors, but mainly that the original target 700,000 households was unrealistic and highly overestimated the level of existing technical knowledge and institutional capacity for implementation at the federal, regional and local level. The Directorate of Land Administration was only established one year after the project implementation had begun. In addition, there was no clarity on the most appropriate cadastral approach and survey methodology to be adopted, resulting in significant discrepancies among regions and often delays, higher costs, and lack of accuracy. Also, the focus of the first 3 years of implementation

³ Ethiopia adopted a two-level certification process: (a) first-level certification, which captured information on rights but provided very limited spatial information (the names of people with rights on adjacent land and an estimate of the parcel areas), and (b) second-level certification, which surveyed parcel boundaries and produced cadastral maps.

was on completing first level certification and building the necessary capacity at all institutional levels. However, during the last two years of implementation, when the mentioned shortcomings became apparent, the focus was shifted towards activities aimed at second level certification. In addition to the second-level certificates, the project also supported the titling of 5,079 parcels of communal lands, an important requirement for the implementation of hillside rehabilitation measures, and the pre-certification survey of almost 230,000 parcels.

65. Despite the underperformance in terms of target achievement, the project had a positive impact in that it put in place the building blocks for improved land tenure security. Specifically, the project supported rural land certification trials, utilizing different technologies and methodologies⁴, which led to an agreement on a common, cost-effective approach and methodology for second level certification, which is in line with international best practices, and will be applied in the implementation of SLMP 2. Reaching such consensus is a major achievement towards a sound land administration system which has been shown to be a key for higher adoption of SLM practices at the farm level. Furthermore, the project: (i) significantly improved knowledge and strengthened capacity for rural land registration and land administration more broadly at all levels, particularly through training and knowledge exchange visits for experts and decision makers; and (ii) increased awareness at regional and local level on the importance of land administration.

Component 3 - Project Management

66. This component made indirect but valuable contributions to the achievement of the PDO and GEO. The PSU provided considerable support to the effective and efficient implementation of the Watershed Management component by enhancing the technical quality at the regional, local and community levels. The component has been the major technical ingredient of the project which facilitated the development of participatory and integrated watershed management plans at sub-watershed levels in all SLM implementing regions. Activities such as watershed planning, collecting and compiling sub-watershed plans, delineating critical and sub-watershed boundaries using GPS and topographic maps were satisfactorily supported through the assistance of regional coordinators, and the management and staff of the PSU (comprised of a blend of specialists recruited by both the Bank and KfW/GIZ). The PSU also played a key role in developing and implementing the project's comprehensive SLM training and awareness activities, mainly for regional and local level authorities and staff, and to support the establishment and operation of the Watershed Committees at the village level.

67. The M&E system, originally expected to support the project and the broader SLM program, has not reached satisfactory functionality and its products and inputs have not been adequately and regularly generated or utilized. The PSU's Annual Progress Reports are detailed and provide a good indication of progress against annual targets but were not methodically prepared due to the problems in decentralized data generation and aggregation. However, the PSU provided training on web-based services; published manuals and other tools that are now

⁴ Trials were conducted using orthophotos based on aerial photography and satellite imagery in Oromia, SNNP, Amhara and Tigray Regions. The project financed equipment and contract staff, while technical assistance was provided by the Government of Finland (REILA). Following the trials, field and office production procedures were developed and agreed both at the federal and regional level.

used by a number of investment operations (i.e., the Participatory Watershed Management Guidelines, the EthioCAT book, SLM Newsletters, brochures and posters); and developed the website for the broader SLM Program.

68. **Project costs and financing:** Total original project costs were estimated at US\$37.8 million, comprising US\$20 million of IDA grant, US\$9 million GEF grant funds and GoE counterpart funds totaling US\$8.7 million. Actual total project costs were reduced to US\$29.16, due to undisbursed balances at project closing (US\$1.2 million from IDA and US\$80,000 from GEF), as well as a considerable reduction in the amount recorded as counterpart financing (US\$2.7 million, equivalent to 31% of the original commitment). Additional information is provided in the FM section and in Annexes 1 and 2. In terms of financing by component, the Table below summarizes the planned allocations and actual disbursements by component.

Financial Performance by Component

Component	Allocation	Expenditure	%
Watershed Management	22.20	20.57	93%
Land Administration	3.93	3.06	78%
Project Management	2.87	2.83	99%
Total	29.00	26.46	93%

Note: due to SDR fluctuations, the original IDA grant amount of US\$ 20 million was reduced by the closing date to US\$19.3 million.

3.3 Efficiency

69. Analysis conducted during preparation suggested that the proposed interventions were economically and financially feasible. The borrower's completion report and this economic analysis provide evidence that the project had significant returns. This analysis focused on the readily quantifiable benefit streams. Where available, project-based data was used, and supplemented that with market information and literature values, where needed. The results show that even with the most conservative estimates and only a portion of the benefits quantified, the project benefits exceed the costs. With more generous prices and discount rate assumptions, the benefits exceed the costs substantially.

70. There are at least eight categories of benefits associated with the project, of which half can be readily quantified and the rest can be analyzed qualitatively. Soil retention provides benefits both on site in terms of soil quality and off site in terms of reduced erosion; it can be measured in terms of land savings or erosion prevention. Carbon sequestration in soil can be estimated from measures provided in the Borrower's report. Increased vegetation cover also helps to prevent erosion and improves downstream water quality and is measured as NDVI. Farmer incomes are another category of direct benefits, measured through yield increases in agricultural areas immediately downstream of the intervention areas. Benefits from improved water management include increased soil moisture and reduced variability in terms of flood/drought conditions.

71. The cost benefit analysis was conducted for 25 years with a discount rate of 10% (with a 7% rate included for comparison). Modeling results reported in earlier SLMP documentation estimated erosion prevention at 52 tons per ha per year, applied in an area of 60,000 hectares, which was the area of intensive project intervention. The soil carbon figure, a 1% incremental change in soil carbon, is drawn from the borrower's completion report and valued

conservatively. NDVI and soil retention figures rely on average prices for land, soil and farmer incomes before project interventions.

ETHIOPIA SLMP		Cost-Benefit Analysis for ICR						
BENEFIT CATEGORIES	Post Change	Units and Notes	Affected Area, Notes	Period, Years	\$ per unit (from Birr)	Annualized Value (rounded)		
						USD/year	USD/year	
Quantified Benefit Streams						Low Estimate	High Estimate	
1a	Soil - Estimate 1 (not used in final calculation to avoid double counting)							
	"Annual savings of land" (following Hurni)	62	Average "ha saved" per 10,000 ha watershed	70 % of watersheds vs all watersheds	1	\$307.00	\$670,000	\$860,000
1b	Soil - Estimate 2							
	Erosion Prevented in tons	52	Level of net erosion prevented (ton/ha/yr)	Conservative = 60k ha intervention zone High end = 120k ha wider landscape impact zone	1	\$0.35	\$1,090,000	\$2,180,000
2	Carbon							
	Increased soil carbon, from Borrower report (conservative)	20	Tons per ha (=1% incremental change in soil carbon, per PCR)		4	\$4.50	\$1,350,000	\$2,700,000
3	Vegetation Cover (proxy for ag & downstream benefits)							
	Normalized Difference Vegetative Index	2%	Increase in vegetation for fodder, nutrient and water retention		4	\$600.00	\$180,000	\$360,000
4	Farmer Incomes							
	Yield increases, farmer reported	7.5%	5-10% reported		4	\$600.00	\$680,000	\$1,350,000

Economic Assumptions	
Benefit Stream, Period in Years	25
High discount rate (conservative)	10%
Lower discount rate (sensitivity)	7%

Note: All figures are converted to annual changes for final calculations

SUMMARY CALCULATIONS		
ANNUAL TOTAL	\$3,300,000	\$6,590,000
NPV: 10% 25 years	\$29,930,000	\$59,850,000
NPV: 7% 25 years	\$38,420,000	\$76,840,000
Initial Investment	\$29,000,000	\$29,000,000
B/C Ratio: 10%, 25 yrs	1.03	2.06
IRR	10.41%	22.60%

72. Estimated economic benefits exceed US\$3 million per year, which results in a net present value of nearly US\$30 million using the assumptions indicated above and in the table. Using the higher range assumptions of impact in a wider area, these benefits double to nearly US\$60 million. Using a less conservative discount rate of 7% would bring the benefit estimate in the high case scenario to over US\$75 million. At the low end, the IRR is calculated as 10.4% and the high end range is 22.6%. Soil retention benefits account for about 33% of the benefits stream, carbon sequestration about 41%, vegetation cover about 5% and farmer incomes about 20%. Of course, all these benefits leave out the value of water retention, water quality, biodiversity, resilience building and risk reduction.

3.4 Justification of Overall Outcome and Global Environment Outcome Rating

Rating: Moderately Satisfactory

73. Overall, the SLM-1 Project demonstrated satisfactory levels of achievement with respect to the PDO, GEO, and the performance indicators related to the soil and water management activities in the targeted watersheds. In addition, the PDO and GEO remain relevant to the natural resource management practices of MoA, as well as within broader national regional and local policies and priorities. Through the new lending operation (SLMP-2), and the renewed support of other development partners, continuity and continued coordination should promote further mainstreaming of practices and objectives supported the project. Financially, at project closing (without extension) nearly all funds were disbursed from both financing sources (93% IDA, and 99% GEF). The project also shows efficiency judged by its positive direct and indirect economic and environmental benefits and sustainability of objectives through participatory demand-driven design, cost-sharing with beneficiaries, and contribution to the design of the SLM-2 project.

74. Despite this, the project has also experienced several shortcomings (either related to design or implementation) that affect the overall assessment of outcomes. Main deficiencies include (i) the high concentration of activities implemented in the last two years of the project, limiting the measurable outcomes in a significant proportion of the project area; (ii) the proportionally reduced coverage of interventions related to farmland and homestead development; (iii) relatively low levels of land certification compared to initial targets (but substantial compared to the revised target late in project life), and (iv) the inadequacy of the M&E system, both in terms of baseline, indicators and targets, as well as the major limitations in the collection and processing of data.

3.5 Overarching Themes, Other Outcomes and Impacts

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

75. As stipulated in the Result-Based M & E System, the SLM-1 project has been gender sensitive, and consciously focused on ensuring that women participate in the project and that benefits accruing from carrying out project related activities are equitably and fairly distributed between men and women. Although women's membership in terms of institutional platforms such as committees, user groups and associations is proportionally lower than the male participation rate, SLMP-1 has made a significant impact to women through the issuance of first level land certificates. The certification enabled women to acquire equal rights to landholdings since land certificates bear rights for both husband and wife. As a result, the share of women in the Land Registration and Administration component of SLMP-1 has been 41.6%.

76. Components 1 and 2 have created opportunities for female-headed households. In particular, women's participation in watershed development appears to be relatively higher than in other regular local development programs. Their involvement in watershed development has been significant in the form of labor contribution to physical and biological conservation, raising seedlings, involvement in trainings, awareness raising, benefiting from income generation opportunities, appropriate management of livestock, and homestead development.

77. The introduction of income generating opportunities promoted the establishment and profitability of natural resource related productive activities, and enhanced farmers' confidence on the various conservation measures practiced on individual farmlands and communal grazing areas. This included assistance for the establishment and operation of user groups (mainly unemployed youth and females) to engage in protection and utilization of communal cropping areas resulting from terrace construction. Although the number of beneficiaries was relatively low, it was nevertheless a successful practice worth replicating.

78. SLMP-1 also provided livelihood improvement opportunities to youth by offering advantages, particularly in setting up user-groups and becoming beneficiaries of employment and gaining skills in the fields such as cadastral surveying, land registration and natural-resource based income generation.

79. HIV/AIDS and reproductive health mainstreaming have earned due attention, particularly at the Woreda, Kebele and community levels. Awareness creation has been incorporated into a number of training activities conducted at community level. The project also assisted in the distribution of training and awareness creation materials in SLM watersheds. About 161 Woredas undertook HIV/AIDS mainstreaming in SLM project areas.

(b) Institutional Change/Strengthening

80. The project was responsible for providing a comprehensive training and capacity building program that substantially contributed to improving technical knowledge and raising awareness on the importance and benefits of SLM, both within public institutions at the regional and district level, as well as in beneficiary communities and farmer organizations. This major effort, led by the PSU with strong support by the technical assistance provided by GIZ, has been successful in terms of mainstreaming the environmental implications of applying sound soil and water management practices as part of the sustainable productive use of resources in small watersheds landscapes.

81. Despite this, one of the prevailing institutional challenges faced by the project was the persistent turnover of staff, particularly at the Woreda level. Frequent transfer/change of focal persons and Development Agents (DA) affected field work and the quality and timeliness of implementation reports; and generated technical gaps in almost all regions. In addition to internal administrative reassignment of staff, self-motivation of focal persons and DAs were reportedly low in account of low remuneration rates and absence of top-up payments for works performed in lieu of the SLM project. Despite the project's attempt to address the bottleneck through providing incentives, the problem has not been resolved due to lack of harmonization of remuneration among different decentralized projects and programs (the majority with donor financing) as well as lack of support by the regional authorities.

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

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

N/A

4. Assessment of Risk to Development Outcome and Global Environment Outcome Rating: Moderate

82. The project, by supporting the initial years of GoE's flagship SLM Program has made a major contribution to mainstream soil and water management as a key element of the sustainable development of rural areas. As a result, community-based land and water management has been introduced in a substantial portion of the country's agricultural areas, technical and institutional capacity has been strengthened and awareness has been raised at government levels and within the communities. Moreover, GoE's decision to promote community mobilization for expansion of SLM interventions most likely will contribute to sustain SLM activities. However, in the absence of continued technical and financial support by development partners, including the Bank's recently approved SLMP-2, the risk of stagnation of the program and potential deterioration of project interventions would be substantial, given the demands for investments in O&M of small irrigation infrastructure, terraces, and feeder roads, the need for technical capacity to develop the Watershed Management Plans in new areas and update existing plans, and the fact that more work is needed at the farm and household level to achieve the potential productivity gains and higher income levels resulting from increased water availability and reduced landscape degradation (mainly livestock management and cropping techniques).

83. Similarly, a number of structural and operational issues should be addressed by GoE to reduce the risk to long-term achievement of the project development outcomes, including structural/policy issues such as population pressure, climate change vulnerability, regional staff turnover, institutional mainstreaming, and work norm harmonization, as well as operational issues related to adequate, functional and consolidated M&E, and weak procurement, accounting and auditing at sub-national levels.

5. Assessment of Bank and Borrower Performance

5.1 Bank Performance

(a) Bank Performance in Ensuring Quality at Entry

Rating: Moderately Unsatisfactory

84. The Bank provided adequate support to the design of the project and the development of the implementation strategy. Preparation was responsive to Government needs and priorities, took into consideration the valuable experiences from predecessor initiatives (WFP, USAID, GIZ), and fully adopted the Community Based Participatory Watershed Management Guidelines (January 2005) as the key technical and operational basis for the design of watershed-based SLM interventions. On the other hand, the Bank could have performed a better role regarding the assessment of implementation readiness (i.e., Preparation of Watershed Management Plans), the technical rationale for the Land Certification Component, the assessment of technical assistance requirements and availability, and the development of the indicators and targets for the Results Framework, as well as the arrangement for monitoring of results.

(b) Quality of Supervision (including of fiduciary and safeguards policies)

Rating: Moderately Satisfactory

85. The Bank complied with its fiduciary responsibilities by conducting regular supervision missions, which were further enhanced by including other development partners supporting the Government's broader SLM Program. The partnership work contributed to convening and aligning financing and knowledge among partners and stakeholders, strengthening the overall policy and investment dialogue. The supervision team also contributed to the overall Bank's role in promoting SLM in the Africa Region, by providing regular reporting and feedback. With the TTL and fiduciary staff based in the country office, procurement and FM reviews, and meetings with the PSU were routinely conducted, providing constructive support to MoA and the PSU. In general, as documented in Aide Memoires and ISRs, the Bank team adequately identified most issues affecting implementation (M&E deficiencies, lagging land certification progress, staff turnover etc.), and dedicated considerable supervision resources to providing field support to MoA and local governments efforts to develop and implement the watershed-level investments. In some instances however, the intense field work affected the speed of follow-up actions, in particular on the project's M&E, environmental audits, and restructuring (additional details on the restructuring process are provided in Section 2.2).

(c) Justification of Rating for Overall Bank Performance

Rating: Moderately Satisfactory

86. The Bank provided valuable support to GOE prior to and during project preparation and was effective in promoting the adoption of previously successful experiences within Ethiopia and other countries. Similarly, the Bank subsequently made considerable efforts to provide much-needed guidance during supervision, and promote the results of the project within the Africa Region. Regardless of the commendable and relevant results achieved by the main component of the project, the overall Bank performance was affected by insufficient attention to key design elements during preparation, and the frequent delays in addressing implementation constraints and complying with some important due diligence requirements during supervision.

5.2 Borrower Performance

(a) Government Performance

Rating: Moderately Satisfactory

87. The broader, multi-donor SLM Program is one of the flagship programs of the Ethiopian Government. As a major part of this program, SLMP-1 received adequate attention and dedication by the relevant authorities. In addition, the priority given by the Government to SLM is demonstrated by the number of additional development partners participating in the program. The creation of the Directorate for Land Administration in 2010, and the strong political support transmitted by the central authorities from MoA to de regional, district and level are relevant GoE contributions. Despite this, and largely due to the decentralized nature of the project, GoE was unable to resolve some of the administrative bottlenecks experienced by the project, such as the high staff turnover, or to provide the full counterpart contribution agreed at negotiations.

(b) Implementing Agency or Agencies Performance

Rating: Moderately Satisfactory

88. MoA, through the PSU, has adequately met its responsibilities as the central body of the National SLM Program Support. With strong support from technical assistance provided by GIZ

at the central and in selected regions, the PSU has coordinated, reported, and supervised the implementation of the project in all SLM implementing regions. It followed relevant government policies and the guidelines provided in the project's core documents (the PIM, PAD and CBPWDG); reviewed and approved annual work plans and budget; worked towards ensuring the achievement of planned outputs by facilitating conditions adherent to the project objectives; monitored progress of the project; and, mainly through the decentralized regional coordinators, provided guidance and advice to local authorities, institutions and beneficiary communities.

89. In the context of a complex and decentralized institutional setting, the PSU appears to have been overloaded as a result of insufficient number of staff to perform certain tasks such as coordination, M&E, compilation and consolidation of reports, procurement and financial management. Moreover, institutional requirements linked to the nature of SLM as a flagship programs, and the relationships with donors and development partners have contributed to heavy workloads. Unfortunately, despite intense training and capacity building efforts, key elements of the performance of the PSU have been adversely affected by the problems of quality, performance and delays created at the regional and local levels.

(c) Justification of Rating for Overall Borrower Performance

Rating: Moderately Satisfactory

90. Overall client is rated moderately satisfactory, mostly related to public sector procedures that affected key aspects of project implementation, including budget allocations, delayed procurement processes, recurrent staff turnovers, and procedural discrepancies between central and local institutions. However, within MoA's mandate, the experience of SLMP-1 has been fully internalized and actions were identified to minimize the impact of these shortcomings during the implementation of SLMP-2.

6. Lessons Learned

91. Establishing and scaling up SLM can be facilitated by putting in place a programmatic approach that can deliver multiple benefits downstream despite upstream transaction costs associated with convening and aligning financing, experiences and approaches among partners and stakeholders. Such joint approaches strengthen the overall policy and investment dialogue and coordination. For this, analytical support addressing technical and institutional elements prior to project preparation can play a very significant role.

92. SLM should be considered as an integral part of rural development strategies that can deliver livelihood opportunities and improving environmental security. Ethiopia has shown that efforts to improve land quality and protect natural resources are important components of climate resilient, low carbon economic growth.

93. The demand-driven bottom-up approach adopted under SLMP-1 is relevant for natural resources management and local development in Ethiopia's rural space. This development approach, with active community participation in determining priorities and in project identification, planning, development and implementation has contributed to generate ownership by both beneficiary communities and local authorities. SLMP-1 outputs are essential to build community confidence and enhanced community participation.

94. Similarly, it is important to provide enhanced support in technical design and implementation and O&M of subprojects involving road improvements and small irrigation, as well as structural and vegetative land management practices.

95. The need to build sustainable institutions at the local level is equally important since they are crucial for delivery of service and attainment of project objectives. SLMP-1 showed that where local level implementation structures were established and sustained through technical assistance, targeted capacity building and reward and incentive schemes, implementation of project activities was more effective in terms of quantity and quality.

96. Implementation of the project was initially constrained by inadequate M&E capacity and poor financial management and procurement capacity at the Woreda level coupled with a high staff turnover. Having an effective and comprehensive M&E system in place early in the life of the project is essential for adequate assessment of project progress and assistance to management to monitor achievement of objectives and to help harmonize stakeholder and development partner efforts.

97. The experience of SLMP-1 highlights the importance of enhanced recruitment procedures, appropriate incentive mechanism (working conditions, training, etc.) and harmonization of salaries and benefits among Woreda staff working on different projects.

98. Provided strong community engagement and commitment are achieved, area closures have proven effective mechanisms for environmental rehabilitation, climate-resilience and reclamation of biodiversity. For this, community by-laws play a decisive role in consolidating the rehabilitation of communal lands.

99. Regarding environmental safeguards, given that the Bank's continued support to the SLM Program will involve the construction of infrastructure, such as small scale irrigation, it is highly recommended to follow a systematic approach in the implementation of environmental safeguards. On Social safeguards, there is the need to provide special arrangements to support underserved and vulnerable groups, including careful planning and management of gender dimensions.

100. To maximize dissemination (both within Ethiopia and the Africa Region), visibility and perception of project actions and results, the implementation of SLMP-1 demonstrated the importance of including, within the structure of the MoA, a knowledge management and communications team staffed by specialized professionals.

7. Comments on Issues Raised by Borrower/Implementing Agencies/Partners

N/A

Annex 1. Project Costs and Financing

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

Sustainable Land Management Project - P107139				
Components	Appraisal Estimate (USD millions)	Actual/Latest Estimate (USD millions)	Percentage Appraisal	of
Total Baseline Cost	26.83			
Physical Contingencies	2.43			
Price Contingencies	8.53			
Total Project Costs	37.79	29.16	77.2%	
PPF	N/A			
Front-end fee IBRD	N/A			
Total Financing Required	37.79	29.16	77.2%	

(b) Financing

P107139 - Sustainable Land Management Project				
Source of Funds	Type Financing	Appraisal of Estimate (USD millions)	Actual/Latest Estimate (USD millions)	Percentage of Appraisal
Borrower		8.79	2.7	31
IDA Grant		20.00	18.1	90.5
P090789 - ET-Sustainable Land Management Program (FY08)				
Source of Funds	Type Financing	Appraisal of Estimate (USD millions)	Actual/Latest Estimate (USD millions)	Percentage of Appraisal
Borrower		0.00	0.00	.00
GLOBAL ENVIRONMENT Associated IDA Fund		20.00	0.00	.00
Global Environment Facility (GEF)		9.00	8.9	99

Annex 2. Outputs by Component

Component 1: Watershed Management

Sub-component 1.1: Capacity building

1. During the five years of implementation, 18 types of activities had been implemented under this sub-component in the following major categories: a) Establishment of Woreda Steering Committee (WSC) and Woreda Technical Committee (WTC); b) Awareness raising; Technical trainings and experience sharing; c) Assisting the undertaking of ESMF; d) Establishment and mentoring of Rural Financial Groups (RFGs); and e) Supporting Farmer Training Centers (FTCs).

2. Among other things, the institutional and technical capacity enhancement realized through implementing the planned activities has enabled the project Woredas to prepare and make ready 85 local level land use plans and 613 community-based watershed management plans at the micro-watershed level. The relevant activities incorporated in most of the plans had been screened by ESMF tools.

3. The summary of major activities under the sub-component showed an overall accomplishment of 94% of the plan to strengthen the institutional and technical capacity for implementing SLM at regional, Woreda and community levels. Of those activities, remarkable performance was achieved in the establishment of watershed committees and teams (WTC, WSC and KWT), and awareness creation and technical trainings (for details see Table 2.1).

Sub-component 1.2: Communal land and gully rehabilitation

4. Under this sub-component, seven major activities were implemented, including: a) Treating or rehabilitating communal lands/grazing, gullies and hillsides/with appropriate bio-physical measures and technologies; b) Construction of terraces (soil bund, stone bund, stone fenced soil bund, stone faced trench bund, *fanya-juu*) on communal land; c) Gully treatment; d) Applying by-laws agreed and approved by the community to govern the management and use of communal lands including grazing lands at the Community or sub-watersheds level; e) Obtaining legal acceptance by Justice office to the community-approved bylaws that govern the management and use of communal lands including grazing lands; f) Follow up and assist activities on communal land and gullies in sub watersheds; and g) Support start-up technology production and supply to SLM service providers for multiplication.

5. Of these activities, the performance of bio-physical measures on grazing lands, gullies and hillsides was higher, followed by construction of physical measures on degraded hillsides. Physical treatment on aggressive gullies was lower due to terrain difficulties demanding more complex technologies and approaches. In addition, shortage of materials for treatment at the current level of technology and technical capacity has limited the scale of accomplishments in biological measures on degraded hillsides. Limited awareness of the existing policies, structural weaknesses in the practical application of by-laws and limited knowledge to protect ecologically critical habitats such as stream banks and wetlands were barriers in some intervention areas.

Sub-component 1.3: Farmland and homestead development

6. The reports of project regions show that this sub-component consists of about 45 different measures or activities, which remains the largest sub-component under the Watershed Management Component. The various measures/activities carried out include

- (i) Treating farmland and backyards with appropriate physical measures such as *fanya-juu*, soil-bund, stone bund, stone faced soil bund, Water-way cut-off-drain, trench; and biological measures that include planting forage trees and grass on bunds, grass-hedge establishment, planting of multipurpose perennial trees, shrubs and grasses;
- (ii) Construction of physical structures on farmland and backyards;
- (iii) Biological measures on farmland ;
- (iv) Promoting high value crops (fruits, vegetables and spices) at homestead/ farmland;
- (v) soil fertility management practices;
- (vi) Conduct pilot productivity enhancement practices and techniques on vertisol and acidic soils; and
- (vii) Promoting the adoption of modern beehives.

7. The summary report of the project regions indicated an overall accomplishment of 66%, in which promotion of high value crops, productivity enhancement on vertisol and treatment of farmland and backyards were accomplished in higher percent of achievement. This indicates the extent to which the implementation of SLM activities had focused on enhancement of land productivity and production on the larger part of the areas under various agronomic activities. Farmland and backyard treatment activities supported by the project contributed to improvement of livelihood systems through ensuring food security for the beneficiaries living in SLM intervention areas (see table 2.1)

8. Most of the farmers in all project regions viewed that the various physical treatments made on farmlands and backyards in the watershed and sub-watershed areas have significantly minimized and/or stopped soil erosion and land degradation. Undertaking biological measures by planting various multipurpose trees and grasses like elephant grass, local grass known as “Desho” and Vetiver have strengthened soil stability on treated lands despite low performance in these regards. On lands where soil treatment measures have been applied, good crop performance has been observed and yields reportedly remained higher than before SLM intervention.

Sub-component 1.4: Community infrastructure

9. Identification and construction of community infrastructures consisted of a number of sub-activities that have been implemented in SLM implementing watersheds and micro-watersheds. Most of those sub-activities are categorized under four main headings, namely: expansion of small scale irrigation, water point construction, community feeder roads construction, and surface water systems construction.

10. Expansion of small scale irrigation is the largest engagement that has been carried out under the infrastructure sub-component. It involved provision of irrigation infrastructure, trainings on the management and application of the systems, and support to maintenance of the facilities provided in areas where such systems have been installed. The following list describes

the various elements of community infrastructure that have been identified and constructed during the five years of SLM implementation.

- a. Assisting expansion of small scale irrigated land involving construction of small scale irrigation diversion canals; maintenance of small scale irrigation; construction of diversion weir; provision of water lifting technologies (motor pump, treadle pump and family drip kits); spring development, small gabion check-dam pond and hand-dug well developed for irrigation; assisting drip irrigation practice; and assisting rope pump adoption.
- b. Community-agreed potable water points construction i.e. spring development and hand-dug wells.
- c. Community feeder roads construction and maintenance i.e. road construction and road maintenance; ford construction; bridge/culvert construction; store construction for nursery; and specialized training-of-trainers on water harvesting, infrastructural development, waterways, cut-off drains, gully and terraces.
- d. Construction of surface water harvesting systems construction such as micro pond , farm pond , percolation pit , and percolation pond .

11. The tables below provide a summarized consolidation of activities supported by Component 1, as well as basic information of each watershed assisted by the project and a detailed breakdown of the investments and activities conducted.

Table 2.1. Outputs from Component 1

Results	Outputs/main activities	Unit	Original Plan/ target	Structured plan/target	Achievements	
Institutional and technical capacity for implementing SLM at federal, regional, Woreda and community levels strengthened	Establishment of Federal SLM Steering Committee (SC)	No.	1		1	
	Establishment of Federal SLM Technical committee (TC)	No.	1		1	
	Establishment of Regional SLM SC	No.	6		6	
	Establishment of Regional SLM TC	No.	6		6	
	Establishment of WTC	No.	209		202	
	Establishment of WSC	No.	152		152	
	Establishment of Community Watershed Teams (CWT)	No.	1,033		849	
	Establishment of Keble Watershed Teams (KWT)	No.	466		508	
	Awareness creation, different Technical Trainings and experience sharing events for experts	Sessions		571		532
		Participants		29,453		35,840
	Awareness creation, different technical trainings and experience sharing events for Community	Sessions		860		538
		Participants		211,042		135,921
	Awareness raising on HIV/AIDS, gender and reproductive health to CWT,KWT and supporting Clubs members	Sessions		254		353
		Participants		24,240		18,713
	Follow up and assistance in undertaking ESMF using the guideline	No of Kebeles		19		41
	Support for farmer training centers to carry out demonstrations on various technologies	No		232		202
Hiring Community Facilitators	No		909		869	
Rural Finance Group (RFGs) establishment and follow-up	No		0		78	
Communal lands (grazing, hillsides and gullies) treated and properly managed by the target communities	Treating or rehabilitating communal lands / grazing, gullies and hillsides with appropriate bio-physical measures and technologies	Ha	83,333		63,630	
	Construction of physical measures on degraded hillsides	Ha	42,414		34,730	
	Biological measures on Degraded hillsides	Ha	14,177		8,003	
	Gully Treatment	Ha	2,021		978	
	Applying bylaws agreed and approved by the community to govern the management and use of communal lands including grazing lands at the Community or sub- watersheds level	No.	822		500	
	Protecting ecologically critical habitats such as stream banks and wetlands	Ha	493		183	
Farmlands and homesteads treated and developed	Treating farmland and backyards with appropriate bio-physical measures and technologies	Ha	134,486		90,069	
	Construction of physical structures on Farm land and backyards	Ha	103,580		63,387	
	Biological measures on farmland	Km		18		8
		Ha		22,435		18,277
	Promoting high value crops (fruit, vegetable and spices) at homestead / farmland	HHs		55,212		36,445
		No. Seedlings		1,155,560		1,234,783
	Implementing various soil fertility management practices	HHs		32,303		16,985
Ha			623		64	

	Conducting pilot productivity enhancement practices and techniques on vertisol and acidic soils	Ha	4,321		4,395
Appropriate livestock production systems identified and promoted	Pasture land development	HHs	19,738		7,339
		Ha	3,945		1,708
	Assisting fodder planting	HHs	33,289		20,535
		No. Seedlings	8,113,216		8,089,264
	Promoting feed conservation	HHs	23,649		2,282
	Promoting poultry raising	HHs	18,911		7,780
		No	111,515		32,215
	Promoting sheep/goat raising	HHs	9,087		2,617
		No	21,308		7,214
	Promoting sheep fattening	HHs	864		411
		No	1,108		514
	Assisting farmers to practice stall feeding practice	HHs	6,928		4,601
	Assisting provision of Artificial insemination service	HHs	21,014		6,682
		No	30,585		8,438
Promoting Improved Bull service	No	684		625	
Promotion of fattening	HHs	5,703		9,217	
Forage multiplication	Ha	75		177	
Community Infrastructure are identified and constructed	Assisting expansion of small scale irrigated land	Ha	3,932.8		2,719.1
	Community agreed potable water points construction	No	593.0		308.0
	Community feeder roads construction and maintenance	Km	1,200.0		634.8
	Road construction	Km	856.2		575.7
	Road maintenance	Km	688.6		254.2
	Surface water harvesting systems constructed and became functional	No	4,815		2,784
Promising Income generating activities identified and promoted	Training farmers to engage in income generating activities including bee keeping goat/sheep raising, poultry, horticulture production	No of sessions	230		1,592
		No.	16,819		12,731
	Assisting farmers financially and materially to engage in income generating activities	No.	14,823		10,835
	Assisting establishment and functionality of user groups (unemployed youth, female or others) to engage in protection and utilization of assigned common natural resources with binding bylaws	No.	13,107		6,988
		User groups	699		370
Training on income generating activities (high value crops, sheep rearing, apiculture, dairy)	No.	4,395		4,050	

Table 2.2. Activities, investments and beneficiaries investments in 45 watersheds of SLMP-1

REGION	LARGE WATERSHED	AREA (HA)	POPULATION/ BENEFICIARIES	YEAR WORK BEGAN	YEAR WORK FINISHED (NOTE IF UNFINISHED)	WORKS (DESCRIPTION)	GOODS (DESCRIPTION)	SERVICES/ TRAINING (DESCRIPTION)	NOTE
Amhara 10 watersheds	Chena Gomit	6397	10,000 men 10,600 women	2009	2013/14	Physical and biological farmland treatment, Hillside terrace, gully rehabilitation, tree planting, gully treatment	Beehives, pumps, hand tools, seedlings, field and office equipment, gabions	Skill Training and technical backstopping experts and farmers	
	Guder	6350	9902men, 7665 women	2009	2013/14	Physical and biological Farmland treatment Irrigation canal, diversion weir, apple devt ,livelihood	Beehives, seedlings, gabions, rope and washer pumps	Skill Training and technical backstopping experts and farmers	
	Yisir	9078	13444men, 13135 women	2009	2013/14	Physical and biological farmland treatment SSI, livelihood, tree planting ,community ponds ,gully rehabilitation, water harvesting	Seedlings, Beehives, field and office equipment, hand tools, gabions, rope and washer pumps	Skill Training and technical backstopping experts and farmers	
	Yezat	17760	14496men, 14010 women	2009 14010	2013/14	Physical and biological farmland treatment Livelihood, water harvesting, community ponds ,gully rehabilitation, water harvesting	Seedlings, Beehives, field and office equipment, hand tools, gabions	Skill Training and technical backstopping experts and farmers	
	Kechem	16287	13705men, 13169women	2009	2013/14	Physical & biological farmland treatment, Degraded hillside treatment, tree planting ,community ponds ,gully rehabilitation, water harvesting	Seedlings, Beehives, field and office equipment, hand tools	Skill Training and technical backstopping experts and farmers	
	Ketech	6011	4478men, 4069 women	2009	2013/14	Physical & biological farmland treatment, Irrigation canal, check-dams, tree planting ,community ponds ,gully rehabilitation, water harvesting	Seedlings, Beehives, field and office equipment, hand tools, gabions	Skill Training and technical backstopping experts and farmers	
	Dijill	8940	9515men, 7884 women	2009	2013/14	Physical & biological farmland treatment, community ponds ,gully rehabilitation, water harvesting	Seedlings, Beehives, field and office equipment, hand tools, gabions	Skill Training and technical backstopping experts and farmers	
	Sal	2512.3	3453men, 2415 women	2009	2013/14	Physical & biological farmland treatment, community ponds ,gully	Seedlings, Beehives, field and office equipment, hand tools, gabions	Skill Training and technical backstopping experts and farmers	

						rehabilitation, water harvesting			
	Robi	24856.7	21601men, 19185 women	2009	2013/14	Physical and biological farmland treatment, gully treatment, community ponds, water harvesting	Beehives, field and office equipment, hand tools, gabions	Skill Training and technical backstopping experts and farmers	
	Matizirgi	3365.79	4536men, 4396women	2009	2013/14	Physical & biological farmland treatment, gully treatment, community ponds , water harvesting	Beehives, field and office equipment, land tools, gabions	Skill Training and technical backstopping experts and farmers	
Oromia 14 watersheds	Dima	11,063	10,938 male 11,384 female	2009	2013	farmland terraces, area closures, check dams, plantation, improved poultry promotion, access roads construction & maintenance, drinking-water supply points (HDWs & SPD), 2 nd level rural land survey and certification	Poultry, shoats, modern beehives, energy saving stove and seeds of high value/high yield crop seeds and pumps	Trainings of woreda experts & Development Agents (DAs) on watershed planning, biophysical NRM measures, water management, land holding survey. Trainings of farmers on income generation activities (IGAs), compost preparation, forage dev't.	
	Leman	12,631	10,244 male 10,662 female	2009	2013	farmland terraces area closure, check-dams, plantation, high value crops promotion, construction and maintenance of access road	Poultry, shoats, modern beehives, energy saving stoves, pumps and High Value/High Yield crops	Trainings of woreda experts and DAs on watershed planning, biophysical NRM measures, water management, land holding survey. Trainings of farmers on compost preparation, IGAs, forage dev't, and fuel saving stoves	
	Rebu	11,589	11,692 male 12,170 female	2009	2013	farmland terraces, hillside terraces, area closures, check-dams, gabions, reforestation, gully plantation with multipurpose plants, drinking water, access roads, 2 nd level rural land survey and certification	Poultry, shoats, modern beehives, energy saving stove and High Value/High Yield crops	Farmer training for off-farm livelihoods, experience share visits, awareness creation and capacity building trainings in the areas of SLM, HIV/AIDS, SWC, etc	
	Nada	8,017	5,442 male 5,664 female	2009	2013	Terraces, gabions, check dam, reforestation, drinking water, road, 2 nd level rural land survey and certification	Poultry, shoats, modern beehives, energy saving stove and High Value/High Yield crops	Farmer training for off-farm livelihoods, experience share visits, awareness creation and capacity building trainings in the areas of SLM, HIV/AIDS, SWC,	

								etc	
	Halu	16,556	12,628 male 13,143 female	2009	2013	Terraces, gabions, check dam, reforestation, drinking water, road, 2 nd level rural land survey and certification	Poultry, shoats, modern beehives, energy saving stove and High Value/High Yield crops	Farmer training for off-farm livelihoods, experience share visits, awareness creation and capacity building trainings in the areas of SLM, HIV/AIDS, SWC, etc	
	Gaba	9,417	6,898 male 7,179 female	2009	2013	Terraces, gabions, check dam, reforestation, drinking water, road, 2 nd level rural land survey and certification	Poultry, modern beehives, energy saving stove and High Value/High Yield crops	Farmer training for off-farm livelihoods, experience share visits, awareness creation and capacity building trainings in the areas of SLM, HIV/AIDS, SWC, etc	
	Gafare	9,659	9,671 male 10,065 female	2009	2013	Terraces, gabions, check dam, reforestation, road, 2 nd level rural land survey and certification	Poultry, shoats, modern beehives, energy saving stove and High Value/High Yield crops	Farmer training for off-farm livelihoods, experience share visits, awareness creation and capacity building trainings in the areas of SLM, HIV/AIDS, SWC, etc	
	Maki	7,201	2,980 male 3,101 female	2009	2013	Terraces, gabions, check dam, reforestation, drinking water, road, 2 nd level rural land survey and certification	Poultry, sheep, modern beehives, energy saving stove and High Value/High Yield crops	Farmer training for off-farm livelihoods, experience share visits, awareness creation and capacity building trainings in the areas of SLM, HIV/AIDS, SWC, etc	
	Dalocha	8,005	4,941 male 5,142 female	2009	2013	Terraces, gabions, check dam, reforestation, drinking water, road, 2 nd level rural land survey and certification	Poultry, modern beehives, energy saving stove and High Value/High Yield crops	Farmer training for off-farm livelihoods, experience share visits, awareness creation and capacity building trainings in the areas of SLM, HIV/AIDS, SWC, etc	
	Bangasa	10,365	10,590 male 11,022 female	2009	2013	Terraces, gabions, check dam, reforestation, drinking water, road, 2 nd level rural land survey and certification	Poultry, sheep, modern beehives, energy saving stove and High Value/High Yield crops	Farmer training for off-farm livelihoods, experience share visits, awareness creation and capacity building trainings in the areas of SLM, HIV/AIDS, SWC, etc	
	Lemmon	9,450	10,152 male	2012	2013	Terraces, gabions, check	Poultry, sheep, modern	Farmer training for off-	

			10,567 female			dam, reforestation, drinking water, road and rural land survey for 2 nd level certification	beehives, energy saving stove and High Value/High Yield crops	farm livelihoods, experience share visits, awareness creation and capacity building trainings in the areas of SLM, HIV/AIDS, SWC, etc	
	Wachacha	6,565	1,792 male 1,866 female	2012	2013	Terraces, gabions, check dam, reforestation, measures, livestock feed development, drinking water, road and rural land survey for 2 nd level certification	Poultry, sheep, modern beehives, energy saving stove and High Value/High Yield crops	Farmer training for off-farm livelihoods, experience share visits, awareness creation and capacity building trainings in the areas of SLM, HIV/AIDS, SWC, etc	
	Aleltu	6,690	5,741 male 5,975 female	2012	2013	Terraces, gabions, check dam, reforestation, soil fertility improvement measures, livestock feed development, drinking water, road and rural land survey for 2 nd level certification	Poultry, sheep, modern beehives, energy saving stove and High Value/High Yield crops	Farmer training for off-farm livelihoods, experience share visits, awareness creation and capacity building trainings in the areas of SLM, HIV/AIDS, SWC, etc	
	Nadhi	10,253	5,452 male 5,674 female	2012	2013	Terraces, check dam, reforestation, livestock feed development, drinking water and rural land survey for 2 nd level certification	Poultry, modern beehives, energy saving stove and High Value/High Yield crops	Farmer training for off-farm livelihoods, experience share visits, awareness creation and capacity building trainings in the areas of SLM, HIV/AIDS, SWC, etc	
SNNPR 10 watersheds	Konkoya	6,678		2009	2013	terraces, check dams, reforestation, SSI, area closure, plantation of multipurpose trees	Water pumps, Beehives, gabions, farm tools,	Awareness creation on SLM for farmers, farmers training on watershed management and trainings of wereda experts and DAs on different SLM/NRM activities	
	Aziga Shuba	6727		2009	2013	terraces, check dams, reforestation, SSI, area closure, plantation of multipurpose trees	Beehives, gabions, farm tools	Awareness creation on SLM for farmers, farmers training on watershed management and trainings of wereda experts and DAs on different SLM/NRM activities	
	Ergeno	6915				terraces, check dams, reforestation, SSI, area	Beehives, gabion, farm tools,	Awareness creation on SLM for farmers,	

						closure, plantation of multipurpose trees		farmers training on watershed management and trainings of wereda experts and DAs on different SLM/NRM activities	
	Mansa-shata	4151		2009	2013	terraces, check dams, reforestation, SSI, area closure, plantation of multipurpose trees	Beehives, water pumps, gabions, farm tools	Awareness creation on SLM for farmers, farmers training on watershed management and trainings of wereda experts and DAs on different SLM/NRM activities	
	Zigna	7224		2009	2013	terraces, check dams, reforestation, SSI, area closure, plantation of multipurpose trees	Beehives, water pumps, gabions, farm tools	Awareness creation on SLM for farmers, farmers training on watershed management and trainings of wereda experts and DAs on different SLM/NRM activities	
	Geshi	6374		2009	2013	terraces, check dams, reforestation, SSI, area closure, plantation of multipurpose trees	Beehives, water pumps, gabions, farm tools	Awareness creation on SLM for farmers, farmers training on watershed management and trainings of wereda experts and DAs on different SLM/NRM activities	
	Chita Chuka	17013		2009	2013	terraces, check dams, reforestation, SSI, area closure, plantation of multipurpose trees	Beehives, water pumps, gabions, farm tools	Awareness creation on SLM for farmers, farmers training on watershed management and trainings of wereda experts and DAs on different SLM/NRM activities	
	Begeze	4840.00		2011	2013	terraces, check dams, reforestation, SSI, area closure, plantation of multipurpose trees	Beehives, water pumps, gabions, farm tools	Awareness creation on SLM for farmers, farmers training on watershed management and trainings of wereda experts and DAs on different SLM/NRM activities	
	Geo-orsha	2483		2011	2013	terraces, check dams, reforestation, SSI, area closure, plantation of multipurpose trees	Beehives, water pumps, gabions, farm tools	Awareness creation on SLM for farmers, farmers training on watershed management	

								and trainings of wereda experts and DAs on different SLM/NRM activities	
	Bericha Adado	3462		2011	2013	terraces, check dams, reforestation, SSI, area closure, plantation of multipurpose trees	Beehives, gabions, farm tools	Awareness creation on SLM for farmers, farmers training on watershed management and trainings of wereda experts and DAs on different SLM/NRM activities	
Tigray 4 watersheds	Lower Burqua Abagabir	21267	17242 men 15133 women	Nov. 2009	2013	area enclosure Hillside terraces, stone bund, stone faced trench, deep & normal trenches, farmland treatment through moisture conservation structure, flood harvesting composting SSI, micro/earth dams, constructed by GIZ 2 nd level land certification	Industrial materials for beekeeping shelters, oil press machine by GIZ motor bicycles computers, GPS EVIDO for Internet Access.	Trainings on SWC, NRM, livestock management, nursery management and irrigation development were given to experts, DAs, KWTs, CWTs, foremen and technicians. Experience sharing visits were also arranged to Woreda steering and technical committees, KWTs, CWTs.	GIZ supported oil press machine
	Upper-Burqua Abagabir	10751	8809 men 9045 women	2011	2013	area enclosure Hillside terraces, stone bund, stone faced trench, deep & normal trenches, farmland treatment through moisture conservation structure, flood harvesting composting SSI, micro/earth dams, constructed by GIZ 2 nd level land certification	Industrial materials for beekeeping shelters, oil press machine by GIZ motor bicycles computers, GPS EVIDO for Internet Access.	Trainings on SWC, NRM, livestock management, nursery management and irrigation development were given to experts, DAs, KWTs, CWTs, foremen and technicians. Experience sharing visits were also arranged to Woreda steering and technical committees, KWTs, CWTs.	
	Selam	10937	5937 men 6350 women	2009	2013	area enclosures, hillside terraces, stone bunds, stone faced trenches, deep & normal trenches, planting on bund, flood harvesting and soil fertility management practices, water harvesting infrastructures, SSI, HDWs,	modern bee hives and beekeeping shelters, oil press machine, motor pumps, Begaite cows, Hens, local Goats, Sheep, motor bicycles, Computers, and GPS, GIS packages and	Farmers trainings on SWC, NRM, livestock management, nursery management and irrigation development, Training of Woreda experts and DAs, SLM	

						communal ponds river diversion, spring and spate structures, In this watershed, 2 nd level land certification	EVIDO for Internet access.	practices. Experience sharing visits for Woreda steering and technical committees, KWTs, CWTs and other innovative farmers	
	Aditseguar	12310	25409 men 26447 women	2009	2013	rehabilitation of communal land with different biophysical conservation measures, forage dev't, income generating cash crops are F. albida, Rehamnus prenoides, Grevillea robusta, Sesbania sesban, Vetiver grass, Gully rehabilitation, water harvesting infrastructures, SSI, access roads construction & maintenance, Hand dug well-construction, 2 nd level land certification	Bee colony, fruit seedlings (orange and mango), Industrial materials for beekeeping shelters, Begait and hybrid cows, motor bicycles, computers, and GPS, GIS packages and EVIDO for Internet access, FTCs provided with Drip irrigation kits, Motor pumps, Solar panel for light generation, office furniture, hand tools, TV & DVD	Different trainings for Woreda steering committee members, Woreda experts, DAs, Kebele & community technical leaders, community leaders and beneficiaries has been given including experience exchange visits, farmers have been trained in Soil and water conservation techniques, Nursery management, establishment of plantations, Oil pressing and beekeeping activities.	Hand dug well-construction by GIZ Begait and hybrid cows have been introduced by GIZ SLM. GIZ provided support to FTCs
Gambella 3 watersheds	Wandong/ Barokela	10,400	4,506 men 2,886 women	2009	2013	Reforestation, Terraces, Hand dug-wells, spring Development, access roads, check dams, Waterway, area closure	Beehives and Accessories, Water pump, seedlings:- fruits, forages, coffees, Pullets, sheep, Energy saving stoves, Vegetable seeds	Training for farmers, DAS, Woreda experts, Community facilitators, Training for Higher officials	
	Atwo/ Dibong	8107	3,224 men 2,134 women	2009	2013	Reforestation, Terraces, Hand dug-wells, spring Development, Roads, check dam, Waterway, area closure	Beehives and Accessories, Water pump, seedlings:- fruits, forages, coffees, Pullets, sheep, Energy saving stoves, Vegetable seeds	Training for farmers, DAS, Woreda experts, Community facilitators	
	Zeiy/ Gummare	18000	14,327 men 15,088 women	2009	2013	Reforestation, Terraces, Hand dug wells, spring Development, Roads, check dams, Water ways, area closures	Beehives and Accessories, Water pump, seedlings:- fruits, forages, coffees, Pullets, sheep, Energy saving stoves, Vegetable seeds	Training for farmers, DAS, Woreda experts, Community facilitators	
Benishangu l-Gumuz 4 watersheds	Hoha	15,710	11,580 men, 10,967 women	2009	2013	terraces construction, soil bunds stabilization with grasses and forage trees plantation, area closure, reforestation, gully land treatment, SSI, bridge construction, community	water pump generator, modern beehives, seeds & seedlings, different farm tools, equipment, 135 energy saving stoves, 30tone lime, 1008 sheep/goat	farmers trainings including KWT & CWT on CBWM guideline and locally appropriate/best SLM practices livestock management,	Works are not finished/completed and needs more extra time

						potable water points construction Cadastral surveying for second level certification		Horticulture, home stead development & IGA, cadastral surveying mapping and photogrammetric techniques and other technologies	
	Jirma	9510	5589 Men, 4256 Women	2009	2013	Hillside terraces, grasses and forage trees multiplication, area enclosures, reforestation, gully land treatment, SSI, community potable water points construction,	Water pump generator, modern beehives, seeds & seedlings, different farm tools, equipment, energy saving stoves, sheep and goat	farmers training on CBWM guideline and locally appropriate/best SLM practices and more than DAs & CF trained on SWC, NR management, livestock management, Horticulture, home stead development & IGA, cadastral surveying mapping and photogrammetric techniques	Works are not finished/completed and needs more extra time
	Sonka	20899	11,810 Men, 10,530 Women	October 2011	2013	Hillside terraces, grasses and forage trees multiplication, area enclosures, reforestation, gully land treatment, SSI, community potable water points construction,	Water pump generators, modern beehives, seeds & seedlings farm tools, equipment, energy saving stoves, lime, sheep and goat	farmers training on CBWM guideline and locally appropriate/best SLM practices and more than DAs & CF trained on SWC, NR management, livestock management, Horticulture, home stead development & IGA, cadastral surveying mapping and photogrammetric techniques	Works are not finished/completed and needs more extra time
	Alipapa	7749	4479 Men, 4811 Women	October, 2011	2013	Hillside terraces, grasses and forage trees multiplication, area enclosures, reforestation, gully land treatment, SSI, community potable water points construction,	Water pump generator, modern beehives, seeds & seedlings different farm tools, equipment, energy saving ng stoves, lime, sheep and goat	farmers training on CBWM guideline and locally appropriate/best SLM practices and more than DAs & CF trained on SWC, NR management, livestock management, Horticulture, home stead development & IGA, cadastral surveying mapping and photogrammetric techniques	Works are not finished/completed and needs more extra time

Component 2: Rural Land Certification and Administration

12. The objective of this component was to expand the coverage and enhance the government's land certification program, with the aim of strengthening land tenure security for smallholder farmers. Accordingly, assistance under this component aimed to rectify the weaknesses in level 1 certification process identified in various reviews, emphasizing on the need to geo-reference and map individual parcels to avoid or minimize boundary disputes. In these regards, SLM was designed to specifically finance training, equipment, and technical assistance to upgrade the organizational, technical, and managerial capacity of existing institutions and units responsible for land administration at the federal, regional and Woreda levels and the judiciary.

13. Performance recorded in Land Registration and Administration reaches 83% of the regional plans, basically involving outputs such as: completion of first level rural land certification; issuance of second level certificates for rural land holding; development/preparation of local land use plan; enhancement of institutional capacity for rural land registration and administration awareness raising training and experience sharing events on land administration for beneficiary communities; and awareness raising training and experience sharing events on land administration to DAs and experts (see Table 2.2).

14. Achievement in the impact of land registration and administration could be explained by the number of farmer households who got land certificates issued with geo-referenced maps (59,999 HHs) and by the number of certified farmers who had positive sense of tenure security after certification (98% of interviewed farmers responded positively) and by the total accomplishment of the Land Registration and Administration component years which reached 83% of the regional planned targets.

Table 2.3. Outputs from Component 2

Outputs	Main activities	Unit	Original Plan/Target	Structured plan/target	Achievements	Note
Completion of first level rural land certification (not geo-referenced)	Manual registration of individual farm landholding	parcels	243,004		17,1654	
		No of HH	44,643		15,628	
	Manual registration of rural communal land	parcels	19,765		1411	
		Ha	12,310		5,876.39	
	Computerized registration of individual farmland holding	parcels	204,696		75953	
		Area in Ha	80,238		127,040.8	
		No of HH	54,023		22,572	
	Issuing first level certificate for individual farmland	HHs (No. of certificates)	12,044		88,271	
		parcels	73,735		83,262	
		Ha	17,500.25		13,807.41	
	Issuing first level certificate for rural communal land	parcels	51,225		1298	
		Ha	11,865		2,522.21	
	Issuing first level certification for institution holdings	No of parcels	34		50	
		Ha	118.5		1,086.99	

Issuance of second level certificates for rural land holding (geo-referenced)	Production of parcel maps	No.	215,832		45,186	
	Production of Kebele Index map	No.	88		43	
	Issuing 2 nd level certificate for individual land holders living in the watershed areas	HHs (No. of certificates)	128,720		59,999	
	Issuing 2 nd level certificate for communal land holdings found in the watershed area	parcel	5,758		5,079	
		HHs	9,650		1,134	
	prepare and Issue second level certificate for institutional land holdings in the project areas	HHs	780		24	
	Issuing 2 nd level certificate for Institutional land holding in the project areas	parcel	588		6	
	Publication of land registry books for 2nd level certification	No	245		243	
	ISLA data verification and amendment /for individual households/	parcel	151,220		65,611	
	ISLA data verification and amendment /For communal Holdings/	parcel	29,790		1641	
	Activity ISLA data verification and amendment /For Institutional Holdings/	parcel	1,000		0	
	Updating the registered land holding	No of holding	52,177		12,177	
	Recruiting and training data encoders for ISLA data verification, amendment and updating /in Amhara Region/	participants	10		7	
Enhancement of Institutional capacity for rural land registration and administration	Conducting awareness raising events on land laws to members of the target communities	Sessions	124		62	
		participants	66,981.00		15,518.00	
	Training on land administration topics to Kebele and community land administration committee members /DAs	Sessions	804		584	
		participants	15,604		34,451	
	Training on cadastral surveying, index map production and other important aspects of 2nd level certification	Sessions	28		6	
		participants	2,404		7,176	
	Training on GIS to experts at all levels	Sessions	83		76	
		Participants	50		60	
	Experts at all levels that are trained on GIS (by the Region)	sessions	2		1	
		participants	60		32	
	Experts at all levels that are trained on GIS (by the Zone or Woreda)	sessions	3		3	
Participants		66		48		
Recruiting and training contract Para-surveyor for the pilot on using Ortho-rectified aerial photography/Satellite Imagery	Participants	198		120		

Component 3: Project management

15. The Project management component contributes to ensuring the adherence of SLM project to government policy of end users' full participation in project implementation; strives to involve the target population in the development of the proposed project and works towards ensuring that they are fully consulted throughout the project particularly at the planning, implementation and operation stages.

16. The overall project management and coordination responsibility was under the MoA which has been working through the existing institutional mechanisms for the coordination of SLM programs comprising three major bodies, namely: the National SLM Steering Committee, National SLM Technical Committee; and National SLM Support Unit. The National SLM Support Unit or the Project Coordination Unit is located within the MoA and that of the regions is within BoA of the participating regions. The regional coordination units have been responsible for the day-to-day management of the SLM program implementation, including preparation of annual work plans and progress reports, monitoring and supervising overall implementation progress and evaluation of program impacts, financial administration and procuring goods and services.

17. The National SLM Support Unit provided administrative support to respective Steering Committee and Technical Committees. A full time National Program Coordinator has been appointed for the NPCU by MoA to oversee project implementation. At the regional level, a regional SLM focal person/project coordinator has been appointed by the respective regional BoA. The regional project coordinators were in charge of the overall coordination of the program in their respective region. At the Woreda level, the Woreda Office of Agricultural carried out the responsibility of project implementation in close collaboration with the regional focal person and the SLM Kebeles under the Woreda.

18. According to the regional reports summary, the level reached in the achievement of Project Management Component has been 63.4%, which is relatively low. Achievements in staff training and familiarizing in newly institutionalized policies, strategies and procedures; and development of participatory and integrated watershed management plans at sub-watershed level have been above average (86%) compared to the achievements recorded in other outputs of the component.

Annex 3. Fiduciary Performance

Procurement

1. Procurement activities under the SLMP project were streamlined within the Government system and were carried out accordingly. At Federal level, pooled procurement of equipment such as vehicles, motorcycles and other essential equipment to be supplied to the implementing agencies at sub-national level is carried out. In the Federal Ministry of Agriculture the regional Bureaus of Agriculture “Procurement, Finance and Property Administration Support Processes (PFPASP)” had full control over the procurement processing and administration. The role of the PSU was limited to planning, coordinating all the regional implementing agencies of the project and placing requests to the PFPASP. Procurement decisions are made within the MOA and BOAs. At Woreda level the Woreda Finance and Economic Development Offices carry out the implementation of the procurement activities of the project based on the annual work plan and purchase requests presented by the line sectoral offices at Woreda level.

2. Delays in procurement of field equipment and supplies were a cause for slow implementation during the initial stages of project implementation, but were gradually resolved through intense Bank support and guidance, as well as procurement-specific training to decentralized agencies.

Organization and Staffing:

3. The project has a couple of procurement officers at Federal level and procurement coordinators at Regional level. Otherwise it did not have procurement officers at Woreda level. The procurement activities are by and large carried out by Government procurement staff which is in most cases not familiar with the procurement process of Bank financed projects. Although the project coordination office has provided capacity building training to staff at Woreda and regional level, the high level of staff turnover within the Government structure has undermined the capacity building efforts of the project.

Controls and Manuals:

4. The SLM project has a procurement arrangement manual. However, the manual is not widely distributed to implementing agencies and is not well understood and consulted by procurement staff of implementing agencies in the procurement process. Moreover, the internal as well as external procurement control system appears to be weak. Although there are audit exercises which are carried out by internal as well as external entities, procurement aspects are not considered in such audit exercises.

5. Procurement record keeping varies from one implementing agencies to the other. In general, however, procurement record keeping has been a major area of concern in almost all implementing agencies of the SLMP-1. The most prominent problem regarding procurement record keeping include: procurement records are not kept in one place – some files are kept with the finance officer while the other files are kept with the procurement officer; in most cases one cannot find complete procurement documentation; procurement files cannot be easily located during procurement audit and procurement reviews; and procurement documents are not kept

safely to avoid loss or unauthorized access to such documents. Procurement record keeping is thus an area which requires major emphasis going forward.

Procurement Planning

6. Procurement plans are prepared and obtain approval at Federal and Regional levels. However, the regional procurement plans are not updated regularly. In most implementing agencies of the project, particularly at Regional level, procurement plans are not used as monitoring and management decision making tools. At woreda level most implementing agencies do not prepare procurement plans. Although efforts have been made to introduce and distribute simplified procurement plan templates to be used at Woreda level it is only limited Woredas who have used such simplified forms for the preparation of procurement plans for their respective Woredas. Lack of clarity on who is responsible for the preparation and follow-up of procurement plans as well as lack of procurement proficient personnel at Woreda level has resulted in a situation whereby procurement are carried out without plans at Woreda level under SLMP.

Procurement Processing:

7. At Federal and Regional level procurement processing is done at ICB and NCB level and these are by and large carried out as per agreed procedures and using the Bank's or national SBDs.

8. However, Woredas are normally allowed to carry out procurement activities which should not exceed the threshold for shopping. Use of Request for Quotation is not practiced by most of the implementing agencies for procuring goods under shopping method. For most of the shopping contracts suppliers were invited by either distributing the purchase request or technical specification to randomly selected suppliers/shops or by posting the purchase requirement on notice boards. In general implementing agencies at Woreda level do not observe the minimum level of documentation necessary to carry out shopping to procure goods and services.

9. Evaluation has been a major area of concern during the implementation of the SLMP. The bid and evaluation process in some implementing agencies was not in compliance with agreed procedures. There were cases of use of two envelop system and also the use of merit point system in the evaluation process.

Contract administration:

10. In general there was no proper contract administration process applied in all contracts. In the procurement of goods and services at woreda level in most cases no contracts were used. Goods and services were delivered after considerable lapse of the delivery time. Yet upfront payments are made to the least evaluated bidders without signing contract agreement. In the rest of the contracts the contract agreements did not incorporate important contractual obligations of both parties. Some payments to suppliers were not supported by written technical inspection reports. In general contract administration appears to be a very weak link in the procurement process under the project.

Recommendations:

- Going forward there should be substantial improvement on procurement reporting under the forthcoming SLM project. In most cases it was impossible to obtain the procurement status of the FPCU and the Regions for review and analysis. There should be a system whereby the status of procurement is periodically reported by the regions to FPCU and the same is submitted to the Bank for its review.
- Regardless of the capacity building efforts and recommendations made to the PCU there does not seem to be an improvement in the preparation and utilization of procurement plans to guide the procurement process. In the forthcoming project the project should ensure that all procurement activities should be carried out with an approved procurement plan and procurement plans should be used as monitoring and management decision making tools by all implementing agencies of the project.
- Regardless of the capacity building effort made by providing procurement training to procurement staff in the Woredas there were some procedural errors in procurement processing at Woreda level. The FPCU should devise and put in place mechanisms to ensure that all implementing agencies are in compliance with agreed procedures in processing of the procurement of goods, works and services.
- Strengthening of the internal control and ensuring that procurement manuals of the project are widely disseminated and used by procurement staff of implementing agencies is critical to ensure compliance with agreed procedures;
- Going forward the FPCU should ensure that procurement staff at Regional level shall provide the necessary support and supervision to Regional procurement staff and the regional procurement staff shall in turn provide the necessary support to woreda level procurement staff to ensure compliance with agreed procedures and the smooth implementation of the project. To this effect the project should provide the necessary logistical support and means for mobility.

Financial Management**I. Key Information on the Project**

Project Name:	Sustainable Land Management Project
Project ID:	P090789/P107139
IDA Credit/Grant No.:	IDA Grant No. H3770, TF92320
Implementing Agency:	Ministry of Agriculture (MoA)
Effectiveness Date:	October 10, 2008
Closing Date:	September 30, 2013
Application Deadline:	January 30, 2014
Credit/Grant Amount:	XDR 12,500,000 for H3770, and USD 9,000,000 for TF092320
Program Duration:	5 years

Disbursed Amount:	XDR 11,673,435.63 for H3770 USD 8,918,415.67 for TF092320
Cancelled Amount	Zero

II. Introduction

11. This Annex is prepared as part of inputs at the end of the project in question and follows guidance provided by “Financial Management Manual For World Bank-Financed Investment Operations” issued by the Financial Management Sector Board on March 2010 and “Implementation Completion and Results Report Guidelines” as updated on October 5, 2011. The objective of this report is to capture significant financial management issues affecting project implementation and outcomes during the course of its implementation as lessons learnt for later projects to be implemented in the sector.

12. The project maintained, throughout the life of the project reasonably adequate FM system which provides the necessary reasonable assurance that the reports being produced by the system can be relied upon to monitor the project. Generally, the project complied with the requisite financial covenants outlined in its legal agreement which included submission of quarterly IFRs and annual audits except some delays. Recent IFR and audit report were not submitted with in the due date. In addition counterpart funds were not being contributed in line with the requirements stated in the PAD. The financial management risk ratings were mostly rated Moderate but for some supervisions including the last supervision the risk has been rated Substantial. Owing to this risk rating, the project was supervised by conducting field visit mostly semi-annually (excluding quarterly IFR reviews, annual audit report reviews and normal implementation supports). The key significant aspects the project encountered during implementation from which future projects ought to learn are as follows:

III. Lessons Learnt

13. The key lessons learnt in this project from the financial management perspective include:

- ***Strengthen the budgeting process:*** The project did not streamline its budgeting process to ensure timely budget preparation process and notification to the regions their final budget. Failure to align working budget to government budget (proclaimed vs. actual working budget) in timing as well as in the content was also another key lesson learnt. The need to improve budget monitoring and budget utilization was also another issue.
- ***Staffing:*** High staff turnover at Woreda level had been observed. The Project had not its own accountants at Woredas. Government employees perform on SLMP in addition to other duties of the Woreda and there was a tendency, because of work load and non-existent of incentives, to neglect the SLMP activities and it was a challenge that affected the project. Mobile teams at region level were being implemented at the later stages of the project life in an effort to mitigate this risk and this should be strengthened. Federal level interventions to supervise and follow up regions and Woredas were not adequate and there needs to be strong emphasis on this area as well.

- **Accounting system:** The project was using Peachtree accounting software. However, the software was not used to its maximum potential including reporting capabilities. Regions produce Interim Financial Reports (IFRs) on Excel Spreadsheet by taking data from the monthly reports of implementing Woredas and from the output of Peachtree software for the Project. This has to be improved to enable quick report generation including IFRs from the system. Woredas on the other hand applied manual accounting.
- **Strengthening the internal audit function:** Internal audit oversight at all levels was very low and lack of internal audit oversight for the majority life of the project was observed. Internal audit units were also affected by staff turnover and they were severely affected by understaffing. Throughout its life, the project had been subject to a review by MoA's internal audit directorate for the first time for the first half of the EFY 2005 (2012/13). The internal audit function should be strengthened as conducting regular internal audits adds value to a system in addressing weaknesses on a real time basis and ensuring that risk aspects are promptly dealt with when they arise.
- **Internal control issues:** The size of advances and regional liquidation of balances transferred to regions was a persistent concern that was challenging for the better part of the project life. Other main issue was property management and controls around properties for which inadequate attention was accorded to.
- **External Audit:** Audit reports were relatively on time but qualified opinions were issued by the auditors. On the other hand recent audit was unqualified but received after the due date. For instance, the current audit that is for the year ended July 7, 2013 has been submitted to the Bank on February 14, 2014 which was a delay of about a month from the deadline. Management letters raised a number of internal control issues that need attention but were usually resolved. The last audit of the project is under review.

IV. Appraisal

14. The main strengths identified during the appraisal include the Government's discipline in executing budget and compliance with the existing government regulations; a good internal control system, including regular post audits by the Internal Audit Departments of the government agencies; Presence of adequately qualified and experienced accounting personnel at the federal level, and most have been trained in Bank's Financial Management and Disbursement Guidelines; experience in managing other IDA projects and presence of internal controls, an internal audit function, a computerized accounting system, and budgeting arrangements in place; oversight role of the National and Regional Project Steering Committees to ensuring audit issues raised in the internal and external audit reports are addressed by the project management. The main challenge noted were inadequate qualified accountants at regional and Woreda level to support the project operations. A major challenge facing the project and government as a whole was retention of skilled staff; staff turnover at the regions and Woreda level due to low pay and remote location; delay in submission of IFRs and project audits and project audit may take time to complete as implementing agencies are spread throughout the country. At appraisal, both the

overall inherent risk and the overall control risk were rated Substantial before and Moderate after taking into account the risk mitigating measures.

V. Implementation support missions

15. Throughout the project's life, FM supervision missions were undertaken as per Bank policies⁵ to ensure that the FM arrangements remained acceptable to the Bank. The missions on the overall focused on assessing the status and adequacy of the project's financial management arrangements. The objective of the assessments was to determine whether the implementing entity's financial management arrangements continue to be adequate with the objective of ensuring that: (i) the project funds were used only for the intended purposes in an efficient and economical way; (ii) the preparation of accurate, reliable and timely periodic financial reports; (iii) the compliance with the legal covenants related to financial management and (iii) safeguard the entities' assets.

16. Based on the overall supervision missions conducted during the life of the project, the overall FM Implementation Status and Results (FM ISR) rating of the project was rated as Moderately Satisfactory for the better part of the life of the Project including recent ones. Both the residual inherent and control risks were rated as Moderate for the most part of the project life. The overall residual risk was also mostly rated as Moderate. As at the close of the project the control risk and the overall project risk were rated to be Substantial and the FM ISR rating of the project was rated as Moderately Satisfactory.

17. The FM supervision missions focuses on the areas of budgeting, accounting, fund flow, internal control, financial reporting and external audit. Based on the implementation support missions conducted, the following were observed as challenges and strengths of the project on the key FM aspects (areas) mentioned above.

a. Budgeting: Budgeting approval process generally followed government procedures and was participatory. However, the project did not aim to stream line its budgeting process to ensure timely budget preparation process and notification to the regions their final budget. There was also difficulty to align annual working budget to government budget (proclaimed vs. actual working budget) in timing as well as in the content. Regarding budget monitoring, there were challenges for the better life of the Project. Woredas were not conducting proper variance analysis as they were considering cash transfers as budget and regions were not providing justification for variances even though they monitor on a quarterly basis budget and actual expenditures. Regions rarely justify for budget variances. Justifications given by the Federal SLMP Support Unit for budget variances, which were usually underutilization, had been the same from quarter to quarter all inclining to implementation issues including procurement issues and capacity constraints/staff issues (staff turnover, capacity, work load, lack of incentives at Woreda level and lack of commitment of Woreda level leadership and technical staff).

⁵ Guidelines issued by Financial Management Sector Board on June 30 2001 and revised on October 1 2003, OP/BP10.02, Financial Management manual issued on Nov 2005 as revised on March 2010.

b. Accounting and Staffing: There was generally good accounting arrangement in place which was adequate to provide the necessary reasonable assurance that the reports being produced by the system can be relied upon to monitor the project. Federal and regional implementing units had applied computerized accounting while most of the Woredas visited were recording and reporting on the project implementation transactions using manual accounting. The federal and regional level implementing units were using Peachtree accounting software but it was indicated in the reports that there was room for further improvement by utilizing the software to its maximum potential including reporting capabilities. The federal and regional implementing units were producing Interim Financial Reports (IFRs) on Excel Spreadsheet by taking data from the monthly reports of lower tier implementing units and from the output of Peachtree software for the Project. Transactions for the most part of the project life were entered on time and accounts were up to date. There was also good filing and record keeping mechanisms.

c. Federal and Regional levels suffered minimum turnover with some at regional level. March 2012 supervision report indicated that the SNNPR was without its own accountant for some time. The federal SLMP Support Unit operated with two accountants for long period of time. Although one additional accountant was hired near the end of the project closing date, gap was noted in most of the supervisions including the last mission. There was also problem of following up and supervision of regions/Woredas. At Woredas however high and frequent staff turnover had been noted. The accountants on the project were government employees assigned who work on SLMP in addition to their normal duties of the Woreda and there is a tendency, because of work load and lack of incentives, to neglect the SLMP activities and this was observed as a major challenge that affected the project. Though not frequent, capacity building initiatives were undertaken by the project.

d. Internal control and internal audit: The overall internal control environment was relatively strong and this was being adhered with for the most part of the project life. Project FM manual that documented accounting and internal control and other procedures was in place and it was adhered with in most cases. One weakness noted in most supervision missions (for the most life of the project) was lack of regular internal audit oversight at all the implementation levels visited. The federal SLMP Support Unit only started to take action at the beginning of the EFY 2005 (2012/13) and the internal audit directorate of the Federal MoA conducted financial audit for the first half year at the federal and two selected regions.

e. Other internal control weaknesses reported through supervision report include failure to properly prepare that bank reconciliation, and failure to reconcile balance with federal and regions. Long outstanding balances and difficulties to settle regional balances were being reported that persistently exist There were also weaknesses in the area of property management, long outstanding receivable and payables and controls and follow up thereof, adequacy of the supporting documents, ineligible expenditures related to tax payments, cash management issues, etc.

f. Fund flow and disbursement: Generally the funds flow from the Bank to the Project was fairly the same over the project life. As can be seen below out of the signed amounts XDR 12.50 million of IDA and USD 9 million of the TF 92320 disbursements 93.40% and 99% respectively were made and there was no cancellation. There are

remaining amounts in the Designated accounts need to be refunded back to the Bank. According to client connection as of Feb 14 2014 there is about USD 487,682.29 to be refunded back. However, there are WAs for documentation submitted being processed and will reduce outstanding balance to about USD 327,000. The project reported that it will refund this balance soon. It is essential that the project refunds the balance to the Bank as promised. The information on the client connection also shows that there are overdraw under category 2 for both the IDA and trust fund of XDR 1,343,299.57 USD 1,343,299.57.

g. Counterpart contributions- It has been indicated in the PAD that the recipient, that is the government, will contribute USD 8.79million towards the project cost over the life of the project. The overall counterpart contribution represented about 23% of the estimated cost of the Project. The Bank followed up on contributions on supervision missions and it was not mostly in line with what was stated in the PAD. Until the close of the project that is September 30, 2013, the project was able to report only USD 2.40 million. The contribution made so far was low. The government reported that the contribution made in kind has not been valued, recorded and properly reported so this could be one reason for the low counterpart contribution.

World Bank Client Connection

Downloaded 14-Feb-2014
Loan: IDA H3770 (GRTD) and TF92320(TF)
Status: Disbursing
Country: Ethiopia
Project: P090789/P107139- Sustainable Land Management Project

	IDA H3770	TF92320(TF)
Funds Available	XDR	USD
Signed Amount	12,500,000.00	9,000,000.00
Cancelled	0	0
Disbursed	11,673,435.63	8,918,415.67
Undisbursed	826,564.37	81,584.33
Special Commitments	15,462.64	1,440.97
Funds Available	811,101.73	80,143.36
Percent Disbursed	93.39%	99.09%

Category Summary H3770				
Category	Category Description	Allocated	Disbursed	Undisbursed
		XDR	XDR	XDR
Totals		12,500,000.00	11,673,435.63	826,564.37
1	Subprojects - Parts A2, A3, A4	8,800,000.00	6,705,293.14	2,094,706.86
2	Goods, Trg, Consultant Serv	3,100,000.00	4,443,299.57	(1,343,299.57)
3	DISB - OPERATING COSTS	600,000.00	350,063.70	249,936.30
4	UNALLOCATED	0.00	0.00	0.00
DA-A	Designated Account	0.00	138,767.72	(138,767.72)
UNA	UN Advances	0.00	36,011.50	(36,011.50)

Category Summary TF92320(TF)				
Category	Category Description	Allocated	Disbursed	Undisbursed
		USD	USD	USD
Totals		9,000,000.00	8,918,415.67	81,584.33
1	Subprojects Part A.2A.3A.4	6,200,000.00	5,087,519.80	1,112,480.20
2	GDS CW TRN CS	2,350,000.00	3,373,716.69	(1,343,299.57)
3	DISB - OPERATING COSTS	450,000.00	271,047.55	178,952.45
DA-AA	Designated Account	0.00	160,935.14	(160,935.14)
UNA	UN Advances	0.00	25,196.49	(25,196.49)

h. UN Advances –As can be seen from client connection, unutilized balance due from UNOPS amounting USD 76,353.01 (Birr 1,369,345.59) had not been refunded back to the World Bank. Notifications were made to UNOPS requesting refund of the remaining resources. UNOPS reported that it will refund the amount by the end of February 2014. The amounts need to be refunded back to the Bank and the Ministry should follow up on this to make it happen.

i. Reporting: In general, the project submitted acceptable quarterly Financial Monitoring reports (FMRs) or IFRs. The reports are usually submitted on time but there were few delays noted over the life of the project including the one prepared on September 30, 2013.

j. Auditing: The project was to submit audit report of its financial statements within 6 months of the year end. Audit reports were relatively submitted on time and recent audits were unqualified. The audit reports for the years ended July 7, 2009, 2010, and 2011 were submitted on time but the audit reports for the year ended July 7 2012 and 2013 were submitted with delays (of about up to month). For all these years (from July 7 2009 to July 7 2011), the auditors issued qualified opinion on the financial statements but the year ended July 7 2012 and 2013 reports were clean (unqualified). Management letter

raised a number of internal control issues that need attention. Some findings had implications as to eligibility. Internal control weaknesses include property management, long outstanding receivable and payables, poor documentation issues, tax payment issues; inter fund balance issues and poor internal control oversight. The project prepared and submitted action plans to address the findings noted in audit reports. The audit report of July 7, 2013 is submitted late and is currently under review.

Annex 4. Economic and Financial Analysis

1. There are at least eight categories of benefits associated with the project, of which half can be readily quantified and the rest can be analyzed qualitatively. Half of these are readily quantified; the rest are discussed qualitatively. Soil retention provides benefits both on site in terms of soil quality and off site in terms of reduced erosion; it can be measured in terms of land savings or erosion prevention. Carbon sequestration in soil can be estimated from measures provided in the Borrower's report. Increased vegetation cover also helps to prevent erosion and improves downstream water quality and is measured as NDVI. Farmer incomes are another category of direct benefits, measured through yield increases in agricultural areas immediately downstream of the intervention areas.

2. Benefits from improved water management include increased soil moisture and reduced variability in terms of flood/drought conditions; however these were not readily measured using the data available. Additional benefits that are not quantified in this analysis include reduced costs to farmers and the wider society of the costs, risks and uncertainty due to poor/prior/weak land management regimes, water quality and water quantity originating in the target watersheds, biodiversity and other environmental services. These categories saw improvement, which contribute to the overall assessment of positive economic benefits, though these are not quantified here. With more effort and cost, risk and water quality and quantity issues could be measured.

3. This analysis focused on the readily quantifiable benefit streams. Where available, project-based data was used, and supplemented that with market information and literature values, where needed. We used conservative assumptions for interest rates and prices, and used ranges of values to address potential uncertainties. Although we calculated soil retention benefits using two different methods, only one was used in the economic analysis to avoid potential double counting; this may have been an excess of caution.

4. The cost benefit analysis was conducted for 25 years with a discount rate of 10% (with a 7% rate included for comparison). This is a quite conservative discount rate for a public investment in land management, because it would undervalue the expected long term benefits.

5. Modeling results reported in earlier SLMP documentation estimated erosion prevention at 52 tons per ha per year. For most variables, data were available for sample areas or watersheds, not the entire project intervention zone. To maintain the conservative economic approach, and consider a range of estimates, we applied site specific or sample-based information to 60,000 hectares, which was the area of intensive intervention. For a higher end range, we considered that an additional 60,000 ha would be affected beneficially in a wider landscape impact zone. The soil carbon figure, a 1% incremental change in soil carbon, is drawn from the borrower's completion report and valued conservatively. NDVI and soil retention figures rely on average prices for land, soil and farmer incomes before project interventions.

6. The results are reported in the table below. This shows that even with the most conservative estimates and only a portion of the benefits quantified, the project benefits exceed the costs. With more generous prices and discount rate assumptions, the benefits exceed the costs substantially.

7. Estimated economic benefits exceed US\$3 million per year, which results in a net present value of nearly US\$30 million using the assumptions indicated above and in the table. Using the higher range assumptions of impact in a wider area, these benefits double to nearly US\$60

million. Using a less conservative discount rate of 7% would bring the benefit estimate in the high case scenario to over US\$75 million. At the low end, the IRR is calculated as 10.4% and the high end range is 22.6%. Soil retention benefits account for about 33% of the benefits stream, carbon sequestration about 41%, vegetation cover about 5% and farmer incomes about 20%. Of course, all these benefits leave out the value of water retention, water quality, biodiversity, resilience building and risk reduction. Quantifying more of the benefits would, of course, raise the overall value of the project. For this reason, we are confident that even at the low end of the quantified range, the project costs were justified by the benefits achieved.

ETHIOPIA SLMP		Cost-Benefit Analysis for ICR						
BENEFIT CATEGORIES		Post Change	Units and Notes	Affected Area, Notes	Period, Years	\$ per unit (from Birr)	Annualized Value (rounded)	
							USD/year	USD/year
Quantified Benefit Streams							Low Estimate	High Estimate
1a	Soil - Estimate 1 (not used in final calculation to avoid double counting)							
	"Annual savings of land" (following Hurni)	62	Average "ha saved" per 10,000 ha watershed	70 % of watersheds vs all watersheds	1	\$307.00	\$670,000	\$860,000
1b	Soil - Estimate 2							
	Erosion Prevented in tons	52	Level of net erosion prevented (ton/ha/yr)	Conservative = 60k ha intervention zone	1	\$0.35	\$1,090,000	\$2,180,000
2	Carbon							
	Increased soil carbon, from Borrower report (conservative)	20	Tons per ha (=1% incremental change in soil carbon, per PCR)	High end = 120k ha wider landscape impact zone	4	\$4.50	\$1,350,000	\$2,700,000
3	Vegetation Cover (proxy for ag & downstream benefits)							
	Normalized Difference Vegetative Index	2%	Increase in vegetation for fodder, nutrient and water retention		4	\$600.00	\$180,000	\$360,000
4	Farmer Incomes							
	Yield increases, farmer reported	7.5%	5-10% reported		4	\$600.00	\$680,000	\$1,350,000

Economic Assumptions	
Benefit Stream, Period in Years	25
High discount rate (conservative)	10%
Lower discount rate (sensitivity)	7%

Note: All figures are converted to annual changes for final calculations

SUMMARY CALCULATIONS		
ANNUAL TOTAL	\$3,300,000	\$6,590,000
NPV: 10% 25 years	\$29,930,000	\$59,850,000
NPV: 7% 25 years	\$38,420,000	\$76,840,000
Initial Investment	\$29,000,000	\$29,000,000
B/C Ratio: 10%, 25 yrs	1.03	2.06
IRR	10.41%	22.60%

Annex 5. Bank Lending and Implementation Support/Supervision Processes

(a) Task Team members

Names	Title	Unit	Responsibility/ Specialty
Lending			
Arianna Legovini	Advisor	DECIE	
Berhane Manna	Sr Agriculturalist	AFTA3	
Edith Ruguru Mwenda	Senior Counsel	LEGAM	
Ernst Lutz	Consultant	AFTA1	
Eshetu Yimer	Sr Financial Management Specialist	AFTME	
Herbert Acquay	Sector Manager	SASDI	TTL at time of Appraisal and Board approval
John A. Boyle	Consultant	AFTWR- HIS	
Matteo Marchisio	Consultant	AFTN1	
Samuel Haile Selassie	Sr Procurement Specialist	SARPS	
Sarah Keener	Sr Social Development Spec	LCSSO	
Wendy A. Wiltshire	Consultant	AFTA2	
Supervision			
Edward Dwumfour	Task Team Leader	AFTN3	
Andrew Osei Asibey	Sr M&E Specialist	AFTDE	
Abiy Demissie Belay	Sr Financial Management Specialist	AFTME	
Chukwudi H. Okafor	Sr Social Development Spec	AFTCS	
Enos E. Esikuri	Sr Environmental Specialist	LCSEN	
Lakech Tsegaye	Program Assistant	TWIWP	
Menberu Allebachew	Sr Land Administration Special	AFTA3	
Meron Tadesse Techane	Financial Management Specialist	AFTME	
Million Alemayehu Gizaw	Consultant	AFTN3	
Richard Olowo	Lead Procurement Specialist	AFTPE	
Salimata D. Follea	Natural Resources Mgmt. Spec.	AFTN1	
Satish Kumar	Consultant	AFTCS	
Shimelis Woldehawariat Badisso	Sr Procurement Specialist	AFTPE	
Yasmin Tayyab	Sr Social Development Spec	AFTCS	

Note: ICR team includes: Stephen Danyo (TTL); Dinesh Aryal (co-TTL); Michael Carroll (Lead Author); Timothy Brown (Sr Environmental Specialist); Million Gizaw (Consultant); Aurore Simbananiye (Program Assistant); and Mistre Hailemariam (Team Assistant).

(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		
2005	2.73	48,561.64
2006	9.61	87,321.20
2007	50.36	222,313.15
2008	57.63	339,891.08
Total:	120.33	698,087.07
Supervision/ICR		
2009	50.22	157,996.87
2010	28.58	102,398.72
2011	38.33	144,629.70
2012	20.21	114,695.58
2013	16.79	98,081.02
2014	11.29	64,779.30
Total:	165.42	682,581.19

Annex 6. Summary of Borrower's ICR and/or Comments on Draft ICR

1. The GoE's Project Completion Report (PCR) describes the SLM Project and broader SLM Program in terms of entry, funding, components, implementation arrangements, key factors affecting implementation and outcomes. It identifies challenges faced and lessons learnt in the process of planning and implementation, and provides recommendations to support the effective realization of outputs and outcomes planned during SLMP II.

2. The PCR reviewed seven SLM Program components financed by either the Bank or by development partners. The components included those financed by the World Bank: (a) Watershed Management; (b) Land Registration and Administration; and (c) Project Management; and the those financed by other development partners: (a) Knowledge Management; (b) Improved Framework Conditions for effective implementation of SLM; (c) Strengthening of Implementation Structures for Watershed Development; and (d) Agricultural Extension Service for SLM. Two components were incorporated about two years after the effectiveness of the Bank-financed SLMP-1 operation.

3. The major sources of information for the PCR were regional SLM implementation records, primary field data, Indicator Assessment Report, Annual Progress Reports of the PCU, Joint Implementation Monitoring Mission (JIMM), Project Appraisal Document (PAD), Project Implementation Manual (PIM), and Result-Based Monitoring document of the project.

4. In general, the implementation performance of SLM project and broader Program has been satisfactory. At the output level, the project has accomplished 76% of planned activities, for which progress data have been availed and comparison of planned targets and accomplishments has been possible. In some of the SLM Woredas and watersheds, activities expected under the watershed management sub-components did not commence uniformly, while the initial quality and scale of the biophysical measures undertaken were not fully satisfactory as they were during the last couple of years.

5. At the outcome level of the Watershed Management component, a total of 110,435 ha of individual farmlands and 99,492 ha of communal lands have been covered under SLM practices until September 2013, representing 99% of the original target. In the process, SLM SWC measures have been applied on 24.4% of the area under individual land holdings and 29.8% of communal lands. Of the 39 promoted measures, the most frequently applied were: (a) Bunds; (b) *Fanya-juu*; (c) Waterway; (d) Cut-off drain; and (e) terrace constructions. Regionally, Tigray has been described as the region with the highest frequency of landholders applying two or more different SLM measures, which indicates that farmers in Tigray are more innovative with regard to SLM than farmers in other regions. Conversely, In Gambella and Benishangul Gumuz regions, there are some deviations in applying the PIM and CBPWDG. This could be attributed to the late starting of SLM activities and relative shortage of key staff to fully take hold of all SLM-related responsibilities.

6. With respect to the project development and intermediate level indicators, in many of the visited micro-watersheds, participants of Focus Group Discussions (FGDs) reported short-term increase of 5-10% for common crops grown on conserved lands. At the outcome level, the monitoring survey conducted in 15 SLM watersheds to assess the new level of soil carbon that

could be resulting from the implementation of adopted technologies, revealed that all watersheds had attained their targets above the envisaged level. The survey result generally suggested that: (a) The bio-physical measures applied in SLM watersheds were appropriate; (b) Soil erosion events have reduced; (c) It has been possible for agricultural productivity and production to increase; (d) Farmers' resilience to climatic change has been on the positive side; and (e) Attainment of PDO is on the right track. In relation to watershed rehabilitation in SLM intervention areas, the Normalized Difference Vegetation Index (NDVI) value of 2% annual increase reflected gradual regeneration of closed areas, rehabilitation of communal grazing areas and hillsides; and improved performance of crops grown on individual farmlands.

7. Factual evidences for the contribution of the Watershed Management component to the PDO are: (a) Increase in the area under sustainable land management practices in targeted watersheds by 99%; (b) 5-10% increase in agricultural productivity of dominant crops according to beneficiaries; (c) Increase in NDVI and the amount of carbon sequestered in soil over expected outcome; and (d) encouraging proportion (85%) of households that have adopted one or more sustainable land management practices on their land as a result of SLM project/program interventions.

8. Regarding capacity building outputs, 94% of the planned activities was accomplished. The assessment made in Amhara, Oromia and Tigray regions showed that 43% of Development Agents (DAs) and 70% of Wereda Experts in these regions use at least one SLM knowledge products of MoA's Knowledge Management System (KMS). Of those activities, remarkable performances were registered in the establishment of watershed committees and teams, and awareness creation and technical trainings. However, technical capacity building in physical and biological measures, supplies of farm inputs and conservation tools have remained insufficient in terms of quantity and quality.

9. Implementation of communal land treatment reached 60% of the target. In spite of lower achievement rate, the benefits and signs of development have been satisfactory given the existing level of technical capacity, terrain difficulties, and the time horizon needed to realize intended changes. Application of various conservation technologies has contributed not only to reduce soil erosion but also to increased percolation of water.

10. Accomplishment in construction of community infrastructure has been only 56% with better performance in small scale irrigation expansion and community road construction. The size and magnitude of all infrastructures constructed seemed to be limited in relation to larger demand for the facilities. However, community feeder roads have opened access to local markets for farm products and agricultural inputs, access to health and education, and higher participation in civic affairs.

11. Performance in income generation activities reached 69%, mainly by assisting farmers to engage in beehives, goat and sheep raising, poultry and horticulture production, and dairy products. The number of beneficiary households reached 16,819 of which an estimated 40% were female and the remaining 60% male. Of those trained, 10,823 received financial and material support. Introduction of income generating opportunities enhanced farmers' confidence on the various conservation measures practiced on individual farmlands and communal grazing

areas. SLMP also offered livelihood opportunities to the youth, particularly in setting up user-groups and becoming beneficiaries of employment and gaining skills in cadastral surveying, land registration and income generation linked to natural resources. However, assistance for the establishment and functionality of user groups (unemployed youth, female or others) to engage in protection and utilization of the assigned common natural resources has not been so high due to limitation of technical and financial supports and problem of implementing bylaws on the protection of natural resources.

12. With regard to Land Registration and Administration, a total of 59,999 households have received second level certificate. This has been 109% of the target revised by the PCU and only 2.1% of the initial target value. As a result, 98.6% of landholders in the project areas feel more secure with the land holding certificate, and 71% explained that disputes and/or conflicts on land use have significantly reduced. There is an increased sense of ownership by farmers and implementation of soil and water conservation measures on farmland has increased substantially.

13. Regarding Project Management (PM), achievements in relation to the original target value averaged 78%. In line with developing participatory watershed development plans at sub-watershed level, 75% of the target planned during the implementation period had been accomplished. Activities such as sample watershed planning, collecting and compiling of sub-watershed plans, delineating critical and sub-watershed boundaries using GPS and topographic maps were achieved far over the plans as the result of continued technical and financial supports provided by GIZ. The component enabled systematic use of the ESMF to screen proposed project interventions before approval. Since 2012, screening of activities using the ESMF has been an integral part of watershed plans. However, there have been no further assessments done with respect of locations-specific impacts that could be associated with works related to new construction or rehabilitation of roads, irrigation facilities, and spring development.

14. The contribution of PM to PDO and GEO was indirect and could only be perceived in connection to its contribution to the Watershed Management component of the project. Currently, SLM Knowledge Management Systems has not been fully systematic and its products and inputs have not been adequately and regularly distributed. However, web-based service training was provided, a website was developed, and technical publications, newsletters, brochures, posters and manuals were produced.

15. SLMP had considerable impact on women, mainly through the issuance of first level certificates. The certification enabled women to acquire equal rights in landholdings since land certificates bear rights for both husband and wife. The percentage share of women in land certification has been above average (41.6%), while for other activities the participation of female-headed households and individual female beneficiaries has been 37%.

16. The functionality of SLM implementation arrangements and structures is in place and the responsibilities expected at all levels of mandates are generally satisfactory. SLM functions under existing government structure are dependable and there are promising grounds for the sustainability of SLM outcomes, results and best practices. Beside this, there is a general understanding that the Steering Committees and Technical Committees formed at the regional and Wereda level are, to a certain extent, functional and involved in coordinating and providing

support to SLMP implementation. However, some members of the committees hardly perform their duties as expected and there appears to be a better record of committee meetings at the Kebele level compared to regional and Woreda committees.

17. The federal level SLM PCU is overloaded despite the relentless efforts of its staff. The problems mainly lie in the management of monitoring and reporting flows resulting from delays and incompleteness at the Woreda and regional levels. The number of staff for M&E and project coordination was insufficient to address these constraints.

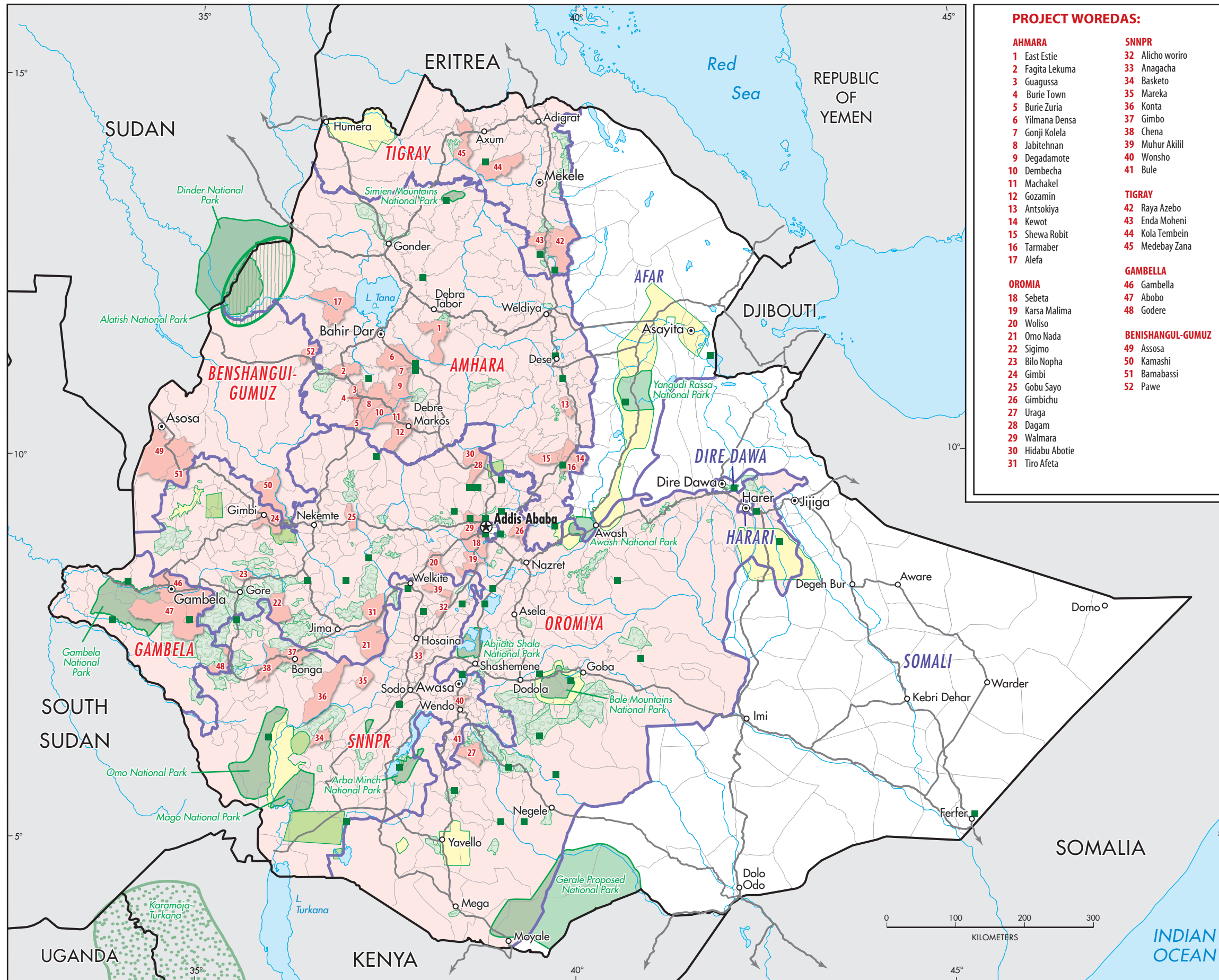
18. The MoA laid a strong base in the arrangement of SLM partnership beginning from the very inception of the project. In particular, the collaborative concern of the World Bank to reshape and design the project and the roles played by other development partners such as IDA/GEF, EU, GDC/GIZ, KfW, the Government of Norway, Canadian Government and the Government of Finland reveals the extent to which partnership arrangements have been strong towards the effectiveness and successful implementation of SLM. The World Bank had an immense contribution in designing the SLM project. The PAD became the cornerstone for the preparation and use of SLM PIM and RBM&E documents which are being used for training and application at all level of implementation. The Bank's financial contribution accounted for 77% of the initial fund availed for the project and about 22% of the overall contribution of the development partners. Its guidelines and arrangements for fiduciary compliances and safeguard policies had contributed to the prevalence of standard working systems and improvement of skills in financial management and procurement.

Annex 7. Comments of Cofinanciers and Other Partners/Stakeholders

No comments were received on the draft ICR.

Annex 8. List of Supporting Documents

1. Borrower Completion Report, Delta Consulting, January 2014
2. Community Based Participatory Watershed Management Guidelines - Ministry of Agriculture and Rural Development, January 2005
3. Continuous NDVI analysis in 35 World Bank funded SLM Watersheds in Ethiopia from 2008-2013 (Sept 2013)
4. GEF Grant Agreement, July 16, 2008
5. IDA Financing Agreement, June 13, 2008
6. ISRs Sequence 1 to 9
7. Mission Aide Memoires
8. Project Appraisal Document (PAD), 2008
9. Project Implementation Manual- Revised Version, 2011
10. Project Restructuring Paper, February 2013
11. SLMP Annual Progress Reports, Ministry of Agriculture, 2009-2013
12. Soil Carbon Change Report, December 31, 2013



PROJECT WOREDAS:

AHMARA	SNNPR
1 East Estie	32 Alich woriro
2 Fagita Lekuma	33 Anagacha
3 Guagussa	34 Basketo
4 Burie Town	35 Mareka
5 Burie Zuria	36 Konta
6 Yilmana Densa	37 Gimbo
7 Gonji Kolela	38 Chena
8 Jabitehnan	39 Muhur Akilil
9 Degadamote	40 Wonsho
10 Dembecha	41 Bule
11 Machakel	
12 Gozamin	TIGRAY
13 Antsokiya	42 Raya Azebo
14 Kewot	43 Enda Mohehi
15 Shewa Robit	44 Kola Tembein
16 Tarmaber	45 Medebay Zana
17 Alefa	
OROMIA	GAMBELLA
18 Sebeta	46 Gambella
19 Karsa Malima	47 Abobo
20 Woliso	48 Godere
21 Omo Nada	
22 Sigimo	BENISHANGUL-GUMUZ
23 Bilo Nopha	49 Assosa
24 Gimbi	50 Kamashi
25 Gobu Sayo	51 Bamabassi
26 Gimbichu	52 Pawe
27 Uruga	
28 Dagam	
29 Walmara	
30 Hidabu Abotie	
31 Tiro Afeta	

ETHIOPIA SUSTAINABLE LAND MANAGEMENT PROJECT 1

- PROJECT REGIONS/STATES
- 1** PROJECT WOREDAS
- TRANSBOUNDARY ENVIRONMENTAL CONSERVATION ACTIVITIES
- WILDLIFE AREA/POTENTIAL PROTECTED AREA
- IBA SITES
- NATIONAL PARKS
- PROTECTED AREAS
- SANCTUARIES
- FOREST PRIORITY AREAS
- MAIN ROADS
- SELECTED CITIES AND TOWNS
- REGION/STATE CAPITALS
- NATIONAL CAPITAL
- WOREDA BOUNDARIES
- REGION/STATE BOUNDARIES
- INTERNATIONAL BOUNDARIES

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