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Report No: PAD4136

INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT
AND INTERNATIONAL DEVELOPMENT ASSOCIATION

PROJECT APPRAISAL DOCUMENT

ON A PROPOSED GREEN CLIMATE FUND LOAN
IN THE AMOUNT OF US\$ 107,174,255

A PROPOSED GREEN CLIMATE FUND GRANT
IN THE AMOUNT OF US\$ 58,063,337

AND A PROPOSED GRANT FROM PROGREN
IN THE AMOUNT OF US\$ 13,000,000

TO
THE FEDERAL DEMOCRATIC REPUBLIC OF ETHIOPIA

FOR A

SECOND ETHIOPIA RESILIENT LANDSCAPES AND LIVELIHOODS PROJECT

{RVP/CD CLEARANCE DATE}

{Environment, Natural Resources & The Blue Economy Global Practice}
{Africa East Region}

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CURRENCY EQUIVALENTS

(Exchange Rate Effective {Dec. 31, 2020})

Currency Unit = Ethiopian Birr

39.1910 = US\$1

FISCAL YEAR

January 1 - December 31

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ABBREVIATIONS AND ACRONYMS

AGP2	Second Agricultural Growth Program
ATA	Agricultural Transformation Agency
BoA	Bureau of Agriculture
BoLEP	Bureau of Land and Environmental Protection
BCR	Benefit Cost Ratio
CALM	Climate Action through Landscape Management Program
CBPWDG	Community Based Participatory Watershed Development Guidelines
CIG	Common Interest Group
CO2-eq	Carbon Dioxide Equivalent
CPF	Country Partnership Framework
CRGE	Climate-Resilient Green Economic Strategy
CRI	Corporate Requirement Indicator
CSA	Climate Smart Agriculture
CSR	Corporate Social Responsibility
CSRSP	Community Storage Receipts Program
CWT	Community Watershed Teams
DA	Development Agent
DFIL	Disbursement and Financial Information Letter
EPSI	Ethiopian Policy Studies Institute
EFA	Economic and Financial Analysis
EFCCC	Environment, Forestry and Climate Change Commission
EIRR	Economic Internal Rate of Return
ENPV	Economic Net Present Value
ESIF	Ethiopian Strategic Investment Framework
ESMF	Environment and Social Management Framework
ESF	Environmental and Social Framework
ESRM	Environmental and Social Risk Management
ETB	Ethiopia Birr
EWCA	Ethiopian Wildlife and Conservation Authority
EX-ACT	The Ex-Ante Carbon-balance Tool
FA	Funded Activity
FAA	Funded Activity Agreement
FAO	Food and Agriculture Organization
FIRR	Financial Internal Rate of Return
FNPV	Financial Net Present Value
GCF	Green Climate Fund
GDP	Gross Domestic Product
GHG	Greenhouse Gas
GIZ	Gesellschaft für Internationale Zusammenarbeit
GoE	Government of Ethiopia
GTP II	Growth and Transformation Plan II
ha	Hectare

IDA	International Development Association
IE	Impact Evaluations
IFR	Interim Financial Report
IGA	Income Generating Activities
INSA	Information Network Security Agency
KMC	Knowledge Management and Communication
KWDC	Kebele Watershed Development Committees
LIFT	Land Investment for Transformation (programme)
LMP	Labor Management Procedures
LSWI	Land Surface Water Index
MDTF	Multi-Donor Trust Fund
MoA	Ministry of Agriculture
MoF	Ministry of Finance
MoWCYA	Ministry of Women, Children and Youth Affairs
MOWIE	Ministry of Water, Irrigation and Electricity
MYDP	Multi-Year Development Plan
NDVI	Normalized Difference Vegetation Index
NRLAIS	National Rural Land Administration Information System
NPV	Net Present Value
NSC	National Steering Committee
NTC	National Technical Committee
PCU	Project Coordination Unit
PDO	Project Development Objective
PES	Payment for Ecosystem Services
PFM	Public Financial Management
PforR	Program for Results
PSNP	Productive Safety Net Program
REILA	Responsible and Innovative Land Administration Project
RLAUD	Rural Land Administration and Use Directorate
RLLP	Resilient Landscapes and Livelihoods Project
RLLP II	Second Resilient Landscapes and Livelihoods Project
RSC	Regional Steering Committee
RVP	Regional Vice Presidency
SEP	Stakeholder Engagement Plan
SLLC	Second Level Landholding Certificates
SLM	Sustainable Land Management
SLMP	Sustainable Land Management Project
SLWM	Sustainable Land and Water Management
SME	Small and Medium Enterprises
tonne	Metric tonne
UAV	Unmanned Aerial Vehicles
USD	United States Dollar
WFA	World Bank Group Financing and Accounting
WLRC	Water and Land Resource Centre (Addis Ababa University)
WoA	Woreda Office of Agriculture
WO/P	Without Project

W/P	With Project
WsUA	Watershed User Association
WUCS	Watershed Users' Cooperative Society



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DATASHEET

BASIC INFORMATION

Country(ies)	Project Name	
Ethiopia	Second Ethiopia Resilient Landscapes and Livelihoods Project	
Project ID	Financing Instrument	Environmental and Social Risk Classification
P174385	Investment Project Financing	Substantial

Financing & Implementation Modalities

<input type="checkbox"/> Multiphase Programmatic Approach (MPA)	<input type="checkbox"/> Contingent Emergency Response Component (CERC)
<input type="checkbox"/> Series of Projects (SOP)	<input type="checkbox"/> Fragile State(s)
<input type="checkbox"/> Performance-Based Conditions (PBCs)	<input type="checkbox"/> Small State(s)
<input type="checkbox"/> Financial Intermediaries (FI)	<input type="checkbox"/> Fragile within a non-fragile Country
<input type="checkbox"/> Project-Based Guarantee	<input type="checkbox"/> Conflict
<input type="checkbox"/> Deferred Drawdown	<input type="checkbox"/> Responding to Natural or Man-made Disaster
<input type="checkbox"/> Alternate Procurement Arrangements (APA)	<input type="checkbox"/> Hands-on Enhanced Implementation Support (HEIS)

Expected Approval Date	Expected Closing Date
12-Mar-2021	30-Apr-2026

Bank/IFC Collaboration

No

Proposed Development Objective(s)

To improve climate resilience, land productivity and carbon storage, and increase access to diversified livelihood activities in selected rural watersheds.



Components

Component Name	Cost (US\$, millions)
Green Infrastructure and Resilient Livelihoods	155.17
Investing in Institutions and Information for Resilience	16.87
Project Management and Monitoring	6.20

Organizations

Borrower: Ministry of Finance
 Implementing Agency: Ministry of Agriculture

PROJECT FINANCING DATA (US\$, Millions)

SUMMARY

Total Project Cost	178.24
Total Financing	178.24
of which IBRD/IDA	0.00
Financing Gap	0.00

DETAILS

Non-World Bank Group Financing

Trust Funds	178.24
Green Climate Fund	165.24
Global P'ship for Sust. and Resilient Landscapes - PROGREEN	13.00

INSTITUTIONAL DATA

Practice Area (Lead)

Environment, Natural Resources & the Blue Economy

Contributing Practice Areas

Agriculture and Food, Climate Change, Energy & Extractives



SYSTEMATIC OPERATIONS RISK-RATING TOOL (SORT)

Risk Category	Rating
1. Political and Governance	● Substantial
2. Macroeconomic	● Moderate
3. Sector Strategies and Policies	● Moderate
4. Technical Design of Project or Program	● Moderate
5. Institutional Capacity for Implementation and Sustainability	● Substantial
6. Fiduciary	● Substantial
7. Environment and Social	● Substantial
8. Stakeholders	● Substantial
9. Other	● Moderate
10. Overall	● Moderate

COMPLIANCE

Policy

Does the project depart from the CPF in content or in other significant respects?

Yes No

Does the project require any waivers of Bank policies?

Yes No

Have these been approved by Bank management?

Yes No

Is approval for any policy waiver sought from the Board?

Yes No



Environmental and Social Standards Relevance Given its Context at the Time of Appraisal

E & S Standards	Relevance
Assessment and Management of Environmental and Social Risks and Impacts	Relevant
Stakeholder Engagement and Information Disclosure	Relevant
Labor and Working Conditions	Relevant
Resource Efficiency and Pollution Prevention and Management	Relevant
Community Health and Safety	Relevant
Land Acquisition, Restrictions on Land Use and Involuntary Resettlement	Relevant
Biodiversity Conservation and Sustainable Management of Living Natural Resources	Relevant
Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities	Relevant
Cultural Heritage	Relevant
Financial Intermediaries	Not Currently Relevant

NOTE: For further information regarding the World Bank’s due diligence assessment of the Project’s potential environmental and social risks and impacts, please refer to the Project’s Appraisal Environmental and Social Review Summary (ESRS).

Legal Covenants

Conditions



I. STRATEGIC CONTEXT

A. Country Context

1. **Located in the Horn of Africa, Ethiopia covers an area of 1.1 million km², and is the second most populous country in Sub-Saharan Africa. With an estimated population of about 100 million¹ rural dwellers comprise approximately 80.5 percent.** Ethiopia has achieved substantial progress in economic, social, and human development over the past decade. Growth has averaged nearly 11 percent per year since 2004 and extreme poverty² fell from 55 percent in 2000 to 26.7 percent in 2016, one of the most impressive poverty reduction results recorded globally. The *per capita* income of Ethiopia was US\$790 in 2019.³ Low levels of inequality have largely been maintained but vulnerability to returning to poverty remains high, especially for those engaged in rain-fed agriculture. The natural resource base remains the foundation for most livelihoods and is subject to considerable environmental and climate risks.

2. **The main objectives under the Government of Ethiopia's Growth and Transformation Plan (GTP I and II) are for Ethiopia to become a middle-income country by 2025 through average annual real growth of 10-11 percent.** GTP-II, under implementation for the period 2015–2020, emphasizes industrialization, urbanization, and export promotion. The Government of Ethiopia (GoE) is finalizing its ten-year Perspective Development Plan (2020-30). One of the development plan's six pillars is the Climate Resilient Green Economy (CRGE) Strategy, which seeks to build resilience to climate change and develop a green economy while realizing the national ambition of reaching a middle-income status by 2025. Building productive and resilient rural landscapes, including sustainable agriculture and land management, is a key component of the CRGE. Other pillars of the development plan include quality economic growth; competitiveness and efficiency; institutional transformation; gender and youth; and private sector development.

3. **Land degradation affects millions of rural Ethiopians and reduces their resilience to climate change.** The minimum estimated annual cost of land degradation in Ethiopia is 2-3 percent of agricultural gross domestic product (GDP), before accounting for downstream effects such as increased flood risk.⁴ By reducing soil fertility and agricultural yields, land degradation undermines livelihood security. However, sustainable land management (SLM) practices offer an opportunity to build resilience, mitigate climate change and boost local livelihoods. Ethiopia has made significant progress over the past 13 years to restore degraded watersheds. Successful remediation has been achieved through improved natural resource management and resource rights, livelihood diversification, and gender outreach in targeted degraded watersheds. Restoration and improved management of land at the watershed level has also yielded climate co-benefits, by increasing vegetative cover and soil carbon content, reversing years of carbon loss through carbon sequestration.⁵

4. **Ethiopia is among the most vulnerable countries to climate change and variability.** In addition to being exposed to severe climate impacts and having a highly climate-sensitive economy, Ethiopia's adaptive capacity is low due to development constraints. Against the backdrop of a changing climate, reductions in the poverty headcount since 2000 are very fragile. Over the past three decades, Ethiopia has experienced many localized drought events and seven major droughts. The most prominent observed climate change trend has been a tendency toward lower rainfall during the main growing seasons (March–May and December–February). Changing rainfall patterns are expected to play a significant role

¹ Based on a 2015 estimate.

² Extreme poverty is measured as consuming less than US\$1.90 (2011 Purchasing Power Parity) a day.

³ World Bank, "World Bank in Ethiopia - Overview". Last modified in Sep 26, 2019, <https://www.worldbank.org/en/country/ethiopia/overview>.

⁴ World Bank. 2007. The Cost of Land Degradation in Ethiopia: A Review of Past Studies.

⁵ Gebreselassie, S., O.K. Kirui, and A. Mirzabaev (2016). Economics of Land Degradation and Improvement in Ethiopia. Chapter 14. In E. Nkonya et al. (eds.), Economics of Land Degradation and Improvement – A Global Assessment for Sustainable Development.



in agricultural production and harvest seasons, with later onsets expected to impact the production of cereal yields.⁶ Meanwhile, flash floods occur regularly throughout the country, particularly after a long dry spell. Floods are occurring with more frequency and intensity across the country due to vulnerabilities imposed by high rates of deforestation, land degradation, increasing climate variability, and urban and rural settlement patterns. Mean annual temperature in Ethiopia has increased by an average of 1°C since 1960, at an average rate of 0.25°C per decade.⁷ The number of ‘hot days’ has increased by 20%, accompanied by declines in the number of cold days.⁸

5. **The current locust outbreak, which is the worst in decades may undermine development gains and threaten the food security and livelihoods of millions of Ethiopians.** Between January and March 2020 alone, the outbreak affected over 156 woredas (districts) across 6 Regional States. The swarms, which have devastated nearly 1.5 million hectares of land, have so far cost Ethiopia an estimated \$43.2 million loss of staple crops and livestock. Studies have shown that increased intensity in cyclone activity of the Indian Ocean Dipole, linked to climate change, has led to wetter conditions and better breeding grounds for locusts.⁹ Future projections suggest that the type of cyclone events that may have led to the current pest outbreak could increase in the future.¹⁰

6. **The outbreak of the Coronavirus Disease 2019 (COVID-19) pandemic is seriously threatening Ethiopia’s gains in growth and poverty reduction.** The Government of Ethiopia declared a state of emergency under Article 93 of the constitution on April 8, 2020. Since then, the spread of COVID-19 has accelerated in Ethiopia and negative economic impacts are increasing rapidly. As of the end of August 2020, the country is hitting daily highs in reported COVID-19 cases (over a thousand). The economic and social impact of COVID-19 in Ethiopia is expected to be significant and prolonged, and authorities are facing an unanticipated financing gap of 1.5 percent of GDP (about US\$1.5 billion) in FY21. More than half of recently surveyed households reported their incomes were either reduced or had totally disappeared.¹¹ There are additional challenges of unemployment, as more people, particularly in urban areas, are losing jobs, as well as food security, increasing the need to expand safety nets. By the end of 2020, an estimated 1.4 million jobs, accounting for 19 percent of current employment, are threatened due to the crisis. The worst of the COVID-19 crisis seems yet to come, both on the health and economic fronts, and authorities do not have enough funding for the warranted expansion of safety nets and employment support.

7. **The situation in Tigray remains volatile.** The Ethiopian government declared a state of emergency for the Tigray Region on November 4 and Ethiopian Defense Forces captured the region’s capital on November 29, 2020. Communication with Tigray remains limited, hampering the availability of reliable information. The UN has reported that 2.3 million persons are in need of humanitarian assistance and over 50,000 refugees have fled from Tigray to neighboring Sudan. There are also reports of the destruction of major infrastructure. The federal government has appointed an interim administration and announced its intent to rebuild and provide social services in the region.

8. **WBG-financed activities in Tigray Region have been paused.** Ongoing and planned WBG-financed activities in the region would resume as soon as circumstances permit, with an expectation of compensating for the period where

⁶ World Bank Climate Change Knowledge Portal (CCKP): <https://climateknowledgeportal.worldbank.org/country/ethiopia/vulnerability>

⁷ Ethiopia Climate Risk Profile, World Bank Climate Change Knowledge Portal, 2020.

⁸ McSweeney, C., New, M., and Lizcano, G. (2009). UNDP Climate Change Country Profiles – Ethiopia. URL: https://digital.library.unt.edu/ark:/67531/metadc226682/m2/1/high_res_d/Ethiopia.hires.report.pdf

⁹ IGAD Climate Prediction and Applications Centre: <https://www.icpac.net/publications/climate-change-and-locust-outbreak-east-africa/>.

¹⁰ Stabilized frequency of extreme positive Indian Ocean Dipole under 1.5 °C warming, Nature, 2018.

¹¹ World Bank, 2020. “Phone Survey Data: Monitoring COVID-19 Impact on Firms and Households in Ethiopia”.

<https://www.worldbank.org/en/country/ethiopia/brief/phone-survey-data-monitoring-covid-19-impact-on-firms-and-households-in-ethiopia>



implementation has been effectively paused. The fast-changing situation on the ground is being monitored closely to inform dialogue with the authorities on when and how resumption of WBG-financed activities can occur.

B. Sectoral and Institutional Context

9. **Since the 1970s, the GoE has recognized the problem of land degradation as a major challenge to the country's growth and stability.** Due to its impact on agricultural productivity alone, soil erosion currently costs the economy of Ethiopia about \$305 million per year.¹² Based on Ethiopia's experience to date, the cost of inaction to address land degradation is estimated to be 4.4 times greater than the cost of preventative action through SLM.¹³

10. **Climate change is likely to accelerate the levels of land degradation and soil erosion.** Land degradation in Ethiopia has proceeded at an alarming rate and will be increasingly aggravated by climate change. From 1981 to 2003, 296,812 km² (29.7 million ha) of land have been degraded, affecting a population of 20.65 million, approximately one in five people in Ethiopia. Analysis by the Water and Land Resource Centre (WLRC) of Addis Ababa University using soil loss equations calibrated using historical data from two monitoring stations within the project area in conjunction with the IPCC's RCP4.5 scenario for 2050, show that soil erosion is expected to increase by 7-10% per year and, in the more extreme scenarios, could increase by as much as 40-70% per year by 2050 due to climate change in the absence of interventions to improve land management.¹⁴

11. **Climate change complicates efforts to increase food production and improve food security.**¹⁵ The impacts on crop productivity could lead to impacts on prices, production, and consumption, as well as per capita calorie consumption and child malnutrition. Conservative estimates suggest that climate change, partly as a result of increased soil erosion, will reduce agricultural crop productivity in Ethiopia by 5-10% by 2030¹⁶ and thereby reduce Ethiopia's GDP up to 10% by 2045. Decreased agricultural crop productivity would aggravate existing social and economic challenges as more than 80% of Ethiopians are engaged in subsistence rain-fed agriculture. Meanwhile, farms are already under significant climate stress. Low adaptive capacity contributes to high vulnerability in the proposed project area. A study of vulnerability in the Tigray Region concluded that districts most vulnerable to climate change and variability overlapped with districts with poorer populations.¹⁷ Households that lack basic economic and social resources also lack the means to undertake adaptive measures or respond to climate shocks.

12. **Over 10 years, IDA Investment Project Financing (IPF) under Sustainable Land Management Project (SLMP) I, and SLMP II has helped restore productive capacity and build resilient livelihoods in 135 major watersheds in Ethiopia's highlands in the context of Ethiopia's Strategic Investment Framework (ESIF) for SLM.** Through soil and water conservation structures and enclosures to limit free grazing, and afforestation or reforestation of more than 80,000 ha, these activities have led to an average of 9 percent increase in vegetation cover in treated watersheds. Complementing these physical interventions, IDA financing through SLMP II has strengthened the Ministry of Agriculture's (MoA) support

¹² Gebreselassie, S., O.K. Kirui, and A. Mirzabaev (2016). Economics of Land Degradation and Improvement in Ethiopia. Chapter 14. In E. Nkonya et al. (eds.), Economics of Land Degradation and Improvement – A Global Assessment for Sustainable Development.

¹³ Ibid.

¹⁴ Based on recent analysis by the Water and Land Resource Centre (WLRC) of Addis Ababa University.

¹⁵ Mahoo H, Radeny M, Kinyangi J, Cramer L, eds. 2013. Climate change vulnerability and risk assessment of agriculture and food security in Ethiopia: Which way forward? CCAFS Working Paper no. 59. CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS).

¹⁶ Refer to Bai, Z. G., Dent, D. L., Olsson, L., & Schaepman, M. E. (2008), "Global assessment of land degradation and improvement. Identification by remote sensing". Wageningen, The Netherlands: International Soil Reference and Information Centre (ISRIC).

¹⁷ Climate Risk and Adaptation Country Profile: Vulnerability, Risk Reduction and Adaptation to Climate Change - Ethiopia, World Bank, 2011. Downloaded from: <http://countryadaptationprofiles.gfdr.org>



for land rights through the issuance of landholding certificates to over 300,000 households, including more than 200,000 women who have received titles either individually or jointly with their husbands, and more than 7,000 landless youth who have received titles to communal holdings in exchange for restoring land.

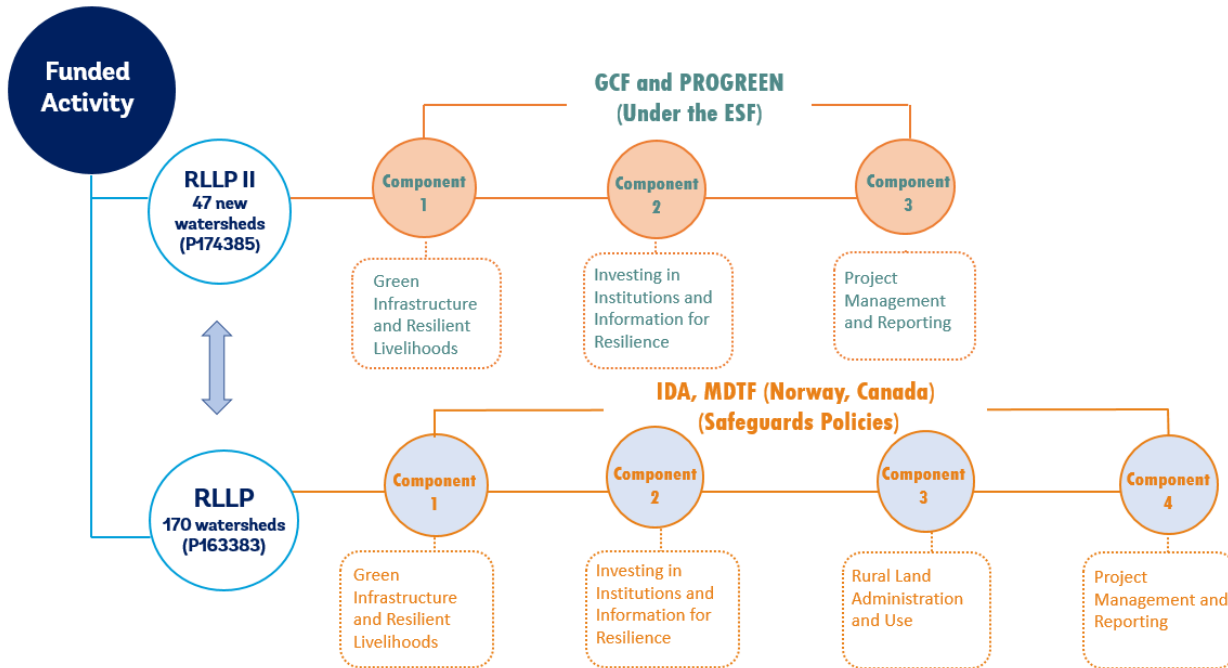
13. **The Resilient Livelihoods and Landscapes Project (RLLP), currently under implementation, builds on and scales up the two completed SLM projects through a US\$100 million IDA credit and US\$ 31 million in grants from a Multi-Donor Trust Fund (MDTF) financed by the Governments of Norway and Canada.** The RLLP aims to improve climate resilience, land productivity and carbon storage, and increase access to diversified livelihood activities in 170 rural watersheds. It includes four components: 1) Green infrastructure and resilient livelihoods; 2) Investing in institutions and information for resilience; 3) Rural land administration and use; and 4) Project management and reporting. In addition, the Project supports the mainstreaming of a tailor-made gender action plan throughout the components.

14. **RLLP II is an expansion of RLLP with additional financing from the Green Climate Fund (GCF) and PROGREEN.** The GCF and PROGREEN financing, through RLLP II, will target an additional 47 climate vulnerable watersheds (40 through GCF and 7 through PROGREEN) which have not received donor funding for land restoration before. RLLP and RLLP II will be implemented as one integrated operation, but since they follow different environmental and social safeguards regimes, RLLP II has been processed as a separate, stand-alone project. RLLP II funding also does not include support for activities related to land administration. Although land administration is part of the RLLP II Theory of Change, it is not included as a project component because land administration activities are not directly funded by RLLP II. (See Figure 1 and the project description section for further reference.) The GCF considers RLLP and RLLP II as the “Funded Activity”. The combined RLLP and RLLP II “Funded Activity” is subject to additional GCF reporting requirements (which are beyond IDA requirements), including updates to the GCF based on information reported by the National Project Coordination Unit (NCPU). Generally, standard reporting to the GCF is a yearly Annual Performance Report (APR), which is due every year at the end of February for the previous calendar year. The APR contains most of the same info as in the World Bank’s Implementation Status and Results (ISRs) but may require additional information as per GCF’s request. Any additional financing to the “Funded Activity” will need to be reported to GCF.



Figure 1: RLLP and RLLP II Distinctions

RLLP II is an expansion of RLLP. While RLLP II and RLLP are stand-alone projects, they will be implemented as one integrated operation. Note that RLLP II does not include funding for land administration (Component 3 of RLLP).



15. **The World Bank-financed Climate Action through Landscape Management (CALM) Program for Results (PforR) Project for Ethiopia (US\$ 500 million), supports improved natural resources and forest management, the scaling-up of GoE’s SLM program, and greater land tenure security.** The CALM PforR was established in response to the MoA’s request of having programmatic support for the third phase of the ESIF (2019-2024). The long-term sustainability of the SLM investments financed by RLLP and RLLP II will be enhanced through two reforms supported by the CALM PforR.¹⁸ The CALM program supports the development and implementation of watershed management plans, consistent with the recently issued Development, Management and Utilization of Community Watersheds Proclamation, which establishes Watershed Users’ Cooperative Societies (WUCSs) previously known as Watershed User Associations (WsUAs). WUCSs help to ensure community participation and the local institutional structure required for long-term maintenance of productive landscapes. The program will support the scaling-up of existing World Bank support by about 500 major watersheds (comprising around 5000 micro-watersheds). Support for land administration will also be scaled-up through the provision of Second-Level Landholding Certificates (SLLCs) for 8 million parcels of landholding covering 3 million hectares and incentivize the migration of all SLLCs issued into a digital land registry – the National Rural Land Administration Information System (NRLAIS). The NRLAIS will cover 280 woredas, roughly 45% of the total number of woredas in highland Ethiopia.¹⁹ As GCF funding does not cover land administration, the CALM Program may help to fill financing gaps for the 20 watersheds under RLLP II that are not currently receiving land administration support under ongoing projects. The GoE may also search for alternative financial resources to fill any potential funding gaps.

¹⁸ The “Development, Management and Utilization of Community Watersheds Proclamation” 1223/2020 was gazetted August 25, 2020. The “Rural Land Administration and Use Proclamation” has yet to be approved by the Council of Ministers.

¹⁹ Locations for 150 of the woredas under the CALM project are still being decided.



C. Relevance to Higher Level Objectives

16. **The Project is aligned with the Bank’s goals of ending extreme poverty and promoting shared prosperity in a sustainable manner through support for climate resilience, land productivity, and diversified livelihood activities.**

RLLP II also incorporates the World Bank led Next Generation Africa Climate Business Plan’s (FY21-26) strategic directions on food security, securing environmental stability, and protecting against climate shocks, as well as draws on lessons learned from past achievements in SLM projects. RLLP (IDA financing) features in the Ethiopia Country Partnership Framework (CPF) for FY 18-22 as a government flagship program addressing the CPF’s resilience pillar. Additionally, the Project furthers the Bank’s commitment to tackling climate change – including the objectives of the World Bank Group’s Action Plan on Climate Change Adaptation and Resilience to boost adaptation financing and scale up support to social resilience.

17. **RLLP II also aligns with the Government of Ethiopia’s efforts to manage the adverse impacts and risks of climate change and variability.** Ethiopia has made major progress in advancing its climate agenda as demonstrated through its CRGE Strategy. The Government has already set up a national financial mechanism called the Ethiopia CRGE Facility, managed by the Ministry of Finance (MoF) and the Environment, Forestry and Climate Change Commission (EFCCC) to support investments in emission reductions. As stated in the Strategy, the country aims to limit its net annual greenhouse gas (GHG) emissions in 2030 to 145 MtCO₂e or lower, which would constitute a 255 Mt CO₂e (64%) reduction from the projected ‘business-as-usual’ emissions (400 Mt CO₂e). In addition to the GTP-II and the CRGE Strategy, the Project contributes to a number of other national strategies, including Ethiopia’s Nationally Determined Contribution, the Climate Resilience Strategy for Agriculture and Forestry, and the National Adaptation Plan to Address Climate Change.

18. **At the sectoral level, the Project contributes to the climate, forest, water, energy, and land tenure security targets in the GTP-II, CRGE Strategy, ten-year Perspective Development Plan, and will further leverage and scale up support to the MoA SLM Program.** The targets for natural resource management set out in GTP-II include an additional 19 million hectares to be treated with physical soil and water conservation structures, an increase in national forest coverage from 15 to 20 percent, and the provision of landholding certificates to more than 7 million households. To help meet these goals, and to bring the benefits of the Government’s SLM Program to support rural communities affected by land degradation, the RLLP II will scale up the successes of the SLM Program, and complement these achievements with innovations aimed at sustaining project benefits. The project further contributes to Ethiopia’s SLM Investment Framework, the emerging National Forest Sector Strategy, and National REDD+ Strategy.

19. **The World Bank Group CPF for Ethiopia²⁰ for 2018-2022 strives to assist Ethiopia in forging a more inclusive and sustainable growth path.** The CPF, which has been adjusted to meet the challenges posed by COVID-19, includes focuses areas and objectives for implementing the World Bank Group global approach to addressing the pandemic’s impact. Support is being provided across four pillars, consistent with the overall World Bank Group approach: (i) Saving Lives, (ii) Protecting Poor and Vulnerable People, (iii) Ensuring Sustainable Business Growth and Job Creation, and (iv) Strengthening Policies, Institutions and Investments.²¹ World Bank Group support under these pillars is geared to three expected stages of crisis response: *relief*—emergency assistance to confront the immediate threat to public health, as well as short-term economic, financial and social impacts; *restructuring*—strengthening health systems, restoring human capital, and pursuing economic reforms, debt resolution, and recapitalization of firms and financial institutions; and *resilient recovery*—exploiting new opportunities for more inclusive, resilient, and sustainable longer-term

²⁰ Ethiopia Country Partnership Framework 2018 - 2022, World Bank May 2017, Report No. 119576-ET.

²¹ Saving Lives, Scaling-up Impact and Getting Back on Track: The World Bank Group COVID-19 Crisis Response Approach Paper, 2020.



development.

20. **Current World Bank engagement aims to provide a rapid response to COVID-19 while ensuring that recent poverty reduction gains are not lost, and longer-term development impact is supported through expanded jobs creation and transformational structural reforms.** The World Bank Group in Ethiopia is applying the corporate approach to helping countries address the COVID-19 challenge through relief, restructuring, and resilient recovery. Relief is being supported by emergency response and longer-term health systems support as well as maintaining strong social protection programs in rural and urban areas to mitigate the social and economic impacts of the crisis. Restructuring is to be pursued through support for business environment improvements, including for the financial sector; for enhanced infrastructure financing and debt management; and for a strong human capital focus. Finally, resilient recovery – building back better – will be achieved through continued work on safety nets, national agriculture program, as well as support for rapid expansion of access to power and renewable energy and improved connectivity both in transport and telecommunication. Most importantly, reforms for growth and competitiveness will have a central role in recovery, including for an improved financial sector and better business climate.

21. **The portfolio has been retrofitted and adapted to the evolving COVID-19 context.** In the health sector, the Ethiopia COVID-19 Emergency Response Project (under the Multiphase Programmatic Approach) and the Ethiopia Health Millennium Development Goal Program-for-Results (PforR) operation (P160108) are supporting the health sector’s contribution to the national COVID-19 response. To ensure a comprehensive approach to supporting Ethiopia’s health system during the pandemic, alongside the COVID-19 specific investments supported by the Multiphase Programmatic Approach sub-project, the health PforR is financing critical inputs to the national response, such as PPE for frontline health workers. Social protection programs are being fast-tracked and their financing increased, with the Urban Productive Safety Net and Jobs Project (UPSNJP, P169943) and the upcoming Strengthening Adaptive Safety Net (SEASN) Project (P172479) supporting cash transfers, food aid, public works, start-up grants and labor market integration of youth, together totaling US\$900 million. To cushion the negative impacts on poor and vulnerable people, these two operations will be delivered in early FY21. Additional financing for the education sector, totaling US\$200 million in FY21, is also aligned with the learning challenges during COVID-19 thus complementing the efforts initiated to accelerate the digital agenda through the Ethiopia digital foundation project. Support for small businesses and accelerating jobs creation is being fast-tracked through emergency additional financings for the Women Entrepreneurship Development Project (P122764) and the Small and Medium Enterprise Support Project (P148447), both totaling US\$300 million, to be delivered during the first half of FY21. Additionally, the implementation pace is being increased for projects supporting industrial parks while projects in the water and urban sector were retro-fitted to be COVID-19 responsive. Employment and development in the agriculture and rural areas is also being pursued through Additional Financing of the Second Agriculture Growth Project (P168074) and the Ethiopia RLLP (P174385), both totaling US\$150 million in FY21. In addition, a comprehensive rural roads, irrigation and agriculture national programs are being planned for FY22.

22. **The proposed Project is consistent with both the CPF and the COVID-19 response adjustments, contributing directly to the economic recovery phase of the COVID-19.** The objective of the second pillar of the World Bank Group response to COVID-19 is to help governments respond rapidly to protect the poor and vulnerable from economic and social shocks of the crisis, restore human capital, and promote job creation in the recovery phase. Given Ethiopia’s projected fall in growth, increase in unemployment, and overall expected increase in poverty, RLLP II will be an important intervention during the recovery phase by targeting support to vulnerable populations, promoting jobs and food security through access to diversified livelihoods, and helping the country to build back better through a climate resilient economy. RLLP II helps provide essential support for COVID-19 affected populations during the recovery phase.



II. PROJECT DESCRIPTION

A. Project Development Objective

PDO Statement

To improve climate resilience, land productivity and carbon storage, and increase access to diversified livelihood activities in selected rural watersheds.

PDO Level Indicators

- Land area under sustainable landscape management practices (Corporate Requirement Indicator (CRI), Hectare (Ha))
 - Land area restored or reforested/afforested (Ha)
 - Land area with productivity enhancing practices applied (Ha)
- Project area showing an increase in NDVI correcting for climate effects (percentage)
- Project area showing an increase in LSWI correcting for climate effects (percentage)
- Net greenhouse gas emissions (tones/year)
- Households adopting diversified livelihood activities supported by the project (number, disaggregated by gender)

B. Project Components

Component 1. Green Infrastructure and Resilient Livelihoods (US\$ 143 million from GCF; US\$ 12.17 million from PROGREEN)

23. This component will increase adaptive capacity to climate change of the target population by scaling-up proven sustainable land and water management practices, currently being supported in 170 watersheds by RLLP, to a total of 217 watersheds. These practices will be introduced to rural smallholders and communities in watersheds vulnerable to climate variability and change, recurrent drought and floods and land degradation. Three complementary approaches form the core of this Component: (i) land restoration through sustainable land management, **predominantly targeting communal lands**, in which physical and biological interventions are made to prevent erosion and restore degraded land; (ii) a standardized approach to low-carbon resilient agriculture, which targets **private lands**; and (iii) support for income opportunities and resilient livelihoods, which is designed to provide **incentives** for maintaining restored landscapes. Implementation at the **micro-watershed level** will be facilitated by government development agents in the Bureau of Agriculture at the local level, which will mobilize and support communities, providing them with continuous training.

24. This component will focus on the adoption of Sustainable Land and Water Management (SLWM) practices by rural smallholders and communities and scale-up proven interventions to 47 additional watersheds that are vulnerable to climate variability. This includes risks posed by recurrent drought and floods, as well as land degradation exacerbated by climate change. Activities will include financing SLWM interventions on **communal and individual lands** (with differentiated levels of community contribution), as well as supporting green corridors linking fragmented forests, and infrastructure such as community roads, and water harvesting structures. Proven SLWM practices that will be implemented include soil and water conservation **infrastructure** such as terraces, water harvesting trenches, check



dams, small reservoirs, and other civil works; soil fertility and moisture management; assisted natural regeneration, enclosures plus livestock land use rationalization, intercropping, low tillage, gully reclamation, establishment of grazing corridors, watering points and wells, and silvo-pastoral management strategies. Government Development Agents (DAs) in the Bureaus of Agriculture will mobilize and support communities and receive continuous training to ensure high-quality advice and extension services.

Sub-component 1.1 Land Restoration and Watershed Management (US\$ 100 million from GCF; US\$ 8.62 million from PROGREEN)

25. This sub-component will focus on the implementation of land **rehabilitation** measures and establishment of green infrastructure through biophysical land and water conservation measures. These measures are required primarily for the rehabilitation of communally-owned degraded forest, pasture and woodlands, but also for privately cultivated lands, as well as to enable and maintain agricultural production in harsh climate conditions which are exacerbated by climate change. One key objective of this sub-component will be to create benefit streams to the communities in the targeted micro watersheds from increased ecological services and land productivity, mainly through productive use and management of landscapes resources. In addition to the proven practices applied during previous World Bank-supported projects, including SLMP II and the ongoing RLLP, this subcomponent will also introduce the establishment of

26. rridors, which will further reduce erosion, enhancing watershed restoration, and increase ecological connectivity.

27. The objective of the sub-component will be achieved through biological and physical conservation measures that ensure reduced surface run-off and soil erosion, as well as improved land productivity, resulting in enhanced crop and livestock production. The following activities will be supported:

- **Soil and water conservation measures** on communal and privately cultivated lands: biological and physical soil and water conservation **measures/practices** such as construction of terracing, check dams, water harvesting (e.g. trenching), reseedling, re-vegetating, etc. will be implemented on degraded communal and farmlands;
- **Gully rehabilitation**: Cost efficient biophysical gully restoration techniques such as sandbag check dams, sediment storage dams and gabion-check dams will be applied. Productive use and management of the rehabilitated gullies will be supported, such as for forage, fruit and fuel wood production;
- Establishment of green corridors: Planting suitable, preferably native, tree species along rivers/streams and all-weather roads connecting forest patches in the watersheds. Post plantation management support including tending, hoeing and soil moisture conservation will be carried out. Green corridors will also be established along gully offsets to ensure stability and productive use of the land;
- Area closure management and use: Assisted natural regeneration through restrictions on free grazing, enrichment planting, soil fertility improvement and moisture retention will be implemented in communal areas and/or privately managed degraded bush and woodlands. Cost efficient management practices of enclosures will include supporting local communities in the preparation and execution of participatory use and management plans of enclosed areas, including forage cut-and-carry arrangements;
- Establishment of plantation blocks: Reforestation and afforestation of degraded forest and shrub/bush lands with a diverse range of tree and shrub species that can be used as a source of food, feed and energy, and enhance fertility of the soil. Planting of appropriate tree seedlings including economically valuable species, and post-plantation management practices such as tending and watering in moisture stressed areas, hoeing and weeding during early stages will be carried out to ensure survival of the planted seedlings; and
- Enrichment of degraded pasture and rangeland: Planting and reseedling of appropriate forage species including fodder crops in degraded pasture and rangelands to increase productivity and improve the value of feed for



grazing animals. Management of unpalatable invasive species will also be undertaken in pasture and rangelands to ensure optimum forage production.

28. Suitable rehabilitation interventions for each micro-watershed are determined based on the particular agroecological conditions and incorporated in a Multi-Year Development Plan (MYDP), developed through a participatory process, utilizing the technical parameters and procedures established in the Community Based Participatory Watershed Development Guidelines (CBPWDG) developed by the MoA and recently updated. MYDPs are already in place for watersheds supported under the SLMP II and RLLP projects. RLLP II will put these in place for an additional 47 watersheds.

Sub-component 1.2 Climate Smart Agriculture (US\$ 15 million from GCF; US\$ 1.35 million from PROGREEN)

29. Interventions under this sub-component will aim at enhancing the livelihood resilience of beneficiary households through Climate-Smart Agriculture (CSA) interventions in all **eligible** micro watersheds assisted by the project. The improved adaptation of restored watersheds to variable rainfall patterns and adverse climatic events, combined with reduced degradation-related risks (achieved through sub-component 1.1), will provide suitable conditions for beneficiaries to adopt improved, climate-smart farming practices and diversify and/or intensify their current production systems. For this, technical and financial assistance will be provided to stabilize soils and increase fertility; improve water retention, harvesting and infiltration; increase biomass (and carbon) accumulation; and promote the adoption of climate-smart tillage and production practices in farm plots and home gardens. The introduction of such practices is needed to ensure agricultural productivity in coming decades given expected climate change impacts.

30. This sub-component will build on the achievements of sub-component 1.1, such as improved water run-off retention and infiltration, gully and degraded hillside stabilization, and enhanced biomass production. This connection to the biophysical restoration of the landscape is important, as it will help ensure that unsustainable agricultural practices do not reverse prior restoration measures. In this way, agricultural activities become fully integrated into the watershed/landscape restoration approach and contribute towards the goal of climate resilient watersheds. The ongoing pilot of CSA within SLMP II and RLLP as well as lessons from international experience, indicate that CSA cannot be achieved by a single measure or practice. In order to achieve the triple wins of adaptation, mitigation and increased production, technical and financial assistance will be provided to implement context-specific packages of CSA activities. The primary set of technologies for CSA that have been selected for use in the project are described in the manual for Climate Smart Agriculture. The following CSA activity activities are based on the manual for CSA which outlines 4 work/activity packages, which will be supported under this sub-component:

- Farm water and soil moisture management;
- Integrated soil fertility and soil health management;
- Crop development and management;
- Environmentally friendly livestock production through feed development and management.

31. Following the approach adopted by RLLP, CSA interventions will be implemented only in micro-watersheds once biophysical landscape restoration treatment has been completed. Once this criteria has been met, then the following sub-criteria will be used to trigger CSA support: (i) at least **75%** of the watershed restoration plans completed; (ii) community agreement on controlled grazing enforced; (iii) forage development partly implemented; (iv) farmland covering more than 50% of the micro-watershed area; (v) access to functional farmers training centers; (vi) local knowledge or traditional practice of multi-cropping system; and (vii) commitment of community and kebele watershed teams. Following GCF guidelines, the project will not support any activities involving the acquisition of pesticides,



herbicides, genetically modified organisms, and patented hybrid seeds.

Sub-component 1.3 Livelihood Diversification and Connections to Value Chains (US\$ 28 million from GCF; US\$ 2.20 million from PROGREEN)

32. RLLP II will scale up efforts to strengthen community resilience by helping smallholder farmers derive economic benefit from CSA activities and livelihood diversification. Increasing the economic value of ecosystem services experienced by smallholder farmers will help reduce the risk that Project beneficiaries will return to previous, unsustainable land management and use practices. To generate the economic incentive, RLLP II will support efforts to strengthen value chains in the project area through the provision of technical assistance and inputs to producers and producer groups. Additionally, RLLP II will promote efforts to integrate producers and producer groups in the supply chains of large firms and small and mid-size enterprises (SMEs).

33. Value chain linkages in the RLLP II project area remain weak because of the complexity of the agriculture markets and its value chains and the diversity of interests and incentives among various stakeholders. Additionally, individual stakeholders may not have a sufficient view of the agriculture sector to generate practical and innovative solutions to meet productivity and sustainability challenges. Furthermore, encumbrances such as information gaps, time constraints, resource limitations also serve to hinder value chain development. To overcome these challenges, the RLLP II will build upon the experience generated by RLLP as well as rapid assessments and studies and consultations undertaken during the design of the RLLP. It will expand initiatives that provide technical assistance and inputs to Common Interest Groups (CIGs) with the aim of supporting commodity production informed by market demand. Emphasis will be placed on the apiculture, poultry rearing, shoat fattening, vegetable and fruit farming. Inputs may include tools and equipment. This subcomponent will help strengthen value chain connections through: (i) business plan development; (ii) the provision of storage facilities and small equipment for grading and processing; (iii) collaboration with other value chain programs to facilitate market linkages; and (iv) development of contracts with cooperatives, cooperative unions and other private sector partners.

34. To facilitate the integration of producers and producer groups in the supply chains of large firms and SMEs, RLLP II will support innovative and systematic approaches to link firm and SME demand to producers as a means to: (i) inform smallholder production planning and investment; (ii) inform RLLP II investments; (iii) foster the development of supply chains and logistics that will sustain commercial interactions between large firms and SMEs and producers; (iv) create a common business / service language among producers and large firms and SMEs; (v) better align training and workshops with need in terms of content and timing; (vi) elicit clear and realistic expectations regarding the production capacity of producers; and (vii) generate the experiential and repeatable steps necessary for robust logistics and supply chains. Together these activities will: (i) support the establishment of purchase agreements between producer groups and large firms and SMEs; (ii) enable producers to meet the requirements of such purchase agreements in a timely and consistent manner; and (iii) encourage large firms and SMEs to provide producer groups technical support related to quality, finance, logistics, among others.

35. Lastly, to further enhance the economic incentive for maintaining restored landscapes, RLLP II will build on the promising early experience of watershed-level payments for ecosystem services (PES) schemes. Activities under this component will seek additional opportunities to institute agreements among private and public-sector entities and local communities.



Component 2. Investing in Institutions and Information for Resilience: Capacity Building, Information Modernization and Policy Development²² (US\$ 16.15 million from GCF; US\$ 0.72 million from PROGREEN)

36. The objective of this component is to enhance institutional capacity and improve information for better decision-making in supporting resilient landscapes and diversified rural livelihoods in the project area, both for the duration of the project and after project completion.

37. This component will build **capacity** at the local government level (woreda and kebele) for planning and managing SLWM and land tenure security interventions. This will include piloting and application of new technologies for information modernization at the local level, and building off the experience of RLLP, including for the use of electronic tablets for gathering geospatial information, and the use of Unmanned Aerial Vehicles (UAVs – or drones). The component will also provide technical support and capacity building inputs towards the improvement of land tenure security in the target watershed Kebeles that incentivize adoption of proven SLM and CSA practices. Tablets will be provided to development agents and the woreda focal persons in the project watersheds for mapping and monitoring. RLLP II will scale-up the UAV/drone piloting that has been supported under RLLP for wider application including preparation of base maps for cadastral surveying, participatory local level land use planning, watersheds MYDPs and performance monitoring activities.

38. This component will build capacity at the local government level for implementation and to sustain SLWM interventions after project support has been completed. To achieve this, the component will support information modernization to coordinate data collection and information sharing at all levels of the project so that this information is well organized, properly documented and accessible. The use of electronic tablets to collect information on project activities and results, combined with appropriate survey and mapping software, will improve the quality and timeliness of data collection and reduce the effort needed to compile, review, and generate the necessary reports. The component will finance accountants to support the head of the Woreda Offices of Agriculture (WoA) and a focal person in each participating woreda, and part-time community facilitators at the kebele level.²³ This framework will facilitate access to information and support timely feedback to the local level. This component will also provide technical assistance where needed for training in activities that will be complementary to participatory watershed management, for example in the use and application of geospatial technologies and for broadening the application of expertise developed in RLLP watersheds.

39. The Project will work closely with regional governments to establish WUCSs. This work will draw upon previous World Bank experience, and ongoing work from the CALM program and RLLP projects. RLLP II will also support opportunities to attract private sector investment in project interventions and boost private sector development through the promotion of diversified livelihoods.

Component 3. Project Management and Reporting (US\$ 6.09 million from GCF; US\$ 0.11 million from PROGREEN)

40. Component 3 supports project management and reporting, including financing of operating costs and implementation of project fiduciary aspects, including financial management, procurement, environmental and social safeguards, and monitoring and evaluation and reporting for the 47 watersheds under RLLP II.

41. To facilitate the integration of biodiversity considerations, RLLP II will finance **forest and biodiversity specialists** to support project implementation in the **seven PROGREEN-supported watersheds**.

²² Note that sub-component 2.2 under the Funded Activity, *Impact Evaluation, Knowledge Management and Communication*, will be financed by IDA and MDTF rather than the GCF and PROGREEN, so it is not included in RLLP II.

²³ A 'major' watershed typically contains around 10 micro-watersheds.



Additional Project Information

42. **Rural Land Administration and Use.** Land administration is an integral part of the SLM theory of change in which support for watershed management is reinforced with support strengthening land tenure security. Of the 47 new watersheds included for support under RLLP II, 15 watersheds have already received **SLLCs** from the UK-funded LIFT program, and the remaining 32 watersheds are scheduled to receive such support from the ongoing government program supporting land administration. GCF and PROGREEN proceeds cannot be used to the actual issuance of SLLC and the NRLAIS operationalization. However, GCF will cover **public information awareness raising** activities in the GCF project watersheds, provide capacity building training and equipment to process the geospatial and aerial mapping activities, and support modernization of information systems under RLLP II (Component 2).

43. **Timing of the negotiations of the GCF Financing Agreement.** According to GCF procedures, the GCF Financing Agreement (FA), between the World Bank and Ethiopia, cannot be finalized until the Funded Activity Agreement (FAA) is negotiated and signed between the World Bank and GCF. Prior to those negotiations, the World Bank needs to complete its internal approval processes, in this case, Regional Vice Presidency (RVP) approval. A waiver has been requested that enables the World Bank team to submit the Approval Package without a negotiated GCF FA and without a Disbursement and Financial Information Letter (DFIL) finalized by World Bank Group Financing and Accounting (WFA).

44. **Cost estimates.** The estimated total cost for the Funded Activity (including RLLP and RLLP II) is US\$ 309.24 million, of which US\$ 165.24 million is financed through the GCF, US\$ 13 million from PROGREEN, US\$ 100 million from IDA and US\$ 31 million is from the MDTF. See Table 1 below for further details.

Table 1: Project Cost Estimates for the Funded Activity

Project Components	RLLP II		RLLP	
	GCF Financing (in US\$ millions)	PROGREEN (in US\$ millions)	IDA (in US\$ millions)	MDTF (in US\$ millions)
Component 1: Green Infrastructure and Resilient Livelihoods	143.00	12.17	65.00	15.50
Subcomponent 1.1: Land Restoration and Watershed Management	100.00	8.62	49.00	6.94
Subcomponent 1.2: Climate Smart Agriculture	15.00	1.35	10.00	8.46
Subcomponent 1.3: Livelihood Diversification and Connection to Value Chain	28.00	2.20	6.00	0.10
Component 2: Investing in Institutions and Information for Resilience	16.15	0.72	6.00	7.00
Subcomponent 2.1: Capacity building, information modernization and policy development	16.15	0.72	3.00	4.88
Sub-component 2.2. Impact Evaluation, Knowledge Management and Communication	-	-	3.00	2.12
Rural Land Administration and Use	-	-	20.00	6.00
Component 3: Project Management and Reporting	6.09	0.11	9.00	2.50
Total Project Costs	165.24	13.00	100.00	31.00



C. Project Beneficiaries

45. In order to achieve the aims of the project – achieving restored, productive and low emission landscapes – the project will work with the communities that are using these landscapes. Hence, beneficiaries are selected at the community level and the direct beneficiaries are individuals who are living within a project watershed. The members of these communities are vulnerable smallholder farmers, who are sensitive and highly exposed to climate change impacts. The total population within the project area is 706,189 people or 138,311 households (with an average of 5 persons per household). The baseline study report for 90 watersheds of SLMP II found that the average land holding was only 1.34 ha. Agro-ecologically, watersheds above the altitude of 2300 meters and lowland areas between 500 and 1500 meters, have an average land holding of only 0.83 ha and 2.08 ha respectively. Furthermore, about 4.2% of the households have no land at all (3.5% of male and 6.5% of female headed households), 10.6% have less than a quarter of a hectare and 21.9% less than a hectare.

46. Evidence-based data will drive implementation, planning, and ensure that interventions benefit smallholder farmers. Detailed bio-physical information for new watersheds, including individual landholdings, will be collected during the MYDP preparation of each watershed. In an effort to provide legal basis to the MYDP implementation, the local level participatory land use planning teams at woreda and kebele levels would ensure that interventions benefit the smallholder farmers.

47. Beneficiaries are categorized as direct and indirect. The direct beneficiaries are individuals who are living within a project watershed. The members of these communities are vulnerable smallholder farmers, who are very sensitive and highly exposed to climate change impacts. The primary beneficiaries of the project will be the rural households on degraded land, facing land tenure and water insecurity in selected watersheds. Indirect beneficiaries include: (i) communities adjacent to Project intervention areas adopting SLM and CSA practices through demonstration effects, as observed under SLMP II; (ii) private sector participants and end-consumers in value chains targeted by the Project; (iii) households outside Project areas benefiting from the creation of land certification capacity at woreda and regional level; (iv) recipients of capacity building at all levels of government, as well as in national partner organizations; and (v) communities outside Project areas benefiting from groundwater recharge, reduced flooding, and lower sediment loads, as a result of SLM interventions.

48. Gender: In Ethiopia, although women make up more than 40 percent of the agricultural labor force and head approximately 25 percent of all farming households, they have less access to land and other factors of production in comparison to men. In general, women have lower access to agricultural extension services and formal credit, they use fewer modern inputs, and they harvest a narrower range of crops. Women have more limited access to credit largely because they are less likely to have ownership and control of physical assets including land rights that can be used as collateral. Even those women who hold landholding individually or jointly with their spouse have no land certificates that secure their tenure rights. A Gender Approach and Action Plan has been prepared to address the gender aspects of land degradation and natural resource use. They aim to promote higher participation of women in sustainable land restoration and water conservation practices, climate smart agriculture practices and in CIGs, local value-chain and other initiatives. Some of the activities include conducting gender awareness training on division of labor, roles, benefits and participation; carrying out gender sensitive value chain analysis and mapping of gender roles, relations and challenges; conduct participatory gender audit process in implementing institutions. Women will be specifically targeted to ensure that they fully participate in Project benefits through a variety of mechanisms, including: (i) required participation of women in Community Watershed Teams (CWTs), Kebele Watershed Teams (KWTs), and WUCS; (ii) provision of joint land certificates to married couples, and individual land titles for women in Female-Headed Households; (iii) promotion



of women's participation in CIGs for income-generating activities; and (iv) targeted support for the production and marketing of improved cook-stoves, bringing health gains and time-savings that benefit women in particular. The beneficiaries for Income generating activities are selected by the community watershed teams. The project will support women's roles as caregivers and create enabling environments for them to access services, trainings etc. through community childcare support services; also project will ensure Grievance Redress Mechanisms (GRMs) are easily accessible to women to ensure women's participation as members at all levels.

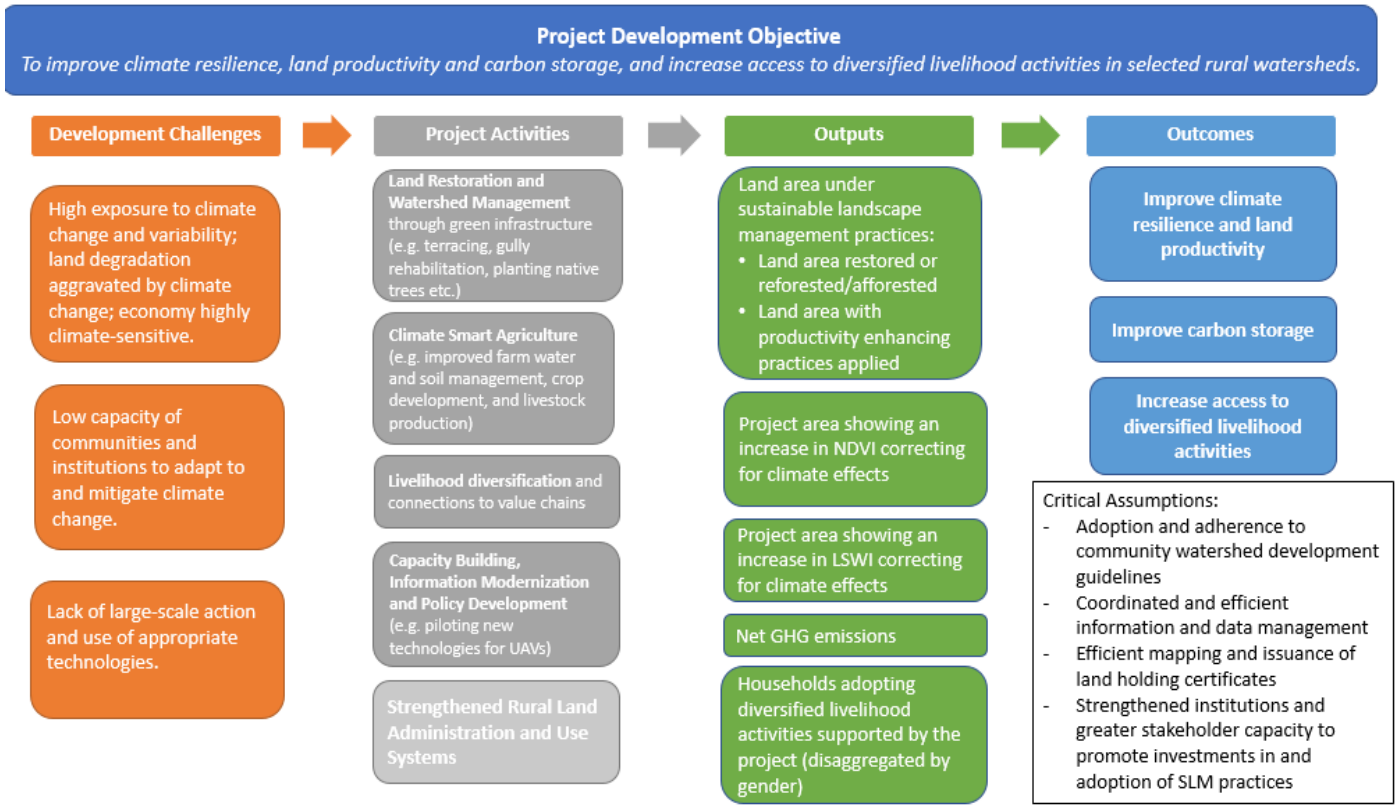
49. Citizen Engagement: Like the completed SLMP and RLLP, RLLP II will also follow a community-based participatory approach. During the participatory planning, communities first present the problems they have (**problem analysis**) and depending on the availability of labor and finance they prioritize interventions based on the **CBPWDG**. Once prioritized and agreed, the plan is approved by the responsible woreda office (Woreda Office of Agriculture). The community-based participatory approach will identify the most appropriate interventions that respond to the unique needs of each individual watershed included in the RLLP II. This approach will result in a number of benefits, including improved community ownership and engagement, as well as ensuring that expected results are achieved and sustained.

D. Results Chain

50. This integrated package of activities is the result of the extensive experience gained in previous projects and is essential to achieving paradigm shift. To achieve catalytic impact, the Project addresses the root causes of land degradation, which include (i) poor cropland management practices, (ii) rapid depletion of vegetation cover, (iii) poor livestock management, and (iv) an insecure land tenure system. This approach grows out of the project's theory of change: by delivering more productive, secure and resilient livelihoods to local communities and by establishing the institutional framework needed to support maintenance of restored landscapes over the long term through watershed associations and local governments, the RLLP II will lead to a durable shift towards SLM in the degraded watersheds of the Ethiopian highlands. (See Figure 2)



Figure 2: RLLP II Theory of Change²⁴



E. Rationale for Bank Involvement and Role of Partners

51. The World Bank and development partners have been working closely to ensure that the GoE and thousands of local communities make progress in addressing land degradation and climate vulnerability challenges in Ethiopia. Over the past decade, Ethiopia’s SLM program benefited from the proven investment packages, with financing from the World Bank and other development partners.

52. The Bank is uniquely placed to mobilize GCF and PROGREEN resources to scale-up Ethiopia’s SLM program given its track in implementing the SLM Project since 2008. Furthermore, RLLP and RLLP II are implemented in a **complementary and integrated** manner, where RLLP II has a strong focus on **land restoration** in the most climate vulnerable watersheds, and RLLP provides enhanced support for both watershed management and land administration activities (the latter aimed at securing tenure rights for ensuring longer-term sustainability). Land administration through RLLP, GoE, and other DP financed programs provide security of tenure to smallholder farmers through SLLC and NRLAIS operationalization. Half of the SLLCs will be issued to women landholders individually or jointly with their spouse. Land administration activities also support the rollout of the NRLAIS and preparation of local level land use plans in the project watershed Kebeles.

²⁴ Although land administration will not be funded under RLLP II, as noted in the project context and description, these activities are an integral piece of achieving development outcomes of the “Funded Activity,” and so are included in the Theory of Change.



F. Lessons Learned and Reflected in the Project Design

53. RLLP II benefits from the lessons learned over many years of projects aimed at sustainable land management, poverty alleviation and increasing the sustainability of agriculture in Ethiopia (in particular, the SLMP-2 project). These lessons led to the creation of the institutions that RLLP and RLLP II build upon such as bottom-up watershed planning and self-help groups as well as the approach to CSA in which packages of activities are combined to achieve the triple goals of adaptation, mitigation and livelihood development.

54. A strategic lesson reflected in the design of RLLP II is the need to provide a mechanism and supporting elements to allow watersheds to graduate from project-based assistance and continue sustainable management of restored landscapes through normal government mechanisms. Under RLLP II, support will be provided to expand support for the creation of WUCSs, as legal entities capable of sustaining participatory watershed management to 47 additional watersheds. RLLP II will further efforts to prepare watersheds to graduate from project based support by (i) building local government **capacity** to design and manage SLWM interventions, (ii) **strengthening incentives** for investment in sustainable land management, and (iii) improving returns to sustainable productive activities by promoting CSA and forging connections to value chains.

55. Building on lessons learnt through implementation of the SLMP-2 and RLLP, the RLLP II will scale up investments in biophysical watershed restoration as well as associated activities supporting sustainable livelihoods in restored landscapes, through support for CSA, diversified Income Generating Activities (IGAs) and connections to value chains. The fiduciary lessons reflected in RLLP II include the importance of (a) aligning project budgeting systems with the GoE budget calendar; (b) including the costs of environmental mitigation measures in subproject designs; and (c) providing adequate resources to upgrade planning, budgeting, and monitoring of inputs and outputs that are essential for decentralized operations. As such, the **appointment** of regional accountants as **'mobile accountants'** in regions where significant number of project watersheds exist can improve financial reporting at decentralized levels, while assigning a project internal auditor at the federal level can help improve/address internal control weaknesses.

III. IMPLEMENTATION ARRANGEMENTS

A. Institutional and Implementation Arrangements

56. The proposed RLLP II will largely retain the existing implementation architecture of RLLP. Implementation will be carried out by the MoA through all four levels of government: Federal, Regional (including Zonal), Woreda (district) and Kebele (sub-district). See Annex III for more detailed information on implementation arrangements.

57. **Project coordination.** To build upon lessons learned from previous support, the MoA will improve the internal coordination between the NPCU and directorates responsible for managing watersheds (NRMD) and land titling and land administration (RLAUD). The NPCU will develop work plans, budgets and reports with the guidance of the steering and technical committee according to the bottom-up planning procedures of watersheds. This includes the roles and responsibilities of all concerned directorates of the Ministry (NRMD, RLAUD, Soil Fertility Improvement Directorate, Rural Job Opportunity Creation Directorate, CRGE Directorate, Forage Development Directorate etc.) The national and regional PCUs are experienced and ready to implement RLLP II in the project area. The staff and experience of the existing regional PCUs will help to quickly establish adequate implementation arrangements in the recently formed Sidama region.



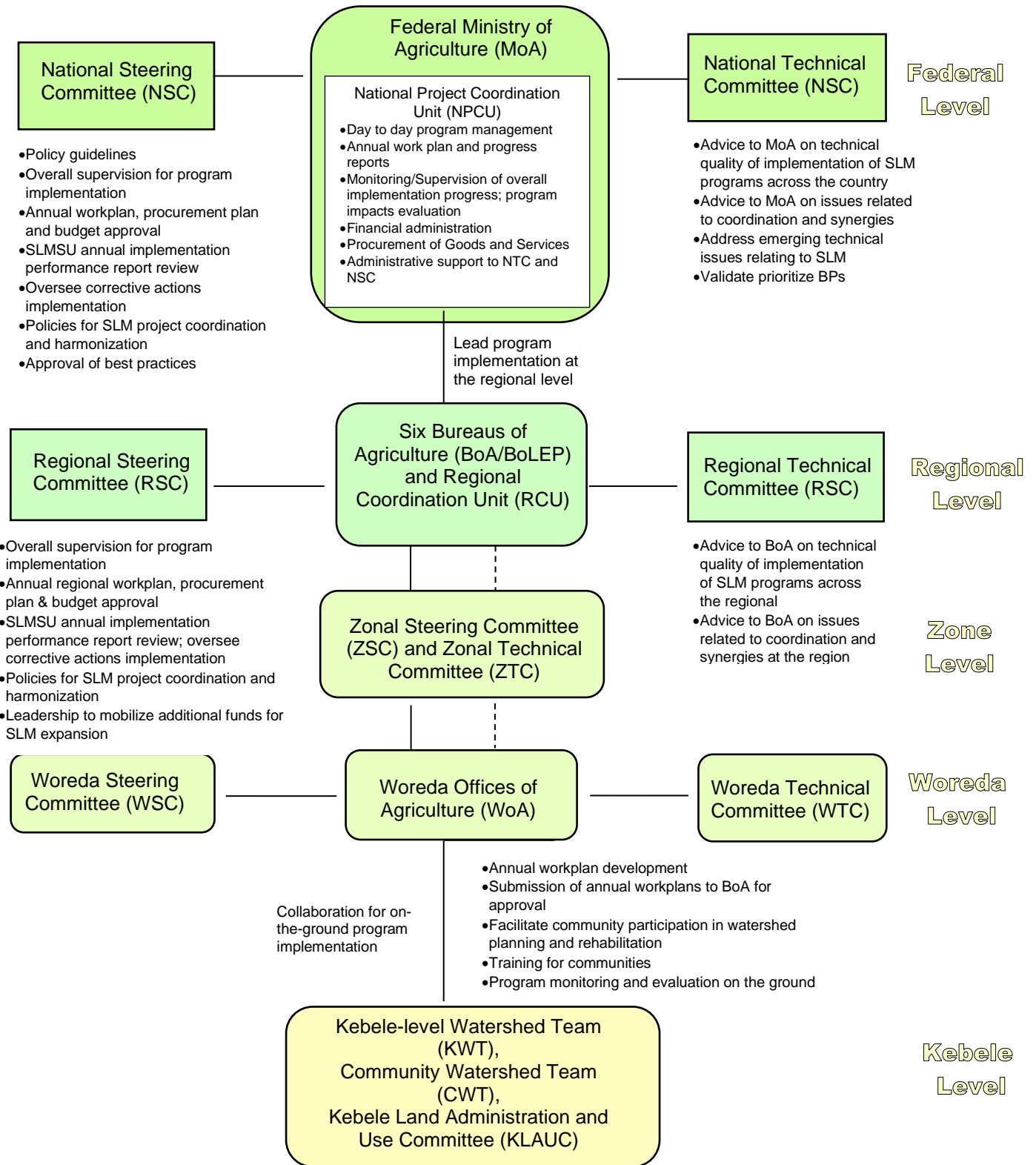
Financial management, procurement management and project management ratings are rated moderately satisfactory or satisfactory in the RLLP's most recent ISR dated June 30, 2020.

58. **National level roles and responsibilities.** At the federal and regional levels, the implementation is guided by the National and Regional SLM Steering and Technical Committees. MoUs have been signed between the MoA and the Regional Bureaus of Agriculture (BoAs) for implementation of the project, defining each Region's contribution to the project's objectives. The National and Regional Steering Committees will oversee execution of annual work plans and achievement of results defined in the MoUs. At the regional level, the Regional BoAs will lead implementation of the project, reviewing and consolidating annual work plans, budgets, procurement plans and progress reports submitted by the participating woredas. The Environment, Forest and Climate Change Commission (EFCCC) and the Ethiopian Wildlife and Conservation Authority (EWCA) will provide technical inputs for the preparation of MYDPs in the seven PROGREEN-financed watersheds to achieve biodiversity co-benefits.

59. **District level roles and responsibilities.** At the local level, development and implementation of MYDPs is undertaken by Community CWTs, KWTs, and the Woreda SLM core team. These will follow the national guidance as agreed in recently completed national watershed management guidelines, consistent with recent legislation approved by Parliament that sets the legal framework for watershed management. This will help to avoid any potential inconsistencies with mainstream support for watershed management provided through the government program under the institutional oversight of NRMD. Together with part-time Community Facilitators (CFs), and full-time kebele Development Agents (DAs), these structures will: (i) facilitate community participation in preparation and implementation of MYDPs; (ii) develop annual work plans and budgets; (iii) identify training needs; and (iv) conduct monitoring and evaluation (M&E). In addition, the project will contract technical advisors for specific outputs, such as preparation of MYDPs and WMUPs, establishment of WUCSs, support to CSA adoption, and development of business plans for income generating activities and value chain linkages.



Figure 3 Implementation Arrangements





B. Results Monitoring and Evaluation Arrangements

60. In line with the GoE decentralization policy, organizational structure and implementation arrangements and with due consideration to the implementation of project activities at the grassroots level, RLLP II is designed to operate at federal, regional, zonal, woreda kebele levels as well as the beneficiary community level. To mitigate possible implementation disruptions due to the COVID-19 pandemic, the Bank and GoE have committed to enhance remote monitoring, facilitate consultations, and ensure a strong momentum in implementing the project. Remote supervision tools will be used to facilitate site observation and data gathering while maintaining social distancing practices. This includes the use of Unmanned Aerial Vehicles (UAVs – or drones) for supervision and electronic tablets for gathering geospatial information. Furthermore, efforts are underway to identify opportunities to accelerate income-generating activities and value chain interventions intended to improve rural household livelihoods and incomes in the degraded watersheds.

61. The NPCU is required to provide integrated reporting to GCF for RLLP and RLLP II using specific templates. The reporting timeline required to be followed is shown below.

Milestones	Expected Dates (indicative)
Start of GCF Funded Activity Implementation	Upon effectiveness of the FAA (the “Effective Date”]
Inception Report	Within six (6) months from the Effective Date
Interim evaluation report ²⁵	Within two (2) years and six (6) months from the Effective Date
End of GCF Funded Activity Implementation	No later than five (5) years from the Effective Date (“Completion Date”)
Completion report (final APR)	Within six (6) months from the Completion Date
Final independent evaluation report	Within twelve (12) months from the Completion Date

62. In addition to the above, the World Bank shall, within ninety (90) calendar days after the Effective Date, provide an APR, in a form and substance satisfactory to the GCF, against the logical framework to be attached to the FAA, and audited financial statements, which shall report on the status of the activities undertaken by the Funded Activity as of April 18, 2019 until the Effective Date.

C. Sustainability

63. The project will seek to ensure the long-term maintenance of restored landscapes through an emphasis on (i) strengthening the value chains associated with sustainable agricultural practices in restored watersheds, designed to build incentives for local communities to continue SLM practices and, (ii) supporting policy implementation for the establishment of watershed associations, combined with capacity building of local governments, to provide a durable institutional framework SLM. For sustainability of value chain connections including Community Storage Receipts Program (CSRPs) – these investments will be made through CIGs and cooperatives based on business plans that will include the identification O&M costs and the revenues necessary to cover them, that will be generated through the connections to value chains.

64. MoF and MoA are committed to scaling-up and enhancing the success of the Government’s proven flagship SLM Program. Beyond this national commitment, a particular focus of the RLLP II (together with RLLP) is providing support for

²⁵ The interim evaluation report will be carried out in accordance with the Accredited Entity’s policies and procedures.



watersheds to graduate from development partner assistance for SLM, such that maintenance of restored landscapes and CSA will become mainstreamed into local community practices and local government functions. The project will build capacity that will enable the CSA interventions to be sustainably implemented in watersheds that graduate from project-based support. Spillover effects of successful SLM interventions have already been observed under the ongoing program. For example, CSA pilot watersheds have been visited by farmers and extension workers from adjacent areas and replicated through the government extension system.

65. By the end of the project period, all 47 additional watersheds included in the RLLP II are expected to have completed a MYDP. To help ensure the sustainability of the SLM interventions, the Project will provide support for the creation of WUCSs in each graduating watershed to replace the project-based Community Watershed Teams (CWTs) and Kebele Watershed Development Committees (KWDCs) with a legally recognized institution for the ongoing planning and management of the watershed.

66. Watershed Management and Use Plans (WMUPs) adopted by WUCSs will detail management and use for graduating watersheds, outlining agreements to conserve and utilize the resources and establishing bylaws for managing and implementing conservation activities and the distribution of benefits. The development of these WMUPs is critical to ensure land resources are used and managed in a way that enhances absorptive and adaptive capacity to climate change, promoting resilience broadly at the landscape level.

IV. PROJECT APPRAISAL SUMMARY

A. Technical, Economic and Financial Analysis (EFA)

67. To assess the ex-ante efficiency of the project investment, a cost benefit model is used. This is the same model that was used to analyse RLLP in 2018, its additional financing in February 2020, and the Request for Proposal to the Green Climate Fund (GCF) in May 2020. Investment costs total US\$ 165.24 million from GCF and USD 13 million from PROGREEN. US\$ 7.8 million are added to the analysis because the GoE has agreed to deploy alternative and ongoing sources for land administration in RLLP II watersheds. Another US\$ 51.7 million are included as in-kind contributions from project beneficiaries. An estimated US\$ 2.1 million in price contingencies are excluded from the analysis. Annual cost and benefit flows are estimated as the difference between without-project and with-project net benefits for direct beneficiaries (See Annex 2: Economic and Financial Analysis for more details).

68. In the counterfactual, without the Project, land use will continue on its current path. Continued soil erosion, water insecurity, and land insecurity leads to land degradation. It is expected that climate change will exacerbate soil erosion and water insecurity further leading to direct losses to those that rely on crop and livestock production as well as related industries for their energy use and livelihood. Production yields will go down or farmers will have to increase their input costs, such as fertilizer use, to maintain current yields. In the absence of storage facilities (Community Storage Receipts Program, CSRPs), farmers will continue to experience post-harvest losses. They will also be unable to capture higher crop prices that are obtainable a few months after harvest and in larger markets. Non-agricultural land in the watershed will also continue to deteriorate without the Project due to climate change and soil erosion as well as overuse of common land through livestock grazing and firewood collection. This will put a further strain on the population who derive their livelihood from forests, woodlands, and surrounding areas. Downstream from the project area, continued land degradation will also affect areas and households through increased flood risk and sediment build-up in irrigation and hydroelectric dams.



69. Incremental benefits are estimated for investments in green infrastructure and resilient livelihoods (Component 1). It is assumed that these benefits will only accrue if the activities in the remaining 2 components are also achieved. The Project will increase climate resilience in 47 major watersheds covering an area of 525,000 ha and an estimated 706,000 beneficiaries (or 141,000 households). These watersheds have been selected as the most vulnerable to soil erosion due to precipitation changes from climate change. Project interventions are assumed to lead to direct net benefits to crop and livestock producers as well as forests and other non-croplands through watershed management plans. These activities will reduce soil erosion and yield losses that are expected to result from climate change in the absence of Project intervention. Activities will also improve productivity and increase resilience against the negative impacts of climate change. Project activities will also constitute a net carbon sink when analyzing impact on GHG emissions. Annex II includes a discussion of expected net benefits that could not be quantified in this EFA.

70. In the current 25-year net benefit analysis using a 5 percent discount rate, the Project yields an Economic NPV of USD 2,024 million (ETB 77 billion) and has a benefit cost ratio of 3.5. The Economic IRR is 53%. The payback period is 5 years. In economic investment analyses, the Project therefore meets one requirement by yielding a rate of return higher than the economic discount rate of 5%.²⁶ Increasing the discount rate from 5% to 10% reduces project returns by 50% to USD 1,011 million. Project returns are still considerable at a 10% discount rate with a BCR of 3.

71. When excluding the social value of reduced GHG emissions, the net economic Project return is USD 1,395 million (ETB 53 billion) with a benefit cost ratio of 2.7 and an EIRR of 33% and a payback period of 7 years. This is 2% of Ethiopia's GDP (in 2019 terms). In financial terms the NPV is USD 457 million (ETB 17 billion) with a Financial IRR of 31%, a benefit cost ratio of 2 and a payback period of 7 years. This estimated net return constitutes 0.5% of Ethiopia's GDP in 2019. In the financial analysis a 12% discount rate is used to reflect the opportunity cost of capital in Ethiopia.

72. The National Poverty Line for Ethiopia is a measure of absolute poverty. The poverty line indicates the money required for food to provide the minimum required caloric intake (Food Poverty Line) and additional non-food items. In the financial analysis, estimated farm-level gross margins can increase by over USD 108/year/person (including the value of production used for home consumption), which is 1.2 times the Food Poverty Line (USD 94/person/year in 2020 terms), or 61% of the National Poverty Line (USD 178/person/year). This is a direct measure of increased resilience in the Project area.

73. The planned investment Project is expected to yield high returns even when considering key risk factors such as: yield and price changes; adoption rates; and project delays. As part of a risk management plan, it is particularly important to ensure that farmers can negotiate and obtain fair output prices and achieve target yields going forward. Part of the risk management plan could also be to ensure that planned CSRPs are used to their full capacity and that they receive sufficient financial support toward initial investment and working capital costs to ensure their financial viability. Close monitoring and support for target farmers and communities to implement water management plans could help increase the adoption rate. While not always avoidable, project delays can be minimized with close monitoring and by ensuring implementation does not lose momentum.

²⁶ World Bank guidelines recommend using a 5% economic discount rate. World Bank (2015). Technical Note on Discounting Costs and Benefits in Economic Analysis of World Bank Projects. Washington, DC.



B. Fiduciary

(i) Financial Management

74. A financial management (FM) assessment was conducted in accordance with the Financial Management Practices Manual for World Bank financed investment operations issued by the Financial Management Sector Board on March 1, 2010, revised on February 10, 2017 and supporting Guidance notes. The objective of the assessment was to determine whether the implementing entities of the Project have adequate financial management systems and related capacity in place which satisfies the Bank's Policy and Bank Directive on IPF so as to provide reasonable assurance that the proceeds of the financing are used for the purposes for which they are granted. The assessment also included the identification of key perceived financial management risks that may affect program implementation and proceeded to develop mitigation measures against such risks.

75. The FM arrangements for the RLLP II will be based on the existing FM systems and arrangements established under RLLP I. The Federal PCU based at the MoA will retain the overall fiduciary responsibility for the implementation of the project coordinating with Regions and Woredas. The Project will prepare consolidated project annual work plan and budget and will obtain the No Objection from the World Bank. The project fund flow follows the government's channel 2 mechanism whereby the Project funds will be transferred to MoA through a segregated Designated Account to be opened at National Bank of Ethiopia managed by MoA. The project will also maintain separate local currency bank accounts at all levels. All disbursement methods are available to the Project. For the Advance to Designated Account and Reimbursement methods, the project will use report-based disbursements, with submission of quarterly Interim Financial Reports (IFRs) that includes forecasts for advances/replenishment of designated account. The project will submit these quarterly IFRs within 45 days of end of the quarter. The project will have its accounts audited on an annual basis and its financial statement will be audited by an independent external auditor acceptable to the World Bank and will submit the annual external auditor's report within six months of the fiscal year end. There are no effectiveness conditions from FM side, but a disbursement condition is proposed. This is to ensure that FM readiness is assured in all woredas, which as a minimum, will include (a) the assignment or recruitment of accountant; (b) opening separate project bank accounts; (c) installing an accounting system and setting up sets of accounts (ledgers); and (d) understanding key FM capacity of the woreda with actions to address gaps.

76. The project will inherit the various strengths of the country's PFM system and World Bank financed projects. The FM assessment, however, noted some weaknesses including gaps in staffing including weak technical capacity and high turnover of project accountants, weak internal audit oversight, internal controls over advances and low quality of financial reporting. This has been exacerbated by the pandemic situation. The fact that the Project will continue to operate along with the existing RLLP I poses the risk of double dipping whereby expenditures may be comingled among the two projects given the capacity limitations. In addition, the Sidama Region, a newly formed regional state government, is under the process of FM systems establishment. Furthermore, the Tigray regional state, has been under a conflict situation and is under the process of setting up a transitional regional government, causing the governance and implementation arrangements of all Bank financed projects in the region, to have been affected. Accordingly, the project would require adaptive measures along with other Bank financed projects in both the Sidama and Tigray regional states. As a result, the FM residual risk rating for the implementation of the RLLP II is considered Substantial.

77. It is the conclusion of the FM assessment that the project's financial management arrangements meet the Bank's minimum requirements under Bank Policy and Bank Directive on IPF and FM Manual. An action plan has been developed and agreed to mitigate the risks identified. Refer Annex 1 for the detail extracts of FM assessment.



(ii) Procurement

78. **Procurement Procedure:** Procurement under the project will be carried out in accordance with the World Bank’s Procurement Regulations for IPF Borrowers - ‘Procurement in Investment Project Financing, Goods, Works, Non-Consulting, and Consulting Services’, Fourth Edition, November 2020 (subject to future amendments). and ‘Guidelines on Preventing and Combating Fraud and Corruption in Projects Financed by IBRD Loans and IDA Credits and Grants’, revised as of July 1, 2016, and the provisions stipulated in the Legal Agreement

79. **Project Procurement Strategy Document (PPSD):** The client prepared the PPSD which set out the procurement arrangement and market approach options both for high value/high risk and low value/low risk procurement activities in the project. In addition, the PPSD came up with a strategy on how to mitigate or reduce the negative impact of COVID 19 in the procurement implementation under the project. It also incorporated procurement Plan for the first 18 months of the project life. The PPSD shall be updated, at least annually, or as required, to reflect changes in the procurement arrangement which might be required due to a change in requirements, market conditions, procurement environment etc.

80. **Systematic Tracking of Exchanges in Procurement (STEP):** The proposed project will use STEP which is a planning and tracking tool that captures procurement data on procurement activities, establish benchmarks, monitor delays and measure procurement performance. The use of STEP in the project has not been found satisfactory particularly due to failure to capture data for woreda level procurement activities, delay in updating procurement information etc. As part of the mitigation measures, concrete action is proposed to improve use of STEP in the new project.

81. **Procurement Capacity Assessment:** The proposed project will use the same implementation structure and arrangement established for the ongoing RLLP. Thus, the information collected during the supervision missions in the RLLP is relevant and is primarily used in the procurement capacity assessment of the new project. Besides, the recently concluded Ethiopia’s procurement system assessment using Methodology for Assessing Procurement Systems (MAPS II tools), covering the federal, sub national and local level procurement systems, served as a major source of information on the country’s procurement system and its performance. In general, the existing procurement structure in the host agencies with support from the respective PIUs have prerequisite capacity to implement the project. However, there are risks and capacity drawbacks which should be adequately addressed including: (i) Though there is significant progress in establishing basic procurement capacity in the newly established Sidama regional state its adequacy has not yet been confirmed; (ii) the new project appears to involve significant procurement activities at community level where capacity is low; (ii) the additional workload associated with the new project could strain the existing capacity and potentially lead to inefficiencies and noncompliance; (iii) awarding procurement contracts to inexperienced youth through preferential treatment could lead to contract failures; (iv) the procurement information in STEP is not complete and up to date. The overall project procurement risk is rated as “Substantial” which could be reduced to “Moderate” after implementation of the risks and mitigation measures which are provided in Annex 1 of the final PAD.

C. Legal Operational Policies

	Triggered?
Projects on International Waterways OP 7.50	No
Projects in Disputed Areas OP 7.60	No



D. Environmental and Social Risk Management

82. The environmental impact of the project is largely positive, especially given that activities play a pivotal role in rehabilitating degraded landscapes and conservation of valuable ecosystems through afforestation/reforestation, and biological and physical soil and water conservation on agricultural lands and other ecologically critical ecosystems. The RLLP II is generally designed to create resilient landscapes and livelihoods for vulnerable rural populations in Ethiopia. It will also improve climate resilience, land productivity and carbon storage, as well as improve access to diversified sources of income in selected vulnerable rural major watersheds found in Amhara, Benishangul Gumuz, Gambella, Oromiya, SNNP, Sidama, and Tigray regional states. The beneficial impacts of the project includes: (i) improved soil and water source conservation, which contributes to proper water management and increased soil moisture that can reduce variability in response to flood/drought conditions, (ii) soil retention, which can provide benefits both on-site in terms of soil quality and off-site in terms of reduced erosion, (iii) land savings or erosion prevention, increased soil fertility (which is a determining factor for higher and less variable crop yields), (iv) increased vegetation cover, which helps to prevent erosion and improved downstream water quality, while simultaneously supporting biodiversity, which will be further enhanced through investment in green corridors, etc.

83. Notwithstanding its positive impacts, RLLP II can also impose some potential negative impacts which are mostly site-specific and reversible in nature. The environmental impacts of the project are primarily associated with subproject activities under Component 1. Negative impacts may arise as a result of infrastructure work to be financed; such as: construction and rehabilitation work of the physical and biological conservation structures (bunds, terraces, water harvesting trenches, check-dams, small reservoirs, and other civil works); soil fertility and moisture management; assisted natural regeneration; enclosures plus livestock land use rationalization, intercropping, minimum tillage, gully reclamation, grazing corridors, watering points and wells, pastoral strategies, etc., as well as afforestation and reforestation on communal and private lands.

84. The environmental risk classification for this project is Substantial. The potential negative environmental impacts of proceeding are Substantial. Some of the anticipated environmental concerns include: (i) limited capacity at local levels in terms of identification, analysis and implementation of the environmental and social risks, (ii) possible introduction of invasive species (during afforestation/re-afforestation and introduction of improved crop or animal species), soil erosion (during tillage, community access road construction, and other agricultural related activities), potential conflict among and between the land users, (iii) occupational health and safety during access road construction, terracing, animal husbandry, (iv) potential conflict between and among the community water users due to inadequate community engagement, (v) possible soil erosion, land degradation, water source depletion and contamination, etc. could also arise in relation to improper agricultural activities, road construction and water harvesting activities, (vi) prevalence of vector borne disease, (commonly malaria) because of water lodging within small dams and community ponds, (vii) possible impact of agrochemicals (fertilizers, herbicides, insecticides) on community health and the natural ecosystem. These impacts will be minimized by addressing the capacity needs at all levels and incorporating mitigation measures. Based on the type and extent of the aforesaid and other envisioned environmental related impacts, construction and rehabilitation work of the physical and biological conservation structures (bunds, terraces, water harvesting trenches, check-dams, small reservoirs, and other civil works), the potential environmental risk of the project is classified to be Substantial.

85. The social risk classification for this project is Substantial. The potential negative social impacts are substantial. The project is not complex and does not involve activities that have significant potential for harming people. To date, the nature of land take in RLLP II has been voluntary and small in scope. The following are key potential social risks:



86. **Component 1: Green Infrastructure and Resilient Livelihoods.** The potential risks include (i) not properly addressing the circumstances of people such as hunters and gatherers, who pursue particular livelihood systems and natural resource management strategies due to the project focus on supporting smallholder farmers; (ii) creation of benefit streams through markets and other market based instruments like results-based payments involve the risk/challenge of not properly considering the elderly, people with disability and poor members of the community; (iii) watershed community saving is part of the project activities that helps Users Groups who voluntarily organize themselves to engage in IGA suitable to their respective environment. In principle membership is open to all members, but the minimum cash contribution and active participation requirement to run the IGA leaves out some members of the community could not afford the registration and primary contributions for setting up the IGAs. This involves the risk of further disadvantaging vulnerable groups; and (iv) women headed household may face the risk of not benefiting from the Project in equal measure with male counterparts because of not being able to balance their domestic responsibilities with their project-related role in the treatment of communal lands. Further, the risk mitigation measure relies on carefully designed and community vetted inclusive targeting criteria to identify eligible households prioritized based on local context.

87. **Component 2: Investing in Institutions and Information for Resilience:** Inadequate attention to the use of locally available indigenous knowledge systems and time-tested adaptation strategies can undermine the potential positive role and contribution of indigenous knowledge.

88. The environmental and social risk mitigation measure relies on carefully designed and community assessed inclusive targeting criteria to identify eligible households prioritized based on local context. The parent RLLP (P163383 and P172462) environmental and social risk management instruments including Environment and Social Management Framework (ESMF), Resettlement Policy Framework (RPF), Social Assessment (SA) including a Social Development Plan (SDP) and Gender Mainstreaming Guideline (GMG) were prepared under the WB's Operational Policy and publicly disclosed. The ESMF, RPF, SA and GMG will be updated to capture the requirements of the Environment and Social Framework (ESF), reviewed and cleared by the Bank and disclosed prior to appraisal of the project. The instruments will be updated to provide risk mitigation measures for the proposed GCF finance reflecting the requirements of applicable environment and social standards. In addition, a Stakeholder Engagement Plan (SEP), Labor Management Procedures (LMP), and Environment and Social Commitment Plan (ESCP) will be developed prior to appraisal.

89. **Institutional and Implementation Arrangements:** The RLLP II will use the existing RLLP (P163383 and P172462) implementation arrangements from national, region, woreda and kebele level (see further details in Annex 3). The implementation of the RLLP II activities and particularly the environmental and social safeguard will take place through the existing government institutional structures from the federal to the local or community level. RLLP II will build upon this implementation structure and the built capacity, which include environmental and social risk management instruments including the ESMF, SA, RPF, LMP, SEP and GMG.

90. **At Federal/National level:** the overall coordination and implementation of the project will be facilitated by the MoA in collaboration with other relevant Ministries (e.g. MoF, MoWIE, EFCC, etc). The RLLP has its own National Steering Committee (NSC) and will use an independent and responsible National Technical Committee (NTC) which existed for SLMP II. The RLLP Project Coordination Unit (RLLP-PCU) within the MoA is the core unit that coordinates the project activities, preparation of annual work plan and progress reports including environmental and social risk management technical support and reporting of implementation progress, environmental and social risk management.

91. **Regional:** Implementation will be led by the BoA. BoA will use regional coordinator recruited for RLLP are



responsible for approving annual work plan and progress reports from the Woredas. The reports would then be submitted to the National RLLP-PCU. A Regional Steering Committee (RSC) will be formed from heads of relevant sectors to provide guidance and leadership at the regional level. The RSC will meet quarterly to review performance, endorse the quarterly progress reports and provide necessary guidance on project implementation, including environmental and social risk management technical support and reporting.

92. **Woreda and Kebele level:** The implementation of the project will be undertaken jointly by Woreda office of Agriculture through the Woreda Technical Committee (WTC), the KWT, and communities. The WoA will assign an independent Focal Person who will take the lead responsibility in the overall implementation of the program. The WTC and KWT will assist communities in (i) developing annual work plan and budgets for submission to the Region for endorsement and integration into the Regions work plan and budgets; (ii) facilitating community participation in watershed planning and rehabilitation; (iii) environmental and social screening, implementing mitigation measures, monitoring and reporting.

93. **Stakeholder Engagement, Consultation and Participation:** RLLP II will rely on a participatory approach anchored on the MoA CBPWDG. RLLP II will engage in meaningful consultations with all stakeholders throughout the project lifecycle, paying attention to the inclusion of historically underserved peoples, vulnerable and disadvantaged groups (including the elderly, persons with disabilities, female headed households and orphans and vulnerable children). As part of the safeguard's instruments preparation, PCU conducted stakeholder consultations at sites selected to fairly represent views including fair representation of ethnic minorities, vulnerable groups and underserved peoples. During project mobilization stakeholders will become conversant with safeguards principles and the rationale for participatory approaches. Furthermore, MoA will prepare and implement an inclusive country-level SEP proportional to the nature and scale of potential risks and impacts.

94. **Labor and Working Conditions:** Although the civil works under RLLP II are small in scale, to minimize the impact of the influx of external labor on the community, such as (a) unfair wages paid by contractors, (b) increased living costs and food prices in local markets, (c) risk of cultural misunderstanding or exploitation, and (d) risk of sexual exploitation due to workers' relations with local women or girls, the project will draw on the analytical work and proposed action plan which define the RLLP's approach on gender, which is based on an exploration of values and norms, and the legal, social and economic context. The RLLP II will ensure adequate risk mitigation measures based on the scope of the civil works to be supported, through; (a) ensuring equitable project benefits for women and girls; (b) promoting prevention, mitigation and referral services to address risks of sexual exploitation and abuse; (c) promotion of fair treatment, non-discrimination and equal pay for equal work for all workers; and (d) having a code of conduct on relationships with the local community incorporated into bidding documents, including LMPs to prevent and address sexual harassment, unwanted pregnancies, and intimidation or exploitation of members of the local community.

95. **Grievance Redress Mechanism (GRM):** Communities and individuals in RLLP II operation sites who believe that they are adversely affected by the project may submit complaints to the project-level GRM already established in the RLLP (P163383 and P172462) and that will be put in place in the new woredas during preparation of MYDPs, or the Bank's GRS. Areas for improvement of the RLLP (P163383) GRM include scaling-up of best practices for documentation and reporting. Complaints from affected people in RLLPII included targeting for SLM works and IGAs, and requests for information on the overall operation. Design of the RLLP II has built on this experience and the general Ethiopian grievance redress systems as part of a robust risk mitigation measures and uses local institutions as relevant. A Procedural Manual for Regional Public Grievance Redress Offices was developed detailing the procedures, roles and responsibilities to resolve beneficiaries' complaints. Grievance committees at various levels of the project will ensure complaints



received are promptly reviewed to address project-related concerns, including logging, tracking and documenting.

V. GRIEVANCE REDRESS SERVICES

96. Communities and individuals who believe that they are adversely affected by a World Bank (WB) supported project may submit complaints to existing project-level grievance redress mechanisms or the WB's Grievance Redress Service (GRS). The GRS ensures that complaints received are promptly reviewed in order to address project-related concerns. Project affected communities and individuals may submit their complaint to the WB's independent Inspection Panel which determines whether harm occurred, or could occur, as a result of WB non-compliance with its policies and procedures. Complaints may be submitted at any time after concerns have been brought directly to the World Bank's attention, and Bank Management has been given an opportunity to respond. For information on how to submit complaints to the World Bank's corporate Grievance Redress Service (GRS), please visit <http://www.worldbank.org/en/projects-operations/products-and-services/grievance-redress-service>. For information on how to submit complaints to the World Bank Inspection Panel, please visit www.inspectionpanel.org.

KEY RISKS

97. The overall risk rating for achieving the RLLP II development objective is **Substantial**. The project design Five I categories of risk are rated substantial: political and governance; institutional capacity for implementation and sustainability; fiduciary; environmental; and stakeholder; and COVID-19. The valuable experience gained during implementation of RLLP and SLMP 1 and SLMP 2, as well as the significant Recipient-executed and Bank-executed resources allocated in the past 5 years for coordination and capacity building efforts, are expected to be instrumental to improve or identify viable measures to mitigate these risks. RLLP II will use the same institutional arrangements as RLLP thereby enabling implementation units to effectively integrate experience and capacity and more readily undertake mitigation actions.

98. Political and governance risk: Sporadic civil unrest in project areas continues to be a risk to implementation. Implementation of SLM activities continues in all highland regions, however, there remains a risk that preparation and/or implementation of the proposed project could slow or be suspended due to a potential re-emergence of civil disturbances. RLLP II will adopt the approach of other Bank-financed operations and build upon SLMP-2 and RLLP experience and capacity, including: (i) careful implementation support mission planning that emphasizes security; (ii) strategic communication and outreach; (iii) sound safeguards monitoring; and (iv) enhanced transparency in project-supported activities. RLLP II will also contribute to alleviating some of the drivers of civil unrest, including natural resource degradation, rural landlessness and joblessness.

99. Institutional capacity for implementation and sustainability risk is substantial due to due to a number of issues including: (i) the limited human resources available at the field level; (ii) the challenge of implementing a reliable and cost-effective M&E system; and (iii) weak coordination among institutions and programs, including between the Natural Resource Management (NRM) Directorate of MoA and the NPCU. This set of risks will be mitigated through: (i) continual training on project management and monitoring at all levels; (ii) enhanced technical coordination among the directorates responsible for managing watersheds (NRMD) and promoting land titling and land administration (RLAUD) and the NPCU; (iii) the execution of the MoU signed by the MoA and Regional BoAs clarifying accountability and targets at all levels; and (iv) coordination between development partners through the Rural Economic Development and Food Security platform of the MoA, and its Technical Committee on SLM.



100. Fiduciary risk: Lessons drawn from the existing RLLP note such weaknesses as delay in budget preparation and approval; low budget utilization; delay in the roll out of the computerized accounting system and in some woredas manual recording and reporting; weak tracking and reporting progress; low quality IFRs. The nature of the project, especially its decentralized nature, poses risks of delayed reporting and adequacy in staffing while requiring constant follow up from the PCU. The fact that the Project will be in part implemented in the same woredas as the RLLP poses the risk of double dipping. Activities and expenditures may be comingled among the two projects and it may be difficult to separate activities. Additionally, capacity and turnover at federal, regional and woreda levels will continue to be an issue that requires constant follow-up and capacity building. A detailed financial management assessment will be carried out, in accordance with IPF policies and procedures, during the subsequent project preparation stages. The assessment will focus on the implementing entities at the federal and regional level, including the proposed participating woredas. Risks will be clearly defined with mitigating measures and FM arrangements designed accordingly. An action plan will be prepared and agreed with the government to monitor the financial management risks that are identified.

101. Stakeholder risk: This includes (i) weak multi-sectoral coordination, and (ii) risk of potential elite capture of project benefits at the local level and exclusion of some stakeholders, particularly underserved members of targeted communities. These are addressed through intersectoral coordination mechanisms at the federal, regional and woreda levels. In addition to the Grievance Redress Services (GRS– see above), to mitigate these risks the project will implement communication measures to inform local communities, strengthen participatory development, and enhance transparency.

102. COVID-19 Risk: COVID-19 poses several challenges to RLLP II implementation. Principal among them is its potential to slow the pace of project implementation. Expected disturbances in local markets and distribution networks may cause project benefits to fluctuate during the pandemic and thereby the pace at which benefits accrue at the local level. To mitigate possible implementation disruptions, the Bank and the Government of Ethiopia have committed to enhance remote monitoring, facilitate consultations, and ensure project implementation momentum. Remote supervision tools will be used to facilitate site observation and data gathering. Best practices to control the COVID-19 outbreak will continue to be practiced in the project area including use of masks, handwashing, social distancing, and dissemination of national health guidelines. Furthermore, efforts are underway to identify opportunities to accelerate IGAs and value chain interventions intended to improve rural household livelihoods and incomes in the degraded watersheds.



VII. RESULTS FRAMEWORK AND MONITORING

Results Framework

COUNTRY: Ethiopia

Second Ethiopia Resilient Landscapes and Livelihoods Project

Project Development Objectives(s)

To improve climate resilience, land productivity and carbon storage, and increase access to diversified livelihood activities in selected rural watersheds.

Project Development Objective Indicators

Indicator Name	PBC	Baseline	End Target
Improve climate resilience and land productivity			
Land area under sustainable landscape management practices (CRI, Hectare(Ha))		0.00	419,000.00
Land area restored or reforested/afforested (Hectare(Ha))		0.00	39,700.00
Land area with productivity enhancing practices applied (Hectare(Ha))		0.00	68,000.00
Project area showing an increase in NDVI correcting for climate effects (Percentage)		0.00	50.00
Project area showing an increase in LSWI correcting for climate effects (Percentage)		0.00	50.00
Improve carbon storage			
Net greenhouse gas emissions (Tones/year)		0.00	-915,000.00



Indicator Name	PBC	Baseline	End Target
Expected tonnes of carbon dioxide equivalent (t CO2 eq) to be reduced or avoided (Metric ton)		0.00	2,967,235.00
Increase access to diversified livelihood activities			
Households adopting diversified livelihood activities supported by the project (Number)		0.00	41,400.00
Female-headed households participating in diversified livelihood activities supported by the project (Number)		0.00	7,200.00

Intermediate Results Indicators by Components

Indicator Name	PBC	Baseline	End Target
Component 1: Green Infrastructure and Resilient Livelihoods			
IR 1. Share of target beneficiaries with rating 'Satisfied' or above on project interventions (aspects: livelihoods, environmental benefits, others) (Percentage)		0.00	65.00
IR 1a. Share of target women beneficiaries with rating 'Satisfied' or above on project interventions (Percentage)		0.00	65.00
IR 2. Targeted major watersheds with Multi-Year Development Plan 100% implemented (Number)		0.00	47.00
IR 2a. Targeted major watersheds with Multi-Year Development Plan approved (Number)		0.00	47.00
IR 3. Area enclosure as a result of the project (Hectare(Ha))		0.00	29,000.00
IR 4. Land users adopting sustainable land management practices as a result of the project (Number)		0.00	99,400.00
IR 4a. Women land users adopting sustainable land		0.00	56,000.00



Indicator Name	PBC	Baseline	End Target
management practices as a result of the project (Number)			
IR 4b. Female headed households adopting sustainable land management practices as a result of the project (Number)		0.00	9,300.00
IR 5. Functional Common-Interest Groups (CIGs) established or supported. (Number)		0.00	673.00
IR 6. People participating in income-generating activities supported by the project (Number)		0.00	74,600.00
IR 6a. Women participating in income generating activities supported by the project (Number)		0.00	43,200.00
Component 2: Investing in Institutions and Information for Resilience			
IR 7. Community Watershed Users' Cooperative Societies (CWUCS) established and strengthened (Number)		0.00	522.00
IR 7a. CWUCS's with Watershed Management and Use Plan (Number)		0.00	407.00
IR 8. Woreda information centers being effectively used by project stakeholders (Number)		0.00	40.00
IR 14. number of direct beneficiaries (Number)		0.00	706,133.00
IR14a. Number of indirect beneficiaries (Number)		0.00	5,460,489.00
IR 15. Number of males and females made aware of climate threats and related appropriate responses (Number)		0.00	199,094.00
IR15a. Number of females made aware of climate threats and related appropriate responses (Number)		0.00	109,444.00
IR 16. Area under sustainable forest management (Hectare(Ha))		0.00	30,000.00
IR 17. Key habitats protected (Number)		0.00	3.00



Monitoring & Evaluation Plan: PDO Indicators

Indicator Name	Definition/Description	Frequency	Datasource	Methodology for Data Collection	Responsibility for Data Collection
Land area under sustainable landscape management practices	The indicator measures, in hectares, the land area for which new and/or improved sustainable landscape management practices have been introduced. Land is the terrestrial biologically productive system comprising soil, vegetation, and the associated ecological and hydrological processes; Adoption refers to change of practice or change in the use of a technology promoted or introduced by the project; Sustainable landscape management (SLM) practices refers to a combination of at least two technologies and approaches to increase land quality and restore degraded lands for example, agronomic, vegetative, structural, and management measures that, applied as a combination, increase the	Annual	Collected by DA's and other local agents as appropriate. After reviewing by World Bank agency data is processed by the PSU for reporting.	The appropriate package of land management activities restores degraded lands and promotes improved management that not only increases productivity but also enhances resilience by building absorptive and adaptive capacity that limits the adverse effects of climate change. Sustainable landscape management (SLM) practices refers to a combination of technologies and approaches to increase land quality and restore degraded land including catchment management which encompasses a set of different dependent measures in a certain area, with overall planning and	Federal PCU



	connectivity between protected areas, forest land, rangeland, and agriculture land.			management. Characterizing catchment area in terms of watershed basin, this indicator counts the total area of a micro watershed once all the prescribed soil and water conservation measures identified for that micro watershed in the relevant Multi-Year Development Plan (MYDP) have been implemented. MYDPs are developed in accordance with the Community-Based Participatory Watershed Development Guidelines (CBPWDGs) and consist of a range of land management technologies and approaches designed to restore degraded lands and promote improved management, that not only support increased productivity but also enhance resilience by	
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				<p>building absorptive and adaptive capacity that limit the adverse effects of climate change. To be counted towards achievement under PDO1, a micro watershed is required to have treated at least 90% of the area planned in their MYDP under RLLP II. The RLLP II MYDP details the planned SWC and other related activities supported using RLLP II resources (including community contributions and government contributions). This indicator is expected to start showing achievement in the 2nd and 3rd years. For PROGREEN reporting this indicator is equivalent to 'Landscapes with improved climate resilience' under climate change</p>	
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				adaptation. Watersheds supported by PROGREEN contribute 88,000 ha towards the end target based on at least 80% of watersheds completing their MYDP	
Land area restored or reforested/afforested	This indicator tracks areas treated with measures to return the land to its natural, semi-natural, or forested state. It includes habitat restoration and other conservation measures to restore biodiversity, establishment of forest on land with and without recent tree cover, gully area stabilization, degraded area closures, degraded area woodlot establishment, area covered by bamboo plantation on degraded area. This indicator does not include areas, which have been cleared during or in anticipation of the project. Area re/afforested refers to “establishment of forest	Annual	Collected by DA's and other local agents as appropriate. After reviewing by Woreda agent, data is processed by the PCU for reporting.		Federal PCU



	<p>through planting, and/or deliberate seeding on land that, until then, was not classified as forest” or “re-establishment of forest through planting and/or deliberate seeding on land classified as forest” expressed in hectare (ha). This can include also assisted natural regeneration, coppicing or other locally appropriate methods. When reporting, the area reforested/afforested should be reported as a subset.</p> <p>For PROGREEN reporting this indicator is equivalent to ‘Land area under restoration’. The target for PROGREEN watersheds is 11,700 ha and is based on plans developed by communities in the planning stage.</p>				
Land area with productivity enhancing practices applied	This covers the total area of individually held land on which Climate Smart Agriculture (CSA) practices	Annual	Collected by DA's and other local agents as	While this indicator measures land area with productivity enhancing practices	Federal PCU



	<p>have been adopted under the project. The application of improved, productivity enhancing, technologies on farmland promotes transformative resilience by introducing climate conscious practices and undertaking investments that fundamentally changing how land resources are used while at the same time while at the same time improving absorptive and adaptive capacity that limits the adverse effects of climate change.</p>		<p>appropriate. After reviewing by Woreda agent, data is processed by the PSU for reporting.</p>	<p>applied, the effect of these practices on productivity will be measured and reported separately through an impact evaluation.</p>	
<p>Project area showing an increase in NDVI correcting for climate effects</p>	<p>The Normalized Difference Vegetation Index (NDVI) measures photosynthetic activity and vegetation cover. Changes in vegetation cover and intensity correlates with improvement in land productivity, increased carbon storage, and greater resilience to climate change due to improved absorptive and adaptive capacity (as per the PDO). Utilizing</p>	<p>Mid-term, Endline</p>	<p>Remote-sensed satellite imagery. Uses historical data to develop a model that is used to control for climate effects</p>	<p>Remotely-sensed information will be used to measure change in NDVI in project areas over the project period, correcting for climate effects.</p>	<p>PCU with support from external GIS and remote-sensing expert</p>



	<p>visible-red and near-infrared spectral bands, NDVI is one measure for detecting vegetation cover and can be used to track changes in vegetation over time. This indicator is meant to add value when used in combination with other indicators, and provides a benchmark for physical achievement under the operation and can be computed using remote-sensed satellite imagery data.</p> <p>Progress under this indicator is tracked by computing, at the pixel-level (using a spatial resolution of 30mx30m), the change in annual average NDVI from baseline, selecting pixels showing an improvement over the baseline after adjusting for external factors (i.e. seasonal or climatic variables). NDVI values are computed using medium resolution imagery (i.e. LandSat 8 or Sentinel-2)</p>				
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	<p>and incorporating a masking routine to exclude pixels that can result in unreliable estimates (i.e. containing clouds, shadows, water cover, etc.). The share of the project area showing an improvement in NDVI is evaluated after an appropriate lag (i.e. 1 or 2 years) on areas where interventions have taken place (PDO 1). Information on spatial location and timing of interventions in each of the project watersheds is required for tracking this intervention.</p> <p>Assessing performance under this indicator measures change from the baseline and compares this against any change that would have occurred without the intervention (i.e. the counterfactual). Given the lack of satisfaction with how remote-sensing based indicators have performed in the past, largely as a result of failing</p>				
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	<p>to control for external factors, the methodology establishing the 'counterfactual' for comparison will incorporate best practices and state of the art methods and data for modeling index values based on remote-sensed data. To avail of improvements in methods or data, the underlying methods and benchmark statistical model may be updated during the course of the project as appropriate.</p>				
<p>Project area showing an increase in LSWI correcting for climate effects</p>	<p>The Land Surface Water Index (LSWI) measures moisture content in soil and vegetation. Improved land management practices leads to better water retention, less runoff during heavy rains and improves moisture availability during dry seasons thereby supporting more vigorous and enduring plant growth during periods of little or no rain. Soil and vegetation moisture content</p>	<p>Mid-term, Endline</p>	<p>Remote-sensed satellite imagery. Uses historical data to develop a model that is used to control for climate effects</p>	<p>Remotely-sensed information will be used to measure change in LSWI in project areas over the project period, correcting for climate effects.</p>	<p>PCU with support from external GIS and remote-sensing expert</p>



	<p>correlates with improvement in land productivity, increased carbon storage, and greater resilience to climate change due to improved absorptive and adaptive capacity (as per the PDO). The LSWI is the normalized difference between the near-infrared and short wave infrared spectral bands and ranges from -1 to 1. This indicator usefully complements NDVI and is meant to add value when used in combination with other indicators, and provides a benchmark for physical achievement under the operation and can be computed using remote-sensed satellite imagery data.</p> <p>Progress under this indicator is tracked by computing, at the pixel-level (using a spatial resolution of 30mx30m), the change in annual average LSWI from baseline, selecting pixels showing an improvement</p>				
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	<p>over the baseline after adjusting for external factors (i.e. seasonal or climatic variables). LSWI values are computed using medium resolution imagery (i.e. LandSat 8 or Sentinel-2) and incorporating a masking routine to exclude pixels that can result in unreliable estimates (i.e. containing clouds, shadows, water cover, etc.). The share of the project area showing an improvement in LSWI is evaluated after an appropriate lag (i.e. 1 or 2 years) on areas where interventions have taken place (PDO 1). Information on spatial location and timing of interventions in each of the project watersheds is required for tracking this intervention.</p> <p>Assessing performance under this indicator measures change from the baseline and compares this against any change that would have occurred</p>				
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	<p>without the intervention (i.e. the counterfactual). Given the lack of satisfaction with how remote-sensing based indicators have performed in the past, largely as a result of failing to control for external factors, the methodology establishing the 'counterfactual' for comparison will incorporate best practices and state of the art methods and data for modeling index values based on remote-sensed data. To avail of improvements in methods or data, the underlying methods and benchmark statistical model may be updated during the course of the project as appropriate.</p>				
Net greenhouse gas emissions		Annual		Measures net change in CO2 emissions as a result of the project's wide range of on-ground land management and use interventions. Changes	Federal PCU



				<p>in the amount of carbon present in soil, crop, rangeland and forest/trees or mixed or mosaic systems can indicate overall changes in system productivity or degradation, and the extent to which the natural resource is being managed sustainably and can recover to shocks such as drought. The method used is the ExAct carbon balance estimation tool, which calculates carbon accumulation and emissions based on project biophysical output data. Net greenhouse gas (GHG) emissions are calculated as an annual average of the difference between project gross (absolute) emissions aggregated over the economic lifetime of the project and the emissions of a</p>	
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				baseline (counterfactual) scenario aggregated over the same time horizon. The indicator value is negative if the project is reducing emissions, and positive if the project is increasing emissions. The economic lifetime of the project is assumed to be 25 years (5 implementation and 20 post-project years, the same time horizon used in the Economic and Financial Analysis).	
Expected tonnes of carbon dioxide equivalent (t CO2 eq) to be reduced or avoided					
Households adopting diversified livelihood activities supported by the project	This variable captures household's reduced vulnerability to climate change through the adoption of nontraditional activities. By diversifying their livelihood portfolios, households are being proactive in adapting and transforming their	Mid-term, Endline	Based on information collected as part of stakeholder/beneficiary survey.		Federal PCU



	<p>livelihoods to limit exposure to future shocks due to climate change and extreme weather events. This indicator is measured as the percent of households engaging in approved, non-traditional activities, relative to the total number of households in the project area. The definition of what constitutes the set of potential non-traditional activities is set out in the Project Implementation Manual (PIM) and applies to activities that are expected to reduce households' vulnerability to future shocks associated with extreme weather events and climate change by diversifying livelihood activities and increasing the resilience of natural (i.e. land) resources. The target value reflects a household adoption rate of 30 percent.</p>				
<p>Female-headed households participating in diversified livelihood activities supported by the project</p>	<p>Female-headed households represent approximately 15 percent of all households and assumes roughly 35</p>	<p>Mid-term, Endline</p>	<p>Based on information collected as part of</p>		<p>Federal PCU</p>



	percent adoption.		stakeholder/ beneficiary survey.		
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Monitoring & Evaluation Plan: Intermediate Results Indicators

Indicator Name	Definition/Description	Frequency	Datasource	Methodology for Data Collection	Responsibility for Data Collection
IR 1. Share of target beneficiaries with rating 'Satisfied' or above on project interventions (aspects: livelihoods, environmental benefits, others)	<p>Captures engagement with stakeholders and extent to which project is meeting stakeholder demand. This is based on a survey administered to households in the project watersheds. The survey instrument is comprised of small number of questions (approx. 15-25), which will measure the extent to which the project reflected expectations and preferences of beneficiaries in the project watersheds.</p> <p>Survey techniques will be used to document male and female beneficiary priorities at project outset. Surveys during and at the close of the project may identify</p>	Mid-term, Endline	Based on information collected as part of stakeholder/beneficiary survey.		Federal PCU responsible for contracting third party or arranging data collection.



	<p>respondents' satisfaction with project investments, including a specific question about the degree to which respondents felt project activities reflected their preferences (ex post). The survey will include the following question: "How satisfied are you that the project activities associated with RLLP is useful to you? [scale 1-5 representing very unsatisfied to very satisfied, with a score of "3" representing neither satisfied nor dissatisfied.]". The indicator will record the percentage of men and women reporting scores of 4 or 5 in response to this question.</p>				
IR 1a. Share of target women beneficiaries with rating 'Satisfied' or above on project interventions		Same as parent indicator.	Same as parent indicator.		Same as parent indicator.
IR 2. Targeted major watersheds with Multi-Year Development Plan 100% implemented	The Multi-Year Development Plan (MYDP) defines the SLM activities that will be undertaken by the Project to treat each target watershed. At the	Annual	Reported by woreda and captured as part of the regular M&E reporting.		Federal PCU



	<p>start of RLLP, 90 MYDPs have been approved for the SLMP-II watersheds, and all are more than halfway completed. By the end of Project, it is expected that MYDPs will have been approved and completed for all SLMP-2 watersheds, plus 17 new RLLP watersheds.</p> <p>This indicator measures the number of watersheds in the project area for which an MYDP has been approved by the Woreda or regional SLMP coordination platform and fully implemented. In a given major watershed, the MYDP is a collection of multi-year plans for each micro-watershed targeted by the project. The MYDP includes baseline data, basemaps, and detailed information on the activities and interventions prescribed to stabilize each of the targeted micro-watersheds (with timelines and budgets).</p>				
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	Each activity within a MYDP is assigned an associated activity area. Percent completion of each MYDP is measured as the sum of the activity areas of completed activities, relative to the total activity area of all the activities included in the MYDP. Note that the sum of the activity areas included in a MYDP is less than the total area of the micro watersheds that will be considered treated when the MYDP is completed.				
IR 2a. Targeted major watersheds with Multi-Year Development Plan approved		Annual	Reported by woreda and captured as part of the regular M&E reporting.		Federal PCU
IR 3. Area enclosure as a result of the project	This indicator tracks areas where grazing is restricted. Limiting or completely restricting livestock to these areas improves the resilience by increasing absorptive and adaptive capacity of the lands treated	Annual	Collected by DA's and other local agents as appropriate. After reviewing by Woreda		Federal PCU



	and, when complemented with other improved management practices like cut-and-carry, increases productivity and potential for generating additional income.		agent, data is processed by PSU for reporting.		
IR 4. Land users adopting sustainable land management practices as a result of the project	This indicator measures the share of users adopting sustainable land management practices in the project areas. Access to and adoption of climate-adapted agricultural practices/ technologies improves resilience to climate change by increasing absorptive and adaptive capacity as well transformative capacity when these new practices result in a fundamental change in how land resources are used and managed. Adoption refers to change of practice or change in the use of a technology promoted or introduced by the project. Admissible land management and improved technologies refers to a	Baseline, Mid-term, Endline	Based on information collected as part of stakeholder/beneficiary survey.		Federal PCU



	<p>range of locally appropriate physical activities such as soil and water conservation (SWC), agroforestry, and/or climate-smart agriculture (CSA) that are supported by RLLP via extension support or financing. These packages are listed in the Community-based Participatory Watershed Management Guidelines, CSA Field Manual, Project Implementation Manual, and other project documentation. Access to and adoption of climate-adapted agricultural practices/ technologies improves resilience to climate change. Land users are based on the number of adult individuals within the household who are considered to be land users. In married/joint households where both the wife and husband are engaged in livelihood activities using land both individuals can contribute to the total number of users. Users of</p>				
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	<p>both individually and communally held land is permissible.</p> <p>This indicator is tracked as part of the stakeholder/beneficiary survey.</p> <p>For PROGREEN reporting this indicator is equivalent to 'Land-users adopting new practices in targeted landscapes'. The target for PROGREEN watersheds is 9,000 and reflects a 40% adoption rate among the estimated 22,500 land users.</p>				
IR 4a. Women land users adopting sustainable land management practices as a result of the project		Same as parent indicator.	Same as parent indicator.		Same as parent indicator.
IR 4b. Female headed households adopting sustainable land management practices as a result of the project		Same as parent indicator.	Same as parent indicator.		Same as parent indicator.
IR 5. Functional Common-Interest Groups (CIGs) established or supported.	This indicator tracks the number of formal community-based groups established or supported	Annual	Collected by DA's and other local agents		Federal PCU



	<p>under RLLP that are active in watershed management and/or income generating activities. Through these groups communities management of watershed resources are improved and opportunities for new, non-traditional activities are promoted. Improved community ownership and management of land resources combined with greater livelihood alternatives increases resilience by developing adaptive and transformative capacity. Groups covered under this indicator include, but are not limited to, community coordination platforms such as local watershed teams, watershed user associations, water user associations and different self-help groups for such activities as poultry promotion, shoat fattening, and apiculture promotion. "Established" refers to a documented list of</p>				
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	individuals and positions, and by-laws. "Functional" refers to the level of activity as evidenced by minutes and other documentation.				
IR 6. People participating in income-generating activities supported by the project	<p>Measures number of individuals engaged in income generating activities promoted by the project. The associated activities increases opportunities for diversifying livelihood and increasing resilience as a result by developing adaptive capacity as well as having a transformative impact through greater access to non-traditional livelihood strategies. Activities include, but are not limited to, apiculture promotion, poultry production, fattening, fruits, vegetables and cash crops as well as those individuals who are involved in the production and marketing of improved cook stoves.</p> <p>This indicator treats individuals under this indicator equally whether</p>	Mid-term, Endline	Based on information collected as part of stakeholder/beneficiary survey and household survey.		Federal PCU responsible for contracting third party or arranging data collection.



	<p>undertaking activities on their own or as part of a group, in which case the number of active group participants contributes to the total. In some instances individuals may engage in or belong to one or more groups involved with project-supported income generating activities but should be counted only once.</p> <p>This indicator is tracked as part of the stakeholder/beneficiary survey.</p> <p>For PROGREEN reporting sub-indicator 6a corresponds to 'Women and youth with increased benefits from landscape-based value chains'. The target for PROGREEN watersheds is 3,700 and reflects women being targeted at a higher rate, 55%, among individuals participating in income-generating activities (the</p>				
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	target for PROGREEN watersheds in the parent indicator is 6,800).				
IR 6a. Women participating in income generating activities supported by the project		Same as parent indicator.	Same as parent indicator.		Same as parent indicator.
IR 7. Community Watershed Users' Cooperative Societies (CWUCS) established and strengthened	By the end of the project period, all SLMP-I (45) and SLMP-II (90) watersheds are expected to have completed their MYDPs and graduated from project-based support for SLM. To help ensure the sustainability of the SLM interventions, the Project will provide support for the creation of Community Watershed Users' Cooperative Societies (CWUCSs) in each graduating watershed, to replace the project-based Community Watershed Teams (CWTs) and Kebele Watershed Teams (KWTs) with legally recognized institution for the ongoing planning and management of the watershed. This indicator measures the	Annual	Reported by woreda and captured as part of the regular M&E reporting.		Federal PCU



	<p>number of such CWUCSs legally formed for Project watersheds.</p> <p>Watershed Management and Use Plans (WMUPs) agreed by CWUCSs will detail management and use for graduating watersheds, outlining agreements to conserve and utilize the resources, and establishing bylaws for managing and implementing conservation activities and the distribution of benefits. The development of these WMUPs is critical for ensuring land resources are used and managed in a way that enhances absorptive and adaptive capacity to climate change, promoting resilience broadly at the landscape level. This indicate measures the number of targeted watersheds in the Project area that have developed a WMUP approved locally by the CWUCSs, and either the Woreda or regional SLMP</p>				
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	coordination platform				
IR 7a. CWUCS's with Watershed Management and Use Plan		Same as parent indicator.	Same as parent indicator.		Same as parent indicator.
IR 8. Woreda information centers being effectively used by project stakeholders	Woreda information centers serve as repositories for data, information and knowledge products relating to SLM and make this information publicly available for multiple audiences. Access to relevant and up-to-date information improves decision-making for planning and implementation of climate resilient strategies that are absorptive, adaptive, and transformative. The information provided by these centers includes, for example, best practices, indigenous knowledge and experience of farmers, and scientific knowledge and practices. These centers also collect and document biophysical, socio-economic, and spatial information (i.e.	Mid-term, Endline	Based on information collected as part of stakeholder/beneficiary survey.		Federal PCU with relevant regional expert to document the centers' functionality



	<p>maps) as part of a comprehensive database to track changes and impacts of RLLP. These information centers are expected to be equipped with basic office furniture, computers, shelf cabinets, scanners, photocopiers, as relevant, and may provide space for reading and learning.</p> <p>The functionality and effectiveness of these information centers will be tracked as part of the stakeholder/beneficiary survey.</p>				
IR 14. number of direct beneficiaries	<p>Within targeted watersheds, the broader package of interventions generates an array of benefits for individuals, improving livelihoods and promoting greater resilience through a combination of adaptive and transformative measures. Strengthening higher level government institutions – including SLM knowledge, implementing</p>	Annual		Collected by DA's and other local agents	Federal PCU



	<p>capacity and land administration – promotes efficient, forward-looking strategic implementation while continuing to support and strengthen previous investments.</p> <p>The population living within targeted watersheds are considered direct beneficiaries and are counted as achievement under this indicator once the main interventions have been undertaken in accordance with their development objectives. Indirect beneficiaries are those individuals living within supported woredas, but outside the project watersheds.</p>				
IR14a. Number of indirect beneficiaries		Annual		Collected by DA's and other local agents.	Federal PCU
IR 15. Number of males and females made aware of climate threats and related appropriate responses	By raising awareness of climate threats and understanding their impacts locally and regionally, individuals can be proactive	Mid-term, Endline		Based on information collected as part of stakeholder/ beneficiary survey and annual household	Federal PCU responsible for contracting 3rd party or arranging data collection.



	in adapting and transforming their livelihoods to limit exposure to future shocks due to climate change and extreme weather events. Awareness raising activities are expected to reach 80% of the land users in the area targeted (women targeted at a higher rate). This indicator will draw on a number of questions included as part of the beneficiary survey. A score card approach will be developed to assess awareness to climate threats and related issues.			survey.	
IR15a. Number of females made aware of climate threats and related appropriate responses		same as the parent indicator	same as the parent indicator	same as the parent indicator	same as the parent indicator
IR 16. Area under sustainable forest management	Forests that are sustainably managed provide a steady, reliable stream of livelihood and ecosystem benefits thereby increasing absorptive capacity and enhancing landscape resilience by reducing exposure to adverse effects	Annual	Collected by DA's and other local agents and captured as part of regular M&E reporting.		Federal PCU



	<p>of climate change. In addition, enhanced benefits resulting from sustainably managed forests, including harvesting of forest products and those resulting from the protection of key habitats, further complements resilience through adaptive means. This is achieved through Participatory Forest Management (PFM) whereby local communities enter into an agreement with the state to manage, protect, and utilize forests sustainably. PFM is a forest management system to protect forests and enhance the livelihoods of communities who use and benefit from them. The PFM approach entails three distinct phases: i) investigating phase to gather of information about the resources in the forest, develop an understanding about the forest users and other stakeholders, the establishment of an</p>				
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	<p>appropriate forest management group, and assessment and mapping of forest resources; ii) negotiating phase involves the negotiation and signing of forest management plans (detailing forest management activities), the negotiation and signing of forest management agreements (specifying roles, responsibilities and rules); and iii) implementing PFM addresses the implementation of the forest management plan, and adherence to the forest management agreement by the community forest management group, supported by government, joint plan and agreement reviews and revision as part of monitoring and evaluation systems.</p> <p>This indicator measures the forest land area, which, as a result of the project, has been brought under sustainable forest</p>				
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	<p>management following PFM approach. To count towards achievement, the formal agreement with the state (i.e. relevant local, regional, or federal government authority) and local community must be registered and management plan prepared in accordance with PFM approach. Having met these requirements, the area covered by the management plan may be counted towards achievement.</p> <p>This is a PROGREEN indicator and reporting against this is applicable only for watersheds supported by the PROGREEN additional financing. No further disaggregation is required since protected areas or privately owned lands will not be targeted and PFM does not generally cover restoration on degraded land.</p>				
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IR 17. Key habitats protected	Habitats play an important role in the maintaining and creating resilience through both absorptive (i.e. ability to withstand shocks) and adaptive means (i.e. changing slowly over time). Protecting these key habitats is crucial to ensure resilience is preserved, and ideally enhanced, to limit exposure to future shocks as a result of climate change. Ethiopia has 12 key habitats: Desert and Semi Desert Scrubland; Acacia-Commiphora Woodland; Wooded grassland of the western Gambella Region, Combretum-Terminalia Woodland and wooded grassland, Dry Evergreen Afromontane Forest and Grassland Complex, Moist Evergreen Afromontane Forest, Transitional rainforest, Ericeous bel, Aforalpine belt, Riverine forest, Freshwater lakes, lake shores, marsh and floodplain vegetation, Salt lakes, salt-lake shores,	Annual	Collected by DA's and other local agents and captured as part of regular M&E reporting.		Federal PCU
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	<p>marsh and pan vegetation. (Source: Friis, I., Demissew, S., & van Breugel, P. (2011). Atlas of the Potential Vegetation of Ethiopia. Addis Ababa: Addis Ababa University Press & Shama Books).</p> <p>This indicator captures the number of key habitats protected resulting from areas being brought under sustainable forest management in accordance with the PFM approach. Recognizing any one key habitat may span several major watersheds and involve multiple micro watersheds, the protection of a given key habitat might involve a number of agreements and management plans from communities implementing PFM approach. For a key habitat to be considered 'protected' and counted towards achievement, communities with registered agreements and approved</p>				
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	<p>plans must cover the majority of that key habitat's area targeted under sustainable forest management (IR16).</p> <p>This is a PROGREEN indicator and reporting against this is applicable only for watersheds supported by the PROGREEN additional financing.</p>				
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ANNEX 1: Implementation Arrangements and Support Plan

COUNTRY: Ethiopia

Second Ethiopia Resilient Landscapes and Livelihoods Project

1. The proposed RLLP II will largely retain the existing implementation architecture of RLLP, which builds off of the recently completed SLMP-II organizational structure and arrangements. Implementation will be carried out at four levels: Federal, Regional (including Zonal), Woreda (district) and Kebele (sub-district). Decisions in the meetings are subject to MoA concurrence.
2. The National SLM Steering Committee, chaired by the State Minister responsible for Natural Resources Management in MoA, comprises high level representation from MoF, MoWIE, EFCCC and DPs. The Steering Committee is responsible for the following tasks: (a) providing policy guidance, oversight and overall supervision for project implementation; (b) reviewing and approving the consolidated annual work plan, budget and procurement plan; (c) reviewing and approving the annual implementation performance report, and overseeing the execution of any corrective actions that may be designed. The procurement plan has to be submitted and cleared by the Bank through STEP system before implementation.
3. The National SLM Technical Committee is also chaired by the State Minister responsible for Natural Resource Management in MoA. It is made up of senior technical staff from institutions such as MoA, MoWIE, MoF, EFCCC, Ministry of Women and Children Affairs (MoWCA), the Ethiopian Institute for Agricultural Research (EIAR), Cooperative Promotion Agency, development partners, and civil society organizations (non-governmental organizations) actively engaged in SLM activities. Generally, this body is responsible for providing technical advice to MoA on SLM. This Committee will provide technical advice on the quality of implementation performance reports and special studies such as policy and legislative drafts, financial and audit reports, documentation of best practices, and M&E reports.
4. The National Project Coordination Unit (NPCU) at MoA, which is staffed by 33 technical and fiduciary staff, will continue to play the role of managing and facilitating the day-to-day implementation of the project. Specific tasks will include: (a) consolidating regional annual work plans, budgets and procurement plans; (b) facilitating and supervising implementation of work plans and corrective actions, safeguards instruments including management/mitigation plans; (c) processing and procuring works, goods and services; (d) monitoring overall implementation progress, safeguards instruments (and management/mitigation plans) and evaluating project impacts; and (e) preparing progress reports. The Unit will maintain a team of experts including a National Project Coordinator, procurement and financial management specialists, M&E expert and technical experts in diverse disciplines (including watershed management, agronomy, forestry/agroforestry, land administration/land use planning, knowledge management & communication, livelihoods, private sector development). In addition, using RLLP II finance, the National PCU will recruit CSA specialist to be seconded to CRGE Directorate so that climate related technical requirements of the project will be liaised with the directorate and CEFC. Moreover, for proper recording and reporting, one senior accountant dedicated for RLLP II will be recruited at the National PCU level.

Regional level

5. Implementation of activities on the ground is supported by, among others, Regional steering and technical



committees. The Regional Steering Committees will be accountable and responsible for the execution of the annual work plans developed by the local level implementers in the regions. At the Regional level, the BoA and the Bureau of Land and Environmental Protection (BoLEP) will lead implementation of the project in close collaboration with relevant public institutions. Serving as the link between the Federal and Woreda implementation entities, the BoA will review and consolidate annual work plans, budgets, procurement plans submitted by the woredas. It will also review and approve implementation progress reports (including M&E, financial, audits, safeguards, etc.) originating from the woredas. The project will finance a project coordinator, M&E expert, accountant and procurement officer per region to assist the BoA and WoA to implement the project on a day-to-day basis. Moreover, additional accountants and procurement officers will be recruited to minimize the risk of finance and procurement activities at regional and woreda levels. Together, these will form a regional PCU for each of the seven Regions in which the project will be implemented (including Amhara, Oromia, Tigray, SNNP, Beneshangul/Gumuz, Gambella, and Sidama). Moreover, RLLP II shall provide opportunities to zonal implementing entities to participate in the implementation of activities, draw lessons from the project and support scaling up of SLM practices to wider landscapes. In addition to the existing government staff, RLLP II will contract technical advisors for specific outputs (such as preparation of MYDPs and WMUPs, establishment of WUCSs, and preparation of business plans for IGAs and value chain linkages) in zones where RLLP II will be implemented.

Woreda and Kebele levels

6. On-the-ground planning and execution of activities under the project will be undertaken jointly by WoA, the Kebele Watershed Development Committee (KWDC), Development Agents (DAs) and communities. Accountants will be recruited at woreda level to improve financial management capacities and reduce implementation risk. Thus, WoAs, KWDCs and DAs will be assisting communities in: (a) developing annual work plans and budgets as well as procurement plans for submissions to the BoAs for review and endorsement and integration into a Region's annual work/development plans and budgets; (b) facilitating and mobilizing community participation in watershed planning and rehabilitation; (c) undertaking awareness campaigns and training; (d) participatory monitoring and evaluation; (e) extension service delivery and dissemination of best-fit technologies and innovations, etc.

7. The Project Implementation Manual (PIM) will set forth fiduciary requirements as well as project implementation arrangements. Importantly, the PIM will clarify the implementation support and supervision roles and responsibilities of the Regional Bureau of Agriculture (RBA), WOA and MoA. To enhance the accountability and quality of deliverables and the functionality of the program coordination platform at regional and woreda levels, project implementation arrangements acceptable to the WB and agreed by the MoA and regional governments will be established to clarify accountability and targets at all levels of project implementation.

Financial Management (FM)

8. A Financial Management assessment was conducted at MoA and Bureaus of Agricultures of the six implementing regional states (Amahara, Oromia, SNNPR, Tigray, Benishangul Gumuz and Gambella Regions) in accordance with the Financial Management Manual for World Bank Investment Project Financing Operations issued on February 10, 2017 and supporting guidance note (February 28, 2017). The objective of the financial management assessment is to determine whether entities implementing Bank-financed projects have acceptable financial management arrangements which are capable of recording correctly all budgets, transactions and balances, supporting the preparation of regular and reliable financial statements, safeguarding the entity's assets, and are subject to auditing arrangements acceptable to the Bank. The arrangements include the entity's system of planning and budgeting, accounting, internal controls, funds flow, financial reporting, and auditing.



FM Risk Assessment, Strength & Weaknesses

9. The FM risk of the project is Substantial. The preliminary mitigating measures proposed in the action plan will help to reduce the risk of the project once implemented and applied during project implementation.

10. The project will inherit the various strengths of the country's PFM system. Several aspects of the PFM system function well, such as the budget process, classification system, compliance with financial regulations and satisfactory government's internal system. Several reforms are being undertaken to improve the country's PFM systems through the government's PFM strategy and the support of development partners (such as the PFM project funded by WB). In addition, the project will benefit from lessons learned in managing RLLP and SLM projects.

11. The main drawbacks or risks identified are weak monitoring and low implementation capacities, poor communication and technical infrastructure, gaps in staffing including weak technical capacity and high turnover of project accountants, weak internal audit oversight, weak internal controls over advances and low quality of financial reporting. This has been exacerbated by the pandemic situation. The fact that the Project will continue to operate along with the existing RLLP poses the risk of double dipping whereby expenditures may be comingled among the two projects given the capacity limitations. The formation of the Sidama Region as a separate state government from SNNPR, as well as the conflict situation and the discontinued governance relationship between the Federal and Tigray regional governments, necessitate adaptive measures for World Bank financed projects in both regions. In addition, delays in preparation and approval of the budget, weak implementation monitoring, slow utilization and inadequate explanation of utilization of variances are risks identified. Action plans are prepared to address these weaknesses.

Planning & Budgeting

12. Budget preparation and control: MoA budgeting process follows the Federal Government of Ethiopia's budgeting procedure and calendar, with the fiscal year running from July 8 to July 7 (Hamle 1 to Sene 30). As indicated in the 2018 PEFA, a clear annual budget calendar exists in FG²⁷. Once the budget is proclaimed, MoF notifies all the budget units and budget execution starts. Regions follow similar budgeting protocols. The MoA, Regional, Zonal, and Woreda level government offices use IBEX to record and monitor their budget. IBEX has budget control module and no expenditure can be made recorded without having budget. Monthly budget execution reports are prepared direct from the system. Transaction level budgets tracking and control, in these entities, are either using IBEX or excel spreadsheet or manual control ledger cards to track availability of budget.

13. Budget arrangement for the project: The project will follow the Government of Ethiopia's budgeting procedure and calendar. The project budget arrangement follows existing arrangement under RLLP. The federal level and the regional level implementing entities will prepare annual work plans and budgets (AWPB) for activities that will be undertaken during a financial year and submit the national consolidated AWPB to the World Bank for 'No Objections' and then to Federal Project Steering Committee for their review and approval. The project annual budget will be proclaimed under the MoA. It is GCF requirement that re-allocation across sub-components cannot be more than 10% -

²⁷ The federal budgeting process usually starts by issuing the Budget Call Circular (BCC) to the budgetary units. Based on the BCC and the budget manual, the budgetary units prepare their budgets in line with the budget ceilings and submit these to MoF within six weeks following the budget call. The budget is prepared based on the ceiling received annually from MoF, reviewed at first by MoF and then by Council of Ministers. The final recommended draft federal budget is sent to parliament at least one month before the start of the new year and is expected to be cleared at the latest by end of the fiscal year



without having its prior written approval. The project will provide due care during annual work plan and budget preparation and approval process and also on budget revisions during the course of project implementation. The requirement will also be clearly articulated in the project FM manual. The existing budget monitoring system, under RLLP, both at transaction and reporting level will be continued during project implementation with improvements made in areas that have been assessed weak. At reporting level, the **budget utilization** of the project will be monitored at least quarterly. The budget variances will be **adequately explained and justified** through the quarterly IFRs. Lessons learnt under RLLP and other Bank financed projects reveal delays in preparation and approval of the budget, weak implementation monitoring, slow utilization and inadequate explanation of utilization variances.

Accounting and Staffing

14. **Basis of accounting:** The assessed implementing entities, at all level of government, follows double entry bookkeeping system and modified cash basis of accounting, as documented in the government’s Accounting Manual.

15. **Accounting entities:** The project will involve 47 woredas in seven regional states including the newly established Sidama Region as a separate state government from SNNPR. The project will be implemented under the leadership of Ministry of Agriculture (MoA) that will be responsible for financial management aspects of the Project liaising with regions. The Forty Woredas will be participating under the leadership of respective Regional BoAs of Amahara, Oromia, SNNPR, Tigray, Benishangul Gumuz and Gambella Regional States. Following the formation of the Sidama region as a separate regional state government, the Bank has undertaken an FM readiness assessment, for all Bank financed projects implemented in the region. The assessment recommended the region to ensure FM readiness through implementation of agreed actions for projects before resources start flowing to the region. The project FM implementation, in the region, will be based on implementation of the agreed FM action plans and assurances of FM readiness. The federal government had announced that it will halt its relationship with the regional level government of the Tigray Regional state and will continue to work directly with lower government and institutional structures in the region. The situation has grown to armed conflict between the two levels of governments. This will affect the proposed institutional arrangements of the project, including all ongoing Bank financed projects implemented in the region. This will require the GoE to address implications of the government proposal, the conflict situation, and the project’s governance arrangements with clear fiduciary resolution for the Bank financed projects in the region. The Bank will continue to follow-up on fiduciary responsibilities and the emerging situation. This will require the project to take adaptive measures as part of other Bank financed projects in the region.

16. **Accounting manual:** Proclamations, directives and manuals that contain the accounting policies and procedures are reported available for reference to staff in all the offices reached out to during the assessment. GoE’s accounting policies (Modified cash basis) and procedures will apply for the project. However, to ensure smooth implementation of the project, as part of the Project’s Implementation Manual (PIM), the project will have its own financial management manual updated from existing RLLP FM manual which will largely follow the government accounting manual, depicting all accounting policies, procedures, budgeting internal control issues, financial reporting, fund flow, and external audit arrangements. Chart of account which will accommodate the requirement of the project will be designed. Separate sets of account (ledgers) for the project will be maintained at implementing entities. All these will be stipulated in the PIM.

17. **Accounting system:** MoA, regional BoAs and Woredas all uses IBEX for their regular accounts whereas transactions of project financed through grants or loans use Peachtree accounting system both at federal and regional level. Both IBEX and Peachtree accounting have budget control and other accounting features to group financial records into account categories and classifications useful for analysis and reporting. Experience from RLLP indicates that the Peachtree system



lacks expenditure coding at detail activity level, uniformity in its application across the implementing regions and payables/receivables aging analysis report. Slow Peachtree accounting system rollout and majority of woredas (51%) being based on manual accounting and reporting. The project will use computerized accounting software currently being used at the entities for treasury or project accounting (i.e. IBEX or Peachtree or others as appropriate) with improved configuration and strict application at all implementing entities.

18. Staffing: Entities assessed have appropriate organizational structure developed based on public service institutional arrangements. The MoA staffing capacity, in terms of quantity against structural requirement, reveals 92%, 81% and 40% respectively for Finance, Property Administration and Ethics and Anti-Corruption Directorates. Internal Audit is under restructuring process. In terms of qualification, all staff in the **four functional units** have first degree or higher-level training. The regional level staffing capacity appears better in respect of number, compared to requirements, but reported to have limitations in terms of competency, challenges with staff turnover and skill transfers. For the Project, all implementing woredas will have dedicated project accountant (either **recruited or assigned**) within two months of project effectiveness. At the Federal and Regional PIU, existing staff managing the RLLP will continue to manage the RLLP II project. However, the ministry will assess the project staffing requirements at all levels on a continuous basis and fill up when appropriate. Capacity building trainings on FM will be provided to accountant once a year.

Internal Control and Internal Audit

19. Internal control: The Government internal control procedures are incorporated in the financial administration proclamation, regulation, directives and various manuals. These proclamations and directives also stipulate that the managements of each BIs have the responsibility to maintain and uphold sound internal control systems of the entities. PEFA 2018 indicated robust internal control system in most areas. PFM laws & proclamations are strong for providing a solid basis for strengthening both PFM institutions and activities. There is segregation of duties at all the entities except in stock management areas. The control over payroll is strong, monthly bank reconciliation, is performed and reported with monthly financial report. The strength of control over the assets is weak with inventories being undertaken annually but reconciliation against record appears be weak overall, and not uniform especially with weakness in the maintenance of asset registers.

20. Regarding the Project, the Government internal control procedures will be applied for the project. Furthermore, the project's financial management manual will incorporate detail control procedures specific to the project. Due to the limitations posed by the COVID 19 pandemic field visits restrictions, it was difficult to get a complete understanding of the internal controls in woredas. Hence it was agreed that the ministry will ensure FM readiness is assured in all GCF woredas, which as a minimum, will include the assignment or recruitment of accountant; provision of basic FM training to accountants on the project FM requirements, opening bank accounts, the setting up of sets of accounts and accounting systems. The submission of this FM readiness assessment to the World Bank is a Disbursement condition. Furthermore, three implementation woredas, as well as federal and regional level PIUs, will implement both RLLP and RLLP II projects in parallel. The similarity of activities of the projects poses the risk of expenditure comingling and double dipping. Stringent control measures such as identification of separate activities in the AWPB, maintenance of separate sets of accounts, opening of separate bank accounts, placement of FM staffing, issuance of guidance note to implementation units (with specific focus on separation of activities and accounting and recording) systematically sharing common cost item of activities between the projects during AWPB preparation, strong oversight and other control measures, as appropriate will be in place. In addition, GCF has certain excluded products/costs from project activities which the project shall not finance. These are pesticides, herbicides, genetically modified organisms, patented hybrid seeds; and biocides; In addition, there are GCF restricted costs which any proceeds from GCF source will not finance. These are (a) land



administration activities (e.g. issuance of tenure right certificates, NRLAIS); (b) energy efficient cookstoves under sub-component 1.3, which shall be solely financed with the Co-financing; and (c) salary for government civil servants that the GCF Proceeds shall not finance. The project will mitigate the compliance risk by clearly stipulating such excluded/restricted costs in the project FM manual, providing awareness creation trainings, issuing a separate guidance note to implementing entities by the ministry and monitoring through project internal audit reviews and implementation support missions by NPCU.

21. Internal Audit: All assessed PBs have internal audit responsible for the review and internal control oversight of entity's resources. At Federal level, the Inspection Directorate of MoF oversees the internal audit function across all budget institutions. To enhance independence, internal auditors for federal budgetary units are recruited and placed by the Inspection Directorate of MoF and are administratively accountable to the Director while functionally to their budgetary unit. At subnational level of government- internal audits are functionally and administratively accountable to the heads of PBs. The internal directorate of MoA has seven staff including the director – six of them having BA level training and one, expert level staff having MA degree. The ministry's internal audit is under restructuring process for which the sufficiency of the existing staffing level is yet to be known. Track records of lessons from existing Bank financed projects reveal that internal audit function, at all levels of implementation, has limited capacity to provide internal audit oversight for projects of non-regular governments budgets sources. In regard to the Project, the internal audit units at all level of implementation entities will incorporate the project audit in their annual audit plan and review the project's books regularly and produce separate audit report or include in the consolidated reports. Training will be provided on project FM manual and specific project requirements to resolve the capacity problem.

Financial Reporting

22. Budgetary units at federal level and sub national level prepare monthly financial reports and submits to MoF and Regional BoF, respectively, within 15 days of the end of the month. The monthly financial reports include revenue and expenditure reports, receivables, payables reports, transfers and trial balances. Bank statements and bank reconciliation statements and cash count certificates are also incorporated in the reports.

23. Financial Reporting arrangement for the project mainly includes quarterly reporting. Quarterly Interim Financial Reports (IFRs) will be required from the project. Experience in RLLP reporting shows lack of completeness (particularly information at lower levels), detailed payables/advances tracking, insufficient explanation of budget variances and reporting irregularities. RPCUs will prepare respective region's quarterly consolidated IFR and submits to FPCU. FPCU will prepare quality quarterly consolidated project IFR and submits to the World Bank within 45 days after the end of the quarter. The contents of the IFR will include narration report, statement of sources and uses of funds, statement of uses of funds by project activity/component, designated account activity statements, trial balances and other related schedules. The format and content of the IFR will be agreed during negotiation. The project will also prepare project's annual accounts/financial statements within three months after the end of the accounting year in accordance with accounting standards acceptable to the Bank and submits to the project's external auditors.

External Auditing

24. The Office of the Federal Auditor General (OFAG) audits the annual financial statements of the federal budgetary units. OFAG issued an adverse opinion on the MoA external audit for the year ended July 7, 2019. The audit noted, among others, such findings as the existence of significant long outstanding payables/receivables, significant custom tax expenditures unsubstantiated by goods receiving notes, and weak control over property administration. The MoA is



working to address these findings which is also being followed up by the MoF, Parliament and its standing committees.

25. External audit arrangement for the project: For the project, annual audited financial statements and audit reports (including Management Letter) will be submitted to the World Bank within 6 months from the end of the fiscal year in a form and content satisfactory to the Bank. Experience from RLLP external audit indicates unqualified audit opinion with few days delay in submission to the Bank and with very few internal control & reporting related findings. MoA will be responsible for the annual financial audit. The project auditor will be appointed within six months of Effectiveness. The audit will be carried out in accordance with the International Standards of Auditing (ISA) issued by the International Federation of Accountants (IFAC). In accordance with the Bank’s policies, the Bank requires that the client disclose the audited financial statements in a manner acceptable to the Bank; following the Bank’s formal receipt of the statements from the client, the Bank makes them available to the public in accordance with The World Bank Policy on Access to Information.

FM-Related Costs

26. The project work plans, and budget will include the costs relevant to proper running of the FM function including FM staffing costs, audit costs; FM-related trainings; and, operating costs like bank charges etc.

FM Action Plans

27. The following actions are agreed to be performed to facilitate FM implementations and mitigate the identified risks in the project.

	Action	Date Due By	Responsible
1	New Implementing Woredas Capacity Assessment: - FM readiness is assured in all GCF woredas, which as a minimum, will include the assignment or recruitment of accountant; provision of basic FM training to accountants on the project FM requirements, opening bank accounts, the setting up of sets of accounts and accounting systems	Within two month of project effectiveness and before disbursement	MoA - FPCU
2	FM Manual Update existing RLLP FM Manual, as part of PIM, and submit to the Bank for approval	Within one month of project effectiveness	MoA /FPCU
3	AWPB The project Annual Work Plan and budget will be prepared and submitted to the Bank by end of March of each year The cleared AWPB will be notified to the IEs & MoF before end of the year (aligned with GoE budget Calendar).	During implementation	MoA /FPCU
4	Staffing/Capacity building a) Deploy FM project staffs at all level		



	Action	Date Due By	Responsible
	b) Train project staff including entity internal audit to help them review project books of account.	a. With two months of effectiveness b. Initial training within three (3) months after approval of FM manual by Bank and subsequent trainings - ongoing at least once a year	MoA /FPCU
5	<p>5.1. Control over expenditure comingling/double dipping Action to minimize risk of expenditure comingling/double dipping</p> <p>a) Issuance of guidance note to implementing entities to mitigate expenditure double dipping to all levels of entities that implement both project</p> <p>b) Print rubber stamp labeled by the projects name and distribute to the IEs</p> <p>c) Planning and allocating, systematically, common cost activities between RLLP projects</p> <p>5.2. GCF Excluded/Restricted costs:</p> <ul style="list-style-type: none"> • Issuance of guidance notes and check lists to implementing entities to mitigate the risk of financing GCF excluded/restricted products and activities from GCF proceeds and creating awareness up on FM training. 	<p>a) Within one month of project effectiveness</p> <p>b) Within one month of project effectiveness</p> <p>c) Annually – on AWPB preparation</p> <ul style="list-style-type: none"> • Within one month of effectiveness and awareness creation to be provided on GCF excluded/restricted costs, annually on FM trainings 	MoA/FPCU
6	<p>IFR/Report issues</p> <p>a. Agree on the formats and content of the IFR</p> <p>b. IFRs will be submitted to the Bank within 45 days from the end of each quarter with appropriate quality standard.</p>	<p>a. Negotiation</p> <p>b. Within 45 days of the end of quarter</p>	MoA/FPCU (for both a&b)



	Action	Date Due By	Responsible
7	<p>Audit issues</p> <p>a. Recruitment of external Auditors at early stages of the project;</p> <p>b. Project annual financial statements will be prepared on time and strict follow up on timely closure of accounts will be made.</p> <p>c. Submission of annual audited financial statements and audit report including the management letter;</p> <p>d. Disclosure-In accordance with Bank Policy,</p> <p style="padding-left: 40px;">(a) the Bank requires the borrower disclose the audited financial statements in a manner acceptable to the Bank;</p> <p style="padding-left: 40px;">(b) following the Bank’s formal receipt of these statements from the borrower, the Bank makes them available to the public in accordance with The World Bank Policy on Access to Information.</p> <p>e. Agree on the Audit ToR</p>	<p>a. Within 6 months of effectiveness</p> <p>b. Within 3 months of year end</p> <p>c. Within 6 months of the end of each fiscal year</p> <p>d. Annually</p> <p>e. Negotiation</p>	MoA/FPCU (for all)

FM Covenants and Conditions of Effectiveness

28. The following actions are agreed to be performed to facilitate FM implementations and mitigate the identified risks in the project. No effectiveness condition is proposed for FM. The FM related covenants will include the following:

- I. Maintaining satisfactory financial management system throughout the life of the project,
- II. Submitting Interim financial reports (IFRs) within 45 days of the quarter end.
- III. Submitting audited financial statements within 6 months of the year end.

Supervision Plans

29. Financial Management supervision missions will be an integral part of the project’s implementation reviews to ensure the continuing adequacy of the financial management arrangements and to ensure that expenditures incurred under project parts remain eligible for the Bank’s funding. As the FM risk for the project is rated as substantial, the project will be supervised twice per year. After each supervision risks will be recalibrated accordingly. Supervision activities will include:

- On-site visit to implementing entities. These visits would include a review of the controls and the overall operation of the FM system; review of internal audit, selected transaction reviews, and sample verification of existence and ownership of assets;
- Reviews of IFRs and follow-up on actions needed;
- Review of Audit Reports and Management Letters and follow up on action needed.

DISBURSEMENTS



Funds flow and disbursement arrangements

30. Funds flow and disbursement arrangements for the project: The project will follow government channel 2 fund flow mechanism whereby the fund flows to MoA by deposit into a separate **Designated Account** to be opened at the National Bank of Ethiopia (NBE) managed by MoA. The authorized ceiling of the Designated Account will be two quarters of forecasted expenditure based on the approved annual work plan and budget. Fund from the designated US\$ account will be further transferred into local currency (Birr) account to be held by MoA. From the Birr account, MoA will transfer the funds to separate local-currency bank accounts to be opened by participating regional BoAs, and then to woreda project local currency bank accounts.

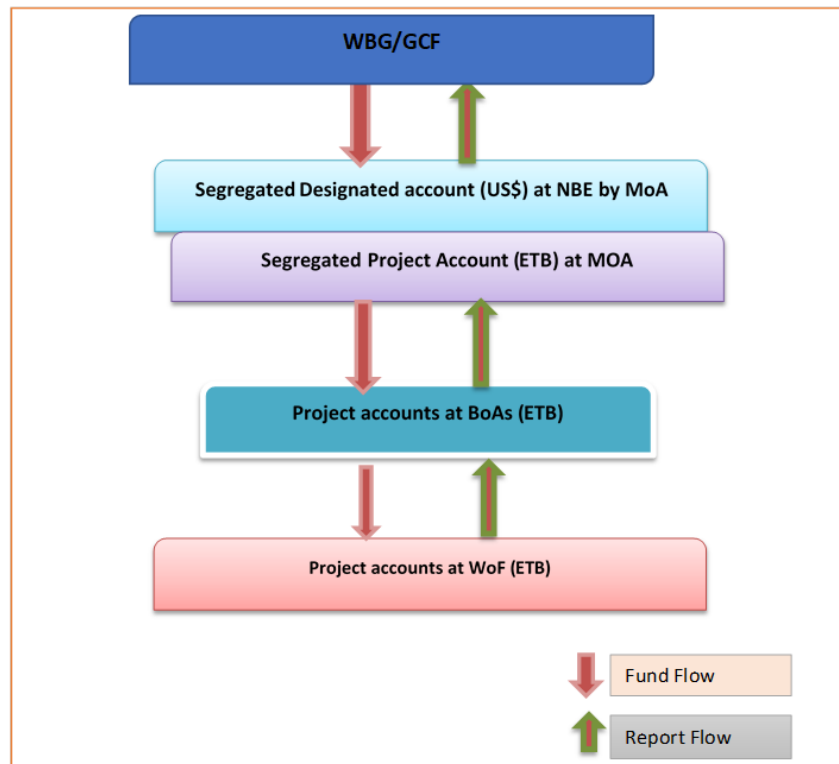
31. Disbursement methods: The project may follow one or a combination of the following disbursement methods: Designated Account, Direct Payment, Reimbursement and Special Commitment. For Advance to the Designated account and subsequent replenishment as well as for the Reimbursement methods, the project will use report-based disbursement method. Disbursement will be made quarterly and cover cash requirements for the next six months based on the forecasts reported in the IFRs.

32. Disbursement Conditions: In view of the risks and gaps identified in the FM assessment, a disbursement condition is proposed. This is to ensure that FM readiness is assured in all woredas, which at minimum, will include the assignment or recruitment of an accountant; provision of basic FM training to accountants on the project FM requirements, opening bank accounts, the setting up of sets of accounts and accounting systems.

33. Withdrawal/Disbursement categories: These will be set in the Financing agreement in discussion with the Bank and government team. However, it is suggested that one or two categories are proposed as there are work plans that will be approved annually. In addition, there should be one category focusing on the woreda level activities against which the above disbursement condition will be applicable to. This requires identifying and allocating Woreda level costs to separately.

34. Eligible expenditures: The project eligible expenditures are costs incurred for activities agreed and included in the Financing Agreement and as included in the approved AWPB (which the Project submits annually, and Bank provides its No Objection). The categories include costs for Goods, Works, Consultant costs or consulting services, Non consulting services, Training costs, Travel and Workshops and operating costs.

35. The fund flow arrangement for the project is summarized in the following chart.



Conclusion

36. The conclusion of the assessment is that the project’s financial management arrangements meet the Bank’s minimum requirements under Bank Policy and Bank Directive on IPF and FM Manual.

Applicable Procurement Regulations

37. Procurement under the project will be carried out in accordance with the World Bank’s Procurement Regulations for IPF Borrowers - Procurement in Investment Project Financing, Goods, Works, Non-Consulting, and Consulting Services’, Fourth Edition, November 2020 (subject to future amendments); ‘Guidelines on Preventing and Combating Fraud and Corruption in Projects Financed by IBRD Loans and IDA Credits and Grants’, revised as of July 1, 2016; and the provisions stipulated in the Legal Agreement.

38. The Borrower’s procedure is accepted for “national” provided that the requirements for use of the national procedure specified in the Regulation para 5.4 are met. Other national procurement arrangements (other than national open competitive procurement) that may be applied by the borrower (such as limited/restricted competitive bidding, request for quotation/shopping, direct contracting), shall be consistent with the World Bank’s core procurement principles and ensure that the World Bank’s Anticorruption Guidelines and Sanctions Framework and contractual remedies set out in its Legal Agreement apply. In addition to the requirements in the regulation, the “national” and “other national procurement arrangements” shall be applied provided that the associated procurement risk mitigation



measures, are implemented. The risk mitigation measures will be updated during the project implementation period.

39. Procurement documents. The World Bank's latest Standard Procurement Documents (SPDs) will be used for procurement of goods, works, and non-consulting services while approaching the international market. The SPDs are available on the World Bank external website: www.worldbank.org/procurement/standarddocuments. For procurements from the national market, the Borrower may use the national procurement procedure, as agreed in the Procurement Plan, subject to addressing the conditions stated in the Procurement Regulation paragraphs 5.3 and 5.4 (a to i). However, the MoA and the FPCU shall modify the national SBD in a manner which is consistent with these conditions and submit for Bank's review and clearance.

40. Project Procurement Strategy for Development (PPSD). The Borrower prepared the PPSD which was reviewed and cleared by the World Bank. The summary of the PPSD is presented in the table 3 below and establishes the procurement arrangement and market approach options for all categories of procurement ranging from strategically critical to tactical item of low-value/low-risk procurement activities. The PPSD will be updated at least annually, or as required, to reflect changes in the procurement arrangements that may be necessary due to changes in requirements, market conditions, and the procurement environment in general.

41. Systematic Tracking of Exchanges in Procurement (STEP). As part of the New Procurement Framework, the World Bank introduced STEP which is an online procurement planning, implementation, monitoring and reporting system. The IAs at all levels shall use STEP for all procurements they carry out under the project. All procurement specialist at the F-PCU, R-PCUs, and WOF who are responsible for interacting procurement information through STEP, shall be provided with the necessary facilities and training on how to operate the system. In case, there is no adequate capacity at the Woreda Finance Office level in the use of STEP including challenges associated with internet connectivity, the respective procurement officer at the RPCU shall provide support in capturing and updating woreda procurement information in STEP.

42. Procurement manual. To support procurement implementation, the F-PCU will prepare a procurement manual or update the existing manual and stipulate the procurement arrangement, roles, and responsibilities among the different players, the procurement decision-making structure and business standard, staffing arrangement, and capacity-building action plans, among other items. The procurement manual shall incorporate a section on community procurement highlighting the procurement arrangements at the community level, membership, and reporting structure of the Community Procurement Committees; and procurement procedures, including threshold, applicable procurement methods, planning, advertisement, bidding document, evaluation, approval, and contract signing and management, including complaint-handling procedures.

Implementation Arrangements

43. Procurement implementing agencies. Procurement activities under the project will be implemented using the existing structure in the host agencies at federal, regional, woreda, and community levels. The MoA is the lead and focal procurement implementing Agency of the project. The Bureaus of Agriculture and/or Pastoral Development Agencies and the Woreda Finance Offices are also the procurement implementing agencies of the project in the respective regions and woredas respectively. Considering the capacity limitations in the implementing agencies, the project will provide support through the Project Coordination Units (PCUs) that have already been established at federal and regional levels under RLLP. The role of the PCUs is to assist, support, participate, coordinate and build the capacity of the procurement units of the implementing agencies. However, the PCUs at federal and regional level will



hire at least one additional qualified Procurement Officer in each PCU. The procurement officers will be functionally accountable to the heads of the respective procurement unit and will be responsible to facilitate procurement implementation under RLLP II, coordinate procurement activities at the woreda and community level in the respective region.

44. As a lead agency, the primary responsibility for the successful implementation of the project will rest on MoA while the support and close involvement of the regional and woreda level implementing agencies is also crucial. The MoA, shall aggregate and procure strategic and specialized procurements, such as major and common-user consultancy services, vehicles and other equipment on behalf of other implementing agencies. After aggregation and consolidation, the MoA shall conduct high value/high risk procurement activities by approaching national or international market. Accordingly, the regional implementing agencies shall carry out procurement by approaching the national market while procurement at Woreda and community level shall be conducted using Request for Quotations/Shopping and Consultant's Qualification-based Selection for small consultancy services assignments. Limited/Restricted and Direct Selection Procurements (in special circumstances as per approved procurement plans, eg. for one-off and unforeseen type of both very low value and low risk procurement items) may be carried out at all levels.

45. **Members of the community will implement CDD procurement** in accordance with the procedure and arrangements provided in the community procurement manual to be issued by the project effectiveness. The manual shall provide simplified procurement arrangements and procedures applicable to market and capacity at community level. The procedures will be consistent with the World Bank's core procurement principles. The procurement unit in the woreda finance office in coordination with the Procurement Officer at the RPCU will provide technical and hand holding support to members of the Community Procurement Committee and assist in monitoring procurement activities, including undertaking field visits and ensuring that the procedures described in the manual are adhered to and proper records are kept.

Procurement Capacity Assessment

46. **The Bank team carried out assessment of the procurement capacity in the implementing agencies.** The assessment reviewed the procurement legal framework, organizational structure, functions, staff capacity, and complaint handling system and procurement cycle management and the overall adequacy of the system and capacity to implement RLLP II. The GoE in collaboration with the Bank carried out national procurement system assessment using internationally recognized methodology (MAPS II- Methodology for Assessing Procurement Systems) which is concluded at the end of FY20. The MAPS assessment in Ethiopia provided detail and comprehensive information on the procurement system and performance at federal, Regional and local level. This information is used as a basis for the capacity assessment in addition to the available information on the procurement performance under RLLP (P163383).

47. **Public procurement at federal level:** At the federal level, public procurement is governed by the Public Procurement and Property Administration Proclamation (No. 649/2009) and the procurement Directive issued in June 2010 and amended in December 2015. Among other provisions, the proclamation stipulates the organization responsible for procurement at the federal level, the key procurement principles and operational procedures, and the complaint-handling system. It also reestablishes the Federal Public Procurement and Property Administration Agency (PPPAA), which is responsible, among others, for regulating procurement, building capacity, and providing guidance on public procurement policies, principles, and implementation. Currently the PPPAA is revising the procurement proclamation to ensure that it accommodates emerging developments and addresses gaps noted in the proclamation,



including the regulation of the procurement of state-owned enterprises which is not covered under the current procurement regime.

48. Procurement at the subnational state/city administration level. The subnational states and the two city administrations have their own procurement proclamations and directives, drafted using the federal procurement proclamation as a prototype. Thus, the six subnational states implementing RLLP (Afar, Benishangul-Gumuz, Gambella, Oromia, SNNPR, and Somali) have established the basic legal framework and structure for implementation of procurement, which in addition to the proclamation, includes issuance of the directives, manual, and SBDs. Based on the preliminary assessment conducted by the MoF and follow-up discussions, it was noted that the newly established Sidama region has shown positive progress in establishing basic procurement capacity in the region. The region adopted the SNNPR's procurement proclamation and issued associated procurement directives. It has also established procurement regulatory agency as a semi-independent agency responsible for procurement regulatory and capacity building activities. In addition, the region is positively progressing in establishing procurement team in each of the sector offices. Going forward, based on information from the client, the Bank team will carry out assessments and determine the adequacy of the procurement capacity in the Sidama regional state and propose mitigation measures, if required.

49. Procurement at the woreda level. As opposed to the decentralized structure adopted at the federal and subnational levels, which have delegated procurement operations to line ministries and sector bureaus, procurement at the woreda level is conducted centrally at WoFEDs. However, this structure has not been adequately covered in any of the procurement proclamations (federal and regional). Instead, subnational states have issued a pool manual that has been adopted by the regional council based on the prototype issued by the MoF. The pool manual delegates procurement responsibility to WoFED, which consolidates requirements of all the sector offices and procures centrally, following the procedure stipulated in the procurement documents of the respective subnational state.

50. Community-based based procurement. Community-based procurement is not covered in the government's procurement proclamation (federal/subnational states). Thus, CDD procurement is not practiced in the projects financed by the GoE or subnational states, which leads to weak procurement experience at the community level. There are isolated experiences of CDD procurement in projects financed by community contributions especially in towns and in developed rural communities. The experience gained through the World Bank-financed projects has not been institutionalized and retained. Considering that there is significant level of procurement activities at community level coupled with limited capacity, the project will provide close technical support and training to members of the community procurement committees.

51. Procurement complaint handling system: The procurement complaint handling system follows a two-tier structure that allows aggrieved bidders to lodge first level complaint to the head of the procuring entity and an appeal to a higher body in the structure. At federal level and in some regions like SNNPR, an appeal is handled by a Complaint Handling Board (CHB) which has representative from the private sector and is considered as Quasi-independent from the procurement decision making process. The system provides standstill period that halts the procurement process and allow resolution of procurement complaint before procurement action is advanced to contract award and signing stage. However, the assessment has also revealed weaknesses in the system like the restrictions on the aspects of the procurement on which potential bidders can lodge complain like selection of procurement method which is uncontested as per the procedure, inconsistency between the procedure and the practice, inadequate structure that undermines the neutrality and independence of the system, and inaccessibility of the appeal structure for bidders located at woreda/local level.



52. Procurement system and performance reviews in the ongoing RLLP shows that adequate procurement capacity both at federal and regional level has been established in accordance with the agreed arrangement. Procurement experts in all PIUs were hired and assigned. Besides, the client prepared and disseminated the procurement manual as an important milestone to facilitate smooth procurement implementation in the project. In terms of actual procurement progress, activities with an aggregate estimated amount of \$11.7 million were planned at federal and regional level and cleared by the Bank. However, the following aspects require improvement: (i) procurement progress has been slow as compared to the plan; (ii) significant proportion of the procurement activities , which were part of the 18months procurement plan, were not initiated; (iii) the procurement in the regions is limited to office equipment and facilities and procurement of inputs required for the core activities of the project has not yet been started; (iv) the woreda procurement information is not captured in the STEP system and the information on other procurements is not updated regularly. As a result, the procurement performance is rated as “Marginally Satisfactory.”

Table 1: Summary of the risks to procurement under RLLP II, as well as the proposed procurement capacity-enhancement measures to mitigate the risks.

No.	Major findings/issues	Actions proposed	Resp.	Targeted date
1	The procurement capacity within the existing procurement structure in the implementing agencies and in the PCUs is inadequate to accommodate the additional procurement workload associated with the new project. This could lead to poor performance and noncompliance. Besides, the project envisages significant level of procurement activities at local and community level where procurement capacity is highly constrained	<ul style="list-style-type: none"> i. The project will hire and assign a dedicated procurement officers in each of the federal and regional PCUs to support procurement implementation in the project. The procurement Officers will coordinate and provide hand holding support and training to procurement officer at woreda level and members of the community procurement committee. ii. Revise the RLLP Project Implementation Manual to be consistent with the agreed procurement procedure under RLLP II. A comprehensive step-by-step procurement implementation manual shall be prepared for use of staff. The procurement operations manual should include measures to address all the shortcomings/issues identified. The manual should also include Procurement and contract management reporting format, the need for quarterly procurement and contract management reporting, provision not to exclude non-MSE (Micro and Small Enterprise) individuals/firms from competition, provision to avoid any form of exclusion of bidders from competition through bracketing based on engineer’s estimate and average bid prices. The Procurement Implementation Manual should outline the procedures and circumstances under which 	All PCUs	3 months after effectiveness



		<p>community participation in procurement is feasible.</p> <p>iii. Provide procurement and contract management training (goods, works, consultancy and non-consultancy services) to procurement and contract management staff, procurement endorsing committee members and User Section Staff</p>		
2	<p>Sidama Regional state, which is under formation, is establishing basic procurement capacity in terms of Legal, organizational, Human Resource etc. However, the adequacy of the procurement capacity has not yet been reviewed and confirmed.</p>	<p>i. The client will share a final report on the procurement system readiness in Sidama Region which will be reviewed and verified by the Bank team.</p> <p>ii. The RPCU and the relevant office in the Sidama Regional state shall implement any mitigation measures that come out of the Bank’s assessment.</p> <p>iii. The PCU in Sidama Regional state will hire procurement officer who will facilitate the procurement activities in the Sidama Regional state and respective woredas.</p>	<p>FPCU and RPCUs in Sidama</p>	<p>TBD</p>
3	<p>The rules and practices that allow awarding procurement contract to jobless youths (fresh graduates) organized as “Micro and Small Enterprises” through preferential treatment leads to contract failure due to lack of experience and capacity which will negatively affect achievement of project objectives</p>	<p>Procurement opportunity in the project shall be open to all market players. Non-MSE Individuals/firms of similar capital and capacity who didn’t initially get registered as job seeker and got their first job by their own means should not be excluded from competition.</p>	<p>All IA and PCUs</p>	<p>Throughout the project period</p>



4	Use of the STEP system is not adequate, complete and up to date. This leads to noncompliance, and wrong evaluation of project and procurement performance.	<ul style="list-style-type: none"> i) Ensure that all IA including procurement at woreda level are captured in the STEP system ii) The procurement and contract management specialists will be provided with laptop computer, desktop computer, printer and scanner, office telephone and mobile card including required office furniture and facilities. WiFi, CDMA and broadband internet access adequate to work on STEP system. iii) Provide training in the use of STEP 	FPCU and All PCUs	Throughout the project period
5	Lack of adequate consideration in the accommodating the requirements or use of the national procedure could lead to noncompliance to the agreed procedure	<ul style="list-style-type: none"> i. Modify the national SBD incorporating all requirements specified as a condition to use the national procedure and secure Bank’s clearance ii. Disseminated the modified SBD and provide training to procurement officers 	FPCU and all PCUs	3 months after effectiveness
6	Due to the decentralized nature of the project, the regular supervision cannot be adequate to provide meaningful feedback and improve performance	<ul style="list-style-type: none"> i) Undertake independent procurement audit and share the report to the Bank ii) Implement audit recommendations timely 	FPCU and all PCUs	Annually

Procurement Oversight and Monitoring Arrangements

53. **Procurement oversight and monitoring arrangements.** The World Bank exercises its procurement oversight through a risk-based approach comprising prior and post reviews as appropriate. The World Bank sets mandatory thresholds for prior review based on the procurement activity risk rating, as determined in the Procurement plan that will be agreed with the Bank throughout the course of project implementation. The prior review threshold applicable in the project for the different risk levels is provided in the table below:

Table 2 Procurement Prior Review Thresholds (US\$ millions)

<i>Type of procurement</i>	<i>High risk</i>	<i>Substantial risk</i>	<i>Moderate risk</i>	<i>Low risk</i>
Works	5.0	10.0	15.0	20.0



Goods, ITs and non-consulting services	1.5	2.0	4.0	6.0
Consultants (firms)	0.5	1.0	2.0	4.0
Individual consultants	0.2	0.3	0.4	0.5

54. The World Bank shall carry out post-reviews of procurement processes undertaken by the Borrower to determine whether they comply with the requirements of the Legal Agreement. The Bank may use a third party such as a supreme audit institution, acceptable to the Bank, to carry out post reviews. Any such third party shall carryout the reviews in accordance with the terms of reference (TOR) provided to it by the Bank.

55. The Government will hire and appoint a procurement auditor, acceptable to IDA, to carry out annual independent procurement audits of the project and shall submit the report to IDA annually, six months after the end of the fiscal year for its consideration. The independent procurement audit shall be conducted based on the TOR agreed with the IDA and shall cover the procurement implementation at the local and community level.

56. All contracts at or above the mandatory procurement prior review thresholds are subject to international advertising and the use of the Bank’s SBDs (or other documents agreed with the Bank).

Procurement Arrangements

57. The procurement arrangements for the high or substantial risk and relatively high value contracts of the project are provided in the following table.



Table 3 Summary of the PPSD

Contract title, description and category	Category	Estimated cost USD and risk rating	Bank oversight	Procurement approaches/ competition	Selection methods	Evaluation methods
Office equipment (desktop computers, laptop computers, printers, UPS, external hard disk, photocopy machines, scanners, tablets, smart phones, power banks) for national, regional and woreda (four packages)	Goods	1,824,500	Prior	Open/ International	Request for Bids	Lowest Evaluated Cost (LCS) (four packages)
Motor bicycles	Goods	160,000	Post	Limited/ UNOPS	Direct Selection	Negotiation
Total station, clinometers, auger, plotters for regions and woredas	Goods	450,000	Post	Open/ National	Request for Bids	Lowest Evaluated Cost (LCS)
Server, storages, workstation computer with UPS for regions	Goods	875,500	Post	Open/ National	Request for Bids	Lowest Evaluated Cost (LCS)
Acidic soil treatment materials and lime for watersheds	Goods	2,800,000	Post	Open/ National	Request for Bids	Lowest Evaluated Cost (LCS)
Forest, vegetables and fruit seed (for woredas) various packages using CDD approach	Goods	15,550,000	Post	Limited or DC	RFQ/DC	Lowest Evaluated Cost (LCS) and negotiation
Agricultural hand tools (for woredas)	Goods	1,800,000	Post	Open/ National	Request for Bids	Lowest Evaluated Cost (LCS)
Building woreda information center	Goods	1,200,000	Post	Open/ National	Request for Bids	Lowest Evaluated Cost (LCS)
Provision of improved farm machines/tools (hand-held harvester, ripper, line planter, mechanical weed slasher) for 10 farmer groups	Goods	600,500	Post	National	Request for Bids	Lowest Evaluated Cost (LCS)
Community infrastructures and community access roads (in different watersheds) using CDD approach	Works	1,300,000	Post	Limited	RFQ	Lowest evaluated cost)
Financial audit for 5 years 5 times	Consultancy	100,000	Post	National	CQS	CQS
Independent procurement audit 3 times in a project time	Consultancy	350,000	Post	Open/ International	QCBS	Quality and cost
Publication and public sensitization for project areas and different manual preparation and publication	Non consultancy	600,000	Post	Open/ National	Request for Bids	Lowest Evaluated Cost (LCS)



ANNEX 2: Economic and Financial Analysis

COUNTRY: Ethiopia

Ethiopia Resilient Landscapes and Livelihoods Project - II

Background

58. **This Annex contains the Economic and Financial Analysis (EFA) of the RLLP II Project.** The Project Development Objective (PDO) is to improve climate resilience, land productivity and carbon storage and increase access to diversified livelihood activities in selected rural watersheds.

59. **The RLLP II Project is fully integrated with the first RLLP investment (P163383) appraised in July 2018 and its Additional Financing (AF, P172462) in February 2020.** In this EFA the two projects are analyzed as a whole, although incremental overall results related to RLLP II are also presented.

60. **The Project will support households in 47 watersheds located in the Ethiopian highlands with a beneficiary population of 706,000 people (0.6% of Ethiopia's population in 2019) in 141,000 households with an average of 5 persons per household.** The watersheds are located in **6 different regions**. The watersheds were selected using comprehensive selection criteria which took into account existing levels of degradation and the share of the watershed in need of sustainable land management interventions. Investment costs include USD 165.2 million from GCF and USD 13 million from PROGREEN. USD 7.8 million are added to the analysis because the GoE has agreed to deploy alternative and ongoing sources for land administration in RLLP II watersheds. Another USD 51.7 million are included as in-kind contributions from project beneficiaries.²⁸

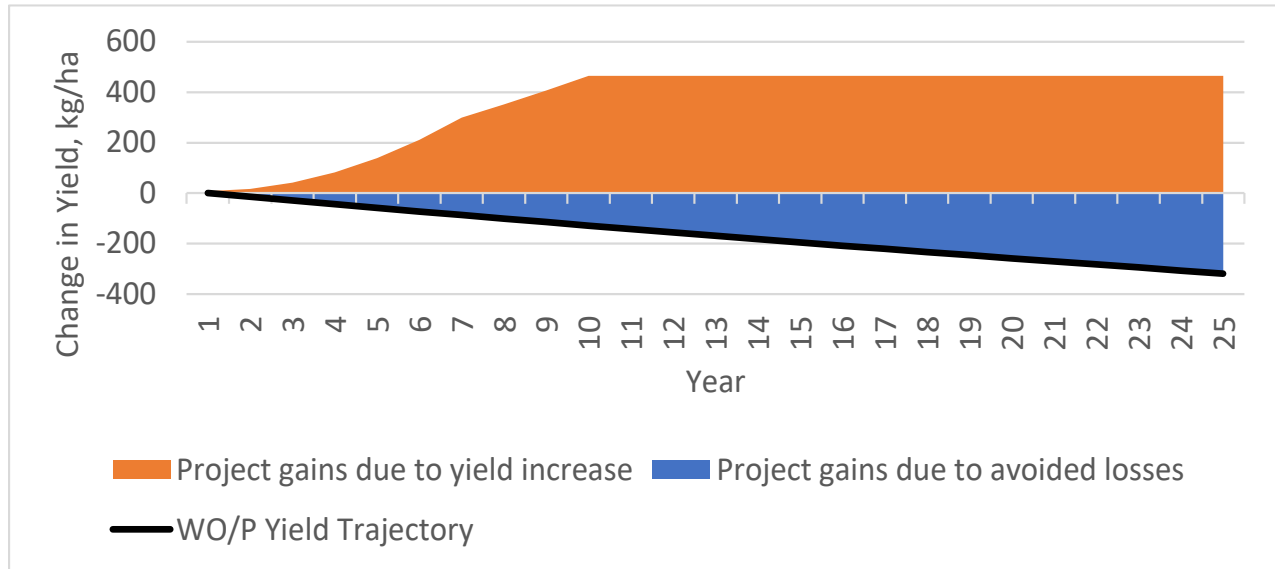
61. **Without Project intervention, beneficiaries both in the area and downstream will continue to struggle to establish or maintain their livelihoods.** It is expected that without the Project (the counterfactual), land use will continue on its current path. Continued soil erosion, water insecurity and land insecurity leads to land degradation. It is expected that climate change will exacerbate soil erosion and water insecurity further leading to direct losses to those that rely on crop and livestock production for their energy use and livelihood as well as related industries. Production yields will go down or farmers will have to increase their input costs, such as fertilizer, to maintain current yields. In the absence of storage facilities (Community Storage Receipts Program, CSRPs), farmers will continue to experience post-harvest losses. They will also be unable to capture higher crop prizes that are obtainable a few months after harvest and in larger markets. Non-agricultural land in the watershed will also continue to deteriorate without the Project due to climate change and soil erosion as well as overuse of common land through livestock grazing and firewood collection. This will put a further strain on the population who derive their livelihood from forests, woodlands, and surrounding areas. Downstream from the project area, continued land degradation will also affect areas and households through increased flood risk and sediment build-up in irrigation and hydroelectric dams.

²⁸ GCF and PROGREEN proceeds cannot be used to directly support issuance of SLLC and NRLAIS. The GoE will deploy alternative sources including contributions from UK, Finland, and Germany. In the absence of details, it is assumed that RLLP I additional financing of USD 3 million for land administration and use for 19 watersheds, is equivalent to USD 7.8 million for 40 GCF watersheds and 7 PROGREEN watersheds. Beneficiary contribution includes USD 51.7 million in-kind contribution to labor costs calculated as 50% on communal land and 80% on private land (equal to 33% of USD 155.3 million in Component 1).



62. **Figure 1 illustrates how this analysis assumes a declining production without Project interventions due to soil erosion from both climate change and land management.** With Project interventions the yield loss is avoided and, for some production systems (crops, livestock, and grassland), with-project yields increase over time. This yield increase is attributed to adoption of improved cultivars, improved seeds, better animal breeds, land restoration, water management, and implementing climate smart agricultural techniques. The sum of the two shaded areas in Figure 1 constitutes the incremental benefit.

Figure 1: Illustration of Incremental Benefits



63. **Successful interventions to prevent or control land degradation require integrated and cross-sectoral approaches to sustainable land management.** The Project will build on the wealth of technical, operational and institutional experiences and lessons learnt through the implementation of GoE’s SLM Program, including SLMP-1, SLMP-2, and RLLP I, as well as similar initiatives supported by other bilateral and multilateral partners in the country and the region. Before the programmatic approach of the GoE’s SLMP, efforts to address land degradation were piecemeal and scattered throughout the country. Despite the inherent upfront costs, adopting a programmatic approach was considered instrumental to convene financial and non-financial support, resulting in greater overall benefits downstream (World Bank, 2014a). Continuing from those projects, coordination, supervision and implementation will include close cooperation with sector ministries for agriculture and natural resources (MOANR/MOALR), finance (MOFEC), water and electricity (MOWIE), and the environmental protection agency (EFCCC).

64. **The Project is designed to contribute to key national strategies** including: The Growth and Transformation Plan II (GTPII), the Agricultural and Rural Development Policies and Strategies, the Climate-Resilient Green Economy initiative (CRGE), the Ethiopian Strategic Investment Framework (ESIF), the Environmental Policy and Strategy, the Intended National Determined Contribution (INDC), the Strategy for Conservation and Utilization of Forest Products, the emerging National Forest Sector Strategy, and the National REDD+ Strategy.



Rationale for Public Provision and Financing

65. **There is a strong rationale for public interventions as proposed by the Project because it supplies public goods, corrects market failures and deals with externalities – all core functions of government.** Project activities encourage public goods such as: protection of ecologically sensitive landscapes; more efficient energy use; securing beneficiaries land rights, and; increasing sequestration of carbon in soils and biomass. There is also a public sector argument for funding initiatives that deal with externalities. Typical externalities of reduced soil erosion are reduced costs to operating downstream irrigation and hydroelectric dams.

66. **The current land degradation issues warrant more targeted public investments that can ensure that private sector entities adopt sustainable management practices going forward.** The proposed Project helps focus attention and assistance not only on promoting sustainable land management to improve agricultural productivity, but also on helping beneficiaries become more resilient to extreme weather events. Net benefits captured through this type of intervention accrue over many years adding to the difficulty of attracting private sector investors. Incentives are also strategically different from standard productivity investments because substantial benefits are generated from avoided future yield losses. In this setting, the lack of cash and credit for working capital as well as for investments in the agriculture sector prevents farmers from adopting new practices with such long-term benefits.

Methodology

67. **A 25-year cost benefit model incorporating all investment costs is used to assess the ex-ante efficiency of the Project investment. This is the same model that was used for the EFA in the first RLLP in 2018 and for the additional financing in 2020.** Choosing the length of analysis period for an EFA model is a trade-off between keeping it short because future projections become increasingly uncertain and making it long enough to capture long-term benefits of SLM and climate smart agriculture interventions. As discussed in detail below, the benefits and costs from interventions are expected to build-up gradually over a number of years while degraded soils recover and while the farmer learns new production methods. In addition, the project includes restoration of degraded land using forest and green corridor plantations. To account for a full forest rotation, a 25-year analysis period is used to include a 5-year implementation phase and a 20-year capitalization phase. See illustration of long-term benefit accrual in Figure 1. All Project interventions are considered necessary to obtain the target impact; therefore, the entire investment cost is included in this analysis. Annual net benefits are estimated as the difference between without-project (WO/P, or the counterfactual) and with-project (W/P) net benefits for direct beneficiaries.

68. **Some benefits are captured for all Project Components – directly or indirectly.** All Project activities are associated with both costs and benefits. Incremental net benefits means the difference between the W/P and WO/P situations.

69. **Direct net benefits to crop producers:** The EFA quantifies the incremental improvement in gross margins for different crops and cropping patterns on farms in the targeted watersheds. The increment includes expected WO/P yield- and price losses due to the absence of CSRPs. It also includes net benefits from establishing green corridors along field margins, eroded gullies and so on. A portion of this incremental benefit is due to avoided soil erosion caused by climate change and historical management practices. This estimate is calculated separately from the impact on yield (see illustration in Figure 1).



70. **Direct net benefits to livestock producers:** The EFA quantifies incremental improvements in gross margins for different livestock production systems and stocking rates on farms in targeted watersheds.

71. **Direct net benefits to forests and other non-croplands:** The EFA quantifies the net improvement in gross margins for different categories of land use including forest plantations, green corridor plantations, bush, shrub, and grassland. A portion of this incremental benefit is due to avoided soil erosion caused by climate change and historical over-grazing and firewood collection. This estimate is calculated separately from the impact on yield (see illustration in Figure 2).

72. **Direct benefits from new CSRPs:** Due to the lack of data regarding establishing new Income Generating Activities (IGAs), this EFA only quantifies the establishment and operation of 47 facilities that enable participation in larger CSRPs across the Project area. Net benefit is estimated from gross margins for each facility, in addition to net benefits captured at farm level described above. One of the major barriers to the implementation of resilience-building measures by farmers is lack of cash. After Project completion, farmers will need cash in order to be able to continue practices introduced by the Project such as the use of improved seeds, improved farm tools, fertilizer and other inputs. The CSRPs will provide immediate cash to poor farmers, improving their food security and ability to pay for other necessities as well as allowing them to improve productivity.

73. **Global value of impact on Greenhouse Gas (GHG) emissions:** The Project impact on GHG emissions is estimated using FAOs Ex-Ante Carbon-balance Tool (EX-ACT). This considers changes in land use, land restoration and input and energy use.²⁹ There are no actual payments of carbon credits to beneficiaries in this project, so the social value of reduced GHG emissions is included only in the economic analysis and not in the financial analysis.

74. The following incremental net benefit flows are not quantified explicitly in this analysis:

- **Net benefits from new IGAs:** The project will engage farmers through Community Interest Groups (CIG), and WUCSs. Apart from CSRPs, several other possible enterprises have been noted but lack of data prevents quantification at this time: grain-, meat-, dairy-, and bamboo-processing; tree seedling nurseries; production of improved environmental services, and private sector initiatives for Payment for Ecosystem Services (PES, also known as Payment for Environmental Services) or Corporate Social Responsibility (CSR).
- **Net benefits from strengthening institutions and improving information, and monitoring for resilience (Component 2):** The net benefits estimated in activities in Component 1 cannot be successfully captured without the investment in Component 2 to strengthen stakeholders and provide technical assistance and mobilize communities. It is difficult to determine the share of Project benefits that can be attributed to these sub components. Therefore, a separate efficiency analysis is not undertaken.
- **Benefits from improved administration and tenure rights:** The lack of secure tenure rights creates a disincentive for beneficiaries to undertake productive investments and adopt sustainable management practices. This is particularly the case when benefits accrue over a longer period of time. The direct benefits of this component are captured in Component 1 while other benefits are not quantified due to lack of data. These other benefits could include conservation of protected areas, biodiversity, and tourism.
- **Indirect benefits to other local areas:** Several of the incremental benefits quantified as described above will

²⁹ In line with World Bank guidance note, this analysis refers to the “shadow price of carbon” (USD/tonne CO₂-eq) being multiplied with the GHG emission reductions (tonne CO₂-eq) to estimate the “social value of GHG emissions”. World Bank (2017f) Guidance note: Different documents have been using different terms to refer to the price of carbon or GHG emission reduction used in economic analysis (shadow price of carbon, social cost of carbon, and social value of carbon). These terms refer to different approaches to calculate the price of carbon. The guidance note uses the term “shadow price of carbon,” which is the price of carbon consistent with a given climate objective, as estimated for the High-Level Commission on Carbon Prices, led by Joseph Stiglitz and Nicholas Stern.



likely have other indirect benefits. For example, these include the adoption of climate smart agriculture and land restoration techniques in neighboring watersheds due to informal dissemination outside the Project area. Producers in neighboring watersheds may pay to access new CSRPs. Other industries and employment opportunities may increase through a multiplier effect to other areas and related sectors. Due to lack of data these are not quantified in the EFA.

- **Downstream effects:** Downstream effects or externalities from reduced soil erosion are also not quantified due to lack of data. These benefits could include reduced risk of downstream flooding and reduced costs of sediment build-up in downstream irrigation and hydroelectric dams.
- **Improved nutrition:** Incremental benefits from improved nutrition have not been quantified other than through value of increased production yields. The value of a more varied food production has not been estimated. This would be a direct benefit to Project beneficiaries and indirect benefit to people in neighboring areas.

75. **Efficiency and other cost-benefit indicators.** The cost-benefit analysis is based on crop-, and farm-level assumptions on yields, prices and costs in constant 2020 currency amounts for without- and with-project situations, based on a typology of farm households.³⁰ The Economic Net Present Value (ENPV) is calculated using the World Bank recommended discount rate of 5%.³¹ The financial discount rate used is 12% to reflect the opportunity cost of capital in Ethiopia. In addition to sensitivity analyses of these discount rates, the break-even rates are calculated, i.e. the Economic and Financial Internal Rates of Return (EIRR and FIRR). Other indicators included are (units in parentheses):

- Land area restored, reforested and afforested with sustainable management practices (hectares)
- Target area in different land use categories (hectares)
- Number of beneficiaries (people and average 5 persons per households)
- Reduced soil erosion (tonnes)
- Production and income in representative farm households (yield and USD)
- Increased net benefits from CSRPs as well as their financial returns on investment in the absence of Project support (USD)
- Impact on GHG emissions (CO₂-eq and USD)

76. **Results are aggregated to different levels for further analysis.** The main sources of data are a gross margin study and a baseline survey prepared for SLMP (Große-Rüschkamp, 2015, and MOANR/MOALR, 2016). The Project team consulted with additional experts to obtain assumptions about forestry and CSRPs. The Project's impact on GHG emissions was estimated using FAO's EX-ACT model. Combining these data sources the methodology goes further than the total project results to enable analyses at different levels of aggregation:

- At the base of the model are data on per hectare gross margin for annual crops and avoided yield loss from soil erosion. Gross margins for livestock production are calculated per head of animal.
- Representative farms are defined in terms of farm size and combinations of different annual crops and livestock. This enables an analysis of estimated impact on incremental farm household income. An analysis is provided for a representative CSR facility to determine their financial viability in the absence of Project support.
- Incremental net benefits on non-cropland are estimated at the watershed level. This includes any projected per hectare changes in gross margins as well as avoided yield loss from soil erosion.
- Establishment of CSRPs are estimated at the watershed level.

³⁰ The foreign exchange rate used is 1 USD = 38 ETB. Ethiopia Consumer Price Index to adjust 2014 to 2020 prices = 197.5.

³¹ World Bank (2015). Technical Note on Discounting Costs and Benefits in Economic Analysis of World Bank Projects. Washington, DC.



- Global impact on the GHG emissions is estimated at the Project level and allocated proportionally between watersheds.

77. **Cumulative target values and farmer adoption rates.** Investment costs are allocated across the initial years as detailed in the Project cost tables. Farmers' adoption of improved agricultural practices promoted by the Project is assumed to follow a progression of 5% per year. This includes a progression in farmers' revenue as well as variable costs. The Project team expects the maximum adoption rate to be 75% of the targeted farmers based on the 86% rate in the SLMP-2 baseline study (MOANR/MOALR, 2016).³²

78. **Conversion factors for economic analysis.** An economic analysis is concerned with value addition to the gross domestic product and excludes all transfer payments such as taxes, subsidies, grants, loans, interest- and principal payment paid to or received from beneficiaries. Because none of the agricultural products quantified in this model are imported or exported, the farm gate prices are applied both in the financial and economic analysis. The opportunity cost of unskilled labor is set to 0.75 due to limited alternative employment opportunities. It is expected that some agricultural and construction inputs are imported and should be converted from farm gate prices using an economic conversion factor (assumed to be 0.95). Much of the variable costs included in the analysis is unskilled labor. Therefore, average conversion factors are used for cropland variable costs (0.98), non-cropland variable costs (0.88), and project investment costs (0.98). All other cost assumptions are maintained from the financial analysis. As noted before, price contingencies estimated at USD 3.7 million or 0.9% of the Project budget is excluded from the analysis.

79. **The project's impact on GHG emissions is estimated using FAO's EX-ACT model.** The economic value of the Project's impact on GHG emissions (sometimes referred to as the carbon balance) is estimated from activities in the project including: bio-physical structures on degraded land; afforestation and reforestation; promoting agroforestry; introducing climate smart agriculture practices; introducing improved grassland management; and enriching forest areas with different tree species. The total GHG emission reduction is multiplied by the assumed economic value from USD 40 per tonne CO₂-eq in the first year increasing to USD 76 at the end of the 25 years. No value is assigned to reduced GHG emission in the financial analysis because there are no direct payments of carbon credits to beneficiaries.³³

80. **Sensitivity analyses identify key assumptions that should be the focus of risk management efforts.** Three different approaches are used: i) switching values, when a change in an assumption leads to a break-even ENPV, are calculated for most assumptions. ii) Elasticities are also calculated for most assumptions to show how much a 1% change in an assumption changes total ENPV; and iii) Specific cases are analyzed to further highlight key risk factors and quantify the impact of variables that cannot be analyzed with switching values and elasticities as listed as follows:

- Impact of different discount rates
- Failure to implement the planned number of hectares
- Changes in adoption rate among beneficiaries
- Delay in project benefits
- Higher yield losses from soil erosion
- Changes in number of animals per farm

³² Other examples include: 74% adoption rate in the Uganda-National Agricultural Advisory Services Project (NAADS) and 70-80% adoption rate in the IFAD Rwanda Project for Rural Income through Exports (PRICE). In the Pro-poor Value Chain Project in the Maputo and Limpopo corridors (PROSUL) economic and financial analysis, an 80% adoption rate was assumed in the project area. 100% adoption rate was assumed in Malawi Shire River Basin Management Programme and the Community-Based Rural Land Development Project.

³³ Current World Bank Guidelines suggest a shadow price of carbon of USD 40 per tonne CO₂-eq in 2020 building up to USD 80 per tonne in 2050. World Bank (2017f) Shadow price of carbon in economic analysis. Guidance note to the World Bank Group staff. Washington, DC, November 12.



- Accelerated annual soil loss due to climate change
- Changes in the social value of reduced GHG emissions

Assumptions and Results

81. Before analyzing the economic value results, the underlying assumptions are discussed starting with a financial analysis of farm-level target beneficiaries. Except where noted, the assumptions used are the same as in the recent Project Appraisal Report for the RLLP which excluded GCF and PROGREEN scope and funds (World Bank, 2018). Note that the value of reduced GHG emissions is not included in the financial analysis because payments for carbon credits are not expected to be distributed directly to beneficiaries during the Project.

Financial Analysis

82. **Project interventions are assumed to lead to improved crop and livestock gross margins providing there is long-term maintenance.** One **farm model** is established for each region based on cropping pattern and gross margin data from the SLMP-2 baseline study (MOANR/MOALR, 2016) and gross margin study (Große-Rüschkamp, 2015). It is assumed that the Project has no impact on crop prices. For livestock production, a price increase is included because Project intervention is expected to lead to use of improved breeds and quality of produce. Yield increases are expected to be less than 1% on irrigated crops, and larger on rain-fed crops (16-65%). To achieve these yield increases, variable costs will also increase. Gross margins on key crops are assumed to increase by between 15% and 67%. The Project will not finance herbicide and pesticide use but farmers may use these. For the purposes of this analysis for GCF and PROGREEN, assumptions have been adjusted to emulate no herbicide or fertilizer use. This is done by reducing vegetable yields by 12% in line with Urgessa (2015).³⁴ Gross margins from livestock production increase, particularly in dairy (123%) and sheep rearing (66%). Any yield increases are assumed to build up over time with long-term maintenance, which is also emphasized by Schmidt and Tadesse (2017).³⁵ As a proxy for variable weather, it is assumed that revenue generated on cropland is reduced by 10% every 5 years due to an extreme weather event. One representative farm is established for each of the 6 regions based on cropping pattern and livestock data from the SLMP-2 baseline study. There are no available data on which to base an assumption of changed cropping patterns due to the project. In recent impact studies of the SLMP-2 project there are indications that farmers who are able to increase the yields of different livestock are tending to reduce their herd size (World Bank, 2017d). This is not assumed in the base case but included in the sensitivity analysis.³⁶

83. **Some crop gross margins are used as proxies for other crops when data are unavailable.** Not all crops featured in the SLMP-2 baseline study have gross margin data available. Therefore, some crops have been combined to cover 100% of farm area by region: sorghum is combined with millet. Oilseeds are combined with peas. It is assumed that 100% of potatoes are irrigated in Tigray, Amhara, Oromia, and Benishangul Gumuz. Potatoes are rain-fed in Gambella and SNNPR. Rain-fed vegetables are valued as rain-fed potatoes including 90% of vegetables in Tigray, Amhara, Benishangul Gumuz, and SNNPR, and 50% of vegetables in Gambella and Oromia. The remaining vegetables are irrigated and valued

³⁴ According to findings by Urgessa, T. (2015) a 1 unit change in pesticide use leads to 0.12 unit change in both land productivity and labor productivity. This is interpreted as a 12% yield reduction without pesticide/herbicide use and no change in labor use. In effect, it is assumed that reduced labor at harvest is equal to increased labor during growing season such as for weed and disease management.

³⁵ Schmidt and Tadesse (2017) suggest that there are no measurable improvements in productivity from SLMP, although the authors also acknowledge that there are problems with the data: They found that, over the analysis period, value of production increased significantly in both treatment and non-treatment areas.

³⁶ In reality, cropping patterns are driven by demand and supply. However, the EFA model is deterministic and does not include a dynamic adjustment of cropping patterns between years and different farmers. The assumptions are based on the Project team's best judgement.



as tomatoes.

84. **Estimated farm-level gross margins increase and build resilience by over USD 108/year/person including home consumption, which is 1.2 times the Food Poverty Line.** Farm-level income increases by 50-62% on different representative farms. When assuming 5 persons per household farm gross margin can increase at least USD 108 per household member per year including value of production used for home consumption. This is a direct measure of increased resilience. To associate this result with a measure of absolute poverty, we use the National Poverty Line for Ethiopia. The poverty line indicates the money required for food to provide the minimum required caloric intake (Food Poverty Line) and additional non-food items. The improvement in farm gross margin is around 1.2 times the Food Poverty Line in 2020 terms (USD 94/person/year).³⁷ This improvement is also about 61% of the total National Poverty Line (USD 178/person/year). Other representative farms are estimated to capture higher growth in gross margins of up to USD 145/person/year.

85. **Estimated gross margins on non-cropland.** Project interventions will transform 36,000 ha from bush or grassland to forest plantations, and 14,000 ha from unproductive cropland or grassland to green corridor plantations. With exacerbated problems from climate change, this will enhance watershed restoration and ecological connectivity as well as extend the lifespan and resilience of drainage, irrigation, and road infrastructure. In this analysis it is assumed that incremental benefits generated from cropland converted to green corridors will be captured by farmers and valued as part of farm crop margins. Comparing gross margin improvements shows that incremental benefits from transforming bush or grassland to forest plantations, green corridors or agro-forestry are much larger than the incremental farm benefits from improved practices and reduced soil erosion. It is assumed that gross margins do not change on most non-cropland areas. The exception is that biophysical treatment of grasslands will improve estimated gross margins by 93% due to doubled yields and increased maintenance costs.

86. **Estimated gross margins are used for CSRPs with average capacity of 250 tonnes per facility.** It is assumed that access to a CSRPs will mean that farmers avoid a post-harvest yield loss of 10%, and they will be able to obtain 5% higher prices. The fee farmers pay to sell their produce via these CSRPs is assumed to be 10% of the farm gate price. Produce is purchased from farmers at 5% over original price. Variable costs also include 34 days of labor per month valued at USD 1.58 per day. For this analysis it is assumed that a CSRPs runs at an annual gross margin of 10% to cover their fixed costs. An additional price premium is therefore charged to buyers to reach the 10% gross margin target. It is assumed that the warehouse capacity corresponds to 50% of each region's crop production and that 50% of this production requires storage. The analysis varies the gross margins between the six regions according to their crop production. Combining area production with the planned size of facilities (480 m³) this constitutes warehouse capacity of up to 330 tonnes/facility because some watersheds are smaller and have lower crop production. With the current size of facilities CSRPs could probably absorb up to 100-250 tonnes depending on location and crop. While this result may indicate shortage of storage capacity in some facilities and excess capacity in others, the Project does not cover the entire cropland area. It is expected that CSRPs will absorb production from the entire productive area of the Project watersheds as well as from neighboring non-Project watersheds. As such, part of the risk management plan could be to ensure that the facilities are used to their capacity. For this analysis, the 47 CSRPs established with GCF and PROGREEN funds are allocated in the watersheds that have cropland.

87. **The Project will support initial investment and working capital for the establishment of CSRPs.** To improve the

³⁷ The 2011 National Poverty Line was 3,781 ETB/adult while the Food Poverty Line was 1,984 ETB/adult leaving Non-food Poverty Line of 1,796. Ethiopia Central Statistical Agency (2014) and World Bank (2015b). It is assumed that a household of 5 persons is 3.1 adult equivalents. These are converted to 2020 amounts using CPI factor 2.8.



financial sustainability in the long-term, CSRPs need to operate at their full capacity, serving both project beneficiaries and neighboring agricultural producers. CSRPs can improve their financial viability from 16-23% to a FIRR over 25% when their full storage capacity is used. As part of an exit strategy, this level of return would also enable them to cover estimated future capital maintenance costs. By supporting the establishment of financially viable enterprises in the area, the Project helps build resilience and future self-sufficiency.

88. **The Project activities help avoid yield losses caused by soil erosion. This avoided yield loss is valued based on the gross margin data on different land uses.** To establish the linkage between reductions in soil erosion with the Project activities, a **Universal Soil Loss Equation (USLE)**, adapted to Ethiopian conditions, was used to model soil loss associated with each of the technologies. The USLE relates soil loss from a field to local climatic conditions, soil type, topography, and land and crop management variables. Annual soil loss is given as a function of the rainfall erosivity of a given soil type, the slope length, crop cover factor, and the conservation practice on the land. Based on a review of studies linking soil loss to productivity loss, it is assumed that watersheds with between 10 and 25 tonnes/ha/year soil loss experience a 0.5% yield loss. When between 25 and 35 tonnes soil/ha/year are lost, yield loss is 1%, and if soil loss exceeds 35 tonnes/ha/year yield loss is 1.5%.³⁸

89. **Aggregation to Project level provides an estimated return on investment in financial terms.** Net benefits as described above are aggregated up to represent the entire area of crop- and non-cropland in each watershed and in the Project overall. The aggregation includes the 36,000 ha of land transformed to forest plantation and 14,000 ha of land transformed to green corridor plantations. The total net benefit from establishing 47 CSRPs is included in the aggregation as well. All watersheds are not developed in the first year, but follow the gradual disbursement plan of the Project budget with 22% in year 1, 28% in year 2, 24% in year 3, 16% in year 4 and 10% in year 5. Within each watershed beneficiaries follow the assumed gradual adoption rate of improved farming practices increasing annually by 5% up to a max of 75% of the area. Incorporating this adoption rate includes a progression in farmers' revenue as well as variable costs.

90. **The Project's overall Financial NPV is USD 457 million (ETB 17 billion) with a Financial IRR of 31% and a benefit cost ratio of 2. The payback period is 7 years (see Table 1).** This estimated net return constitutes 0.5% of Ethiopia's GDP in 2019 and is also USD 35 per ha per year when including the entire project area of 525,000 ha (treated and not treated areas).³⁹ The FNPV measured per person per year is 15% of the National Poverty Line and 28% of the Food Poverty Line (for 706,000 beneficiaries). Compared to the financial discount rate of 12%, this shows that the additional funds and scope are financially viable.

Economic Analysis

91. **As explained earlier, prices and costs used in the financial analysis are adjusted to value the economic impact of the Project.** The economic net benefits also include a valuation of the Project's impact on GHG emissions. Investment costs include: the Project budget (excluding price contingencies); an estimate for land administration and use; beneficiary in-kind contributions; and annual recurrent costs after the Project is complete.

92. **The Project interventions are expected to have a net-benefit on GHG emissions to the amount of 22.9 million tonnes of CO₂-eq over 25 years, which constitutes a discounted value of USD 629 million.** GHG emission calculations using the EX-ACT model are done for a 5-year project and a total 25-year time frame. The results show that the Project

³⁸ Panagos et al. (2018) provide a review of many references on this topic showing ranges of productivity loss from less than 1% to over 20%. Gebreselassie et al. (2016) also refer to potential productivity losses of 10-30% due to soil erosion.

³⁹ World Development Indicators database. Accessed 22 November 2020.



constitutes a net carbon sink of 22.9 million tonnes CO₂-eq emissions over a period of 25 years, resulting in 916,000 tonnes CO₂-eq per year, or 1.7 million tonnes CO₂-eq per year, or 44 tonnes CO₂-eq/ha. Figure 2, illustrates that most of the carbon sequestration comes from afforestation and improvements to grassland and annual agriculture. Together with increased use of fertilizer, and diesel as well as building construction, the Project constitutes a net carbon sink.

Table 1: Economic and Financial Analysis – Key Efficiency Indicators

	Scenario 1 Base Case	Scenario 2	Scenario 3	Scenario 4
	Economic Analysis	Economic Analysis excl. GHG emissions	Economic Analysis with accelerated soil erosion	Financial Analysis
USD million Project Budget	174	174	174	178
USD Budget per Project area ha	331	331	331	340
USD Budget per Beneficiary	246	246	246	252
Net Present Value, million USD	2,024	1,395	2,080	457
Benefit Cost Ratio (BCR)	3.5	2.7	3.6	2.0
Internal Rate of Return (IRR)	53%	33%	53%	31%
Payback Period	4.8 Years	6.7 Years	4.8 Years	6.9 Years
NPV as share of 2016 GDP	2.1%	1.5%	2.2%	0.5%
NPV, USD/ha	3,858.35	2,658.77	3,964.10	870.81
NPV, USD/year	80,968,902	55,795,349	83,188,075	18,274,228
NPV, USD/year/ha	154	106	159	35
NPV, USD/year/household	573	395	589	129
NPV, USD/year/beneficiary	115	79	118	26
Share of National Poverty Line	64%	44%	66%	15%
Share of Food Poverty Line	123%	84%	126%	28%

Note: In this table, project budget excludes beneficiary contributions and recurrent costs but includes price contingencies. The benefit cost analysis includes beneficiary contributions and recurrent costs but excludes price contingencies.

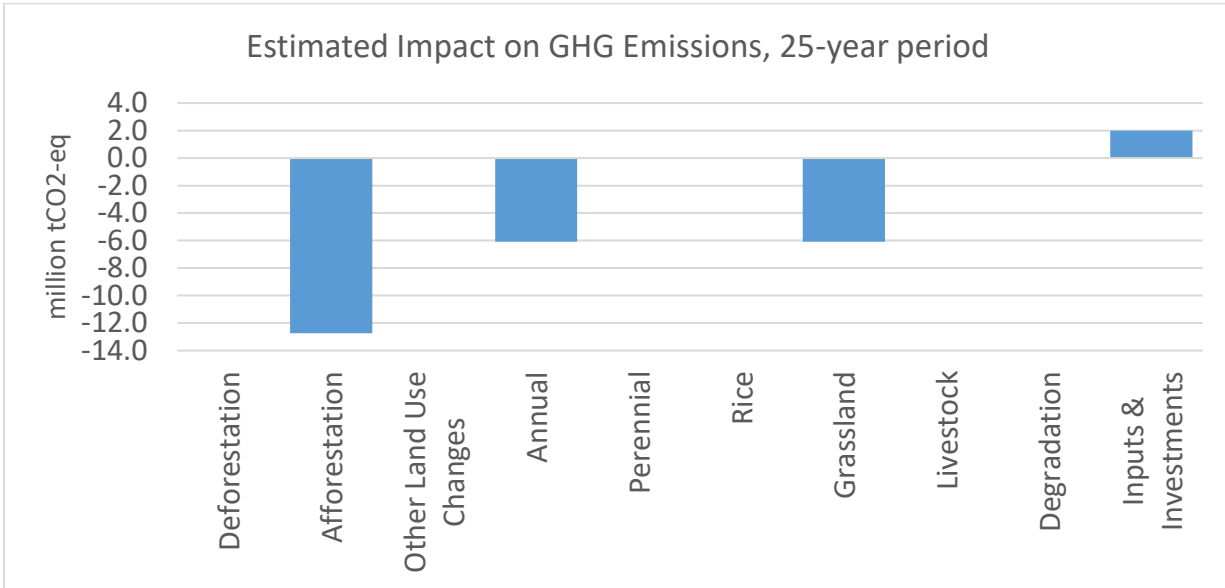
- Economic discount rate = 5%. Financial discount rate = 12%. Analysis period is 25 years.
- Total 25-year GHG emission reduction from EX-ACT model = 20.5 million tonne CO₂-eq. Economic CO₂-eq value = USD 40/tonne to USD 76/tonne by year 25. GHG emission ENPV of USD 565 million.
- Accelerated soil erosion scenario defined as climate change gradually escalating annual soil loss by 50% by year 25.
- Project area (treated and not treated) = 414,000 ha. Number of beneficiaries (population) in Project area = 628,000 or 0.6% of Ethiopia's population. Nr of people per household = 5.
- 2011 National Poverty Line, 2020 amount = USD 178/person/year. 2011 Food Poverty Line, 2020 amount = USD 94 /person/year. 2019 GDP = USD 96,108 million.

93. **The Economic NPV is USD 2,024 million discounted at 5% over a 25-year period (ETB 77 billion). This generates a benefit cost ratio (EBCR) of 3.5 and an EIRR of 53% with a payback period of 5 years (see Table 1). In economic investment analyses, the Project therefore meets one requirement by yielding a rate of return higher than the economic discount rate of 5%. When excluding the social value of reduced GHG emissions, the net project return is USD 1,395 million (ETB 53 billion) with a benefit cost ratio of 2.7 and an EIRR of 33%. Without the impact of reduced GHG emissions, the payback period is 7 years. This is 1.5% of Ethiopia's GDP (in 2019 terms). Without the social value of reduced GHG emissions, the ENPV is USD 106/year/ha (total project area both treated and not treated) or USD 79/year/beneficiary. Relative to the measure of absolute poverty, this is 44% of the National Poverty line and 84% of the Food Poverty Line. The annual cost and benefit flow for the Project as a whole, including with impact on GHG**



emissions are shown in Table 2 and illustrated in Figure 3.

Figure 2: Economic Analysis – Greenhouse Gas Mitigation Potential



Note:

- EX-ACT model Version 5.2 – Standard Edition. Tropical Montane climate. Moist regime. Dominant soil type: HAC soils. Implementation phase 5 years. Capitalization phase 20 years. Dynamics of implementation are assumed linear over the project period. Default Tier 1 coefficients are used. Using Global Warming Potentials from the Fourth IPPCC Assessment report.
- The analysis included the impact of without- and with project land use of 526,000 ha (forest/plantation, annual crops, grassland, and degraded land). Assumed inputs include 8,504 tonnes of nitrogen from urea, 1,448 m3 of gasoil/diesel per year, and 41,706 m2 of concrete agricultural buildings.

94. Table 1 also includes an alternative Scenario 3 where climate change leads to accelerated soil erosion in the future or if base case assumptions are too conservative. When assuming a 50% increase in annual soil loss from the current estimates, the ENPV is USD 2,080 million with a 53% rate of return. Under this accelerated soil erosion scenario, the estimated Project net benefit of avoiding this larger soil erosion is therefore USD 55 million across the 25-year period.

95. **The estimated value of soil erosion varies between USD 0.12 and 0.25/tonnes of soil per year depending on the gross margin value of different land uses. In a scenario with accelerated soil loss, this estimated value ranges between USD 0.20 and 0.39/tonne soil per year.** Because the value of the avoided erosion is based on gross margins, cropland erosion on new watersheds is valued at USD 0.25/tonne soil per year (ETB 10/tonne soil). The gross margin values on non-cropland are lower, so the avoided soil loss is valued at USD 0.12/tonne soil per year (ETB 5/tonne soil). This is higher than the original SLMP-2 EFA where it was assumed that the value of one tonne soil was ETB 0.79 per year in 2013 terms which converts to ETB 1.7 in 2020 terms (World Bank, 2013a).



Table 2: Economic Analysis - Estimated Annual Flow of Benefits and Costs

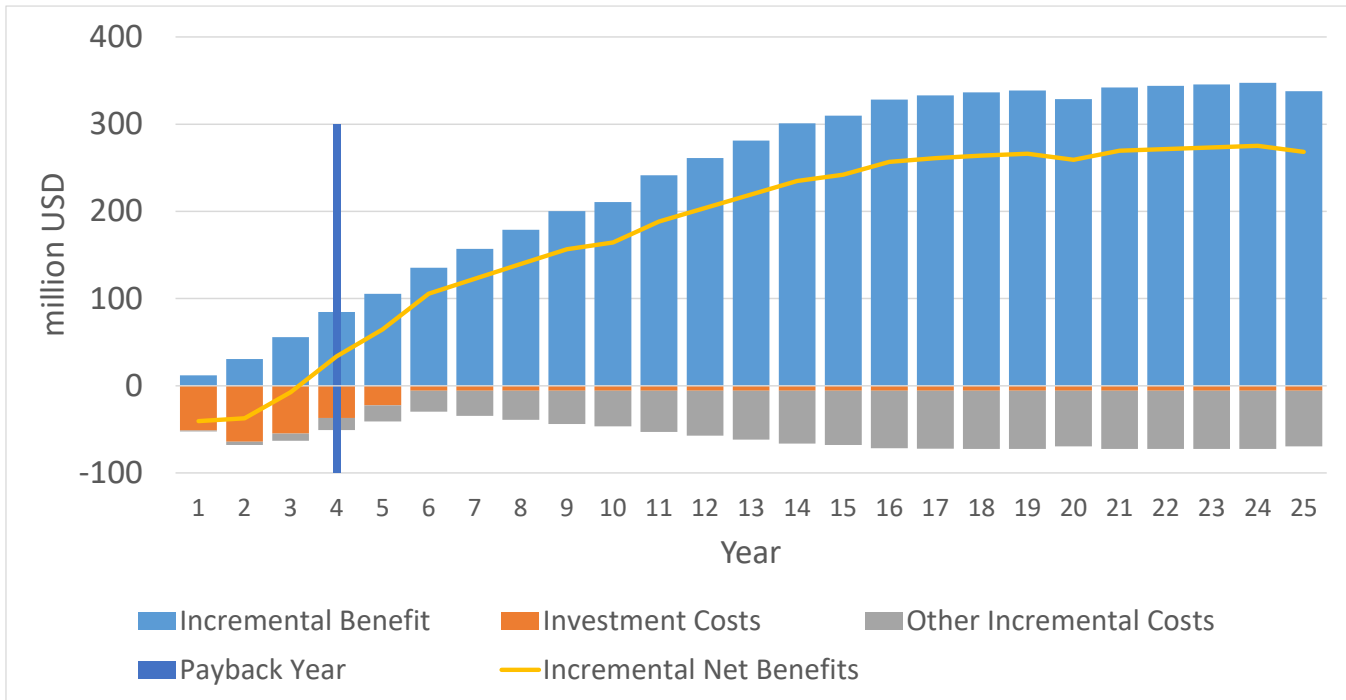
Year million USD	Incremental Benefit	Investment and Recurrent Costs	Other Incr. Costs	Incremental Net Benefits	Discounted Incremental Net Benefits
1	12	-51	-1	-40	-39
2	31	-64	-4	-37	-34
3	56	-55	-8	-7	-6
4	85	-37	-14	34	28
5	106	-23	-18	65	51
6	135	-6	-24	106	79
7	157	-6	-29	123	87
8	179	-6	-33	140	95
9	200	-6	-38	157	101
10	211	-6	-41	164	101
11	241	-6	-47	188	110
12	261	-6	-52	204	114
13	281	-6	-56	219	116
14	301	-6	-60	235	119
15	310	-6	-62	242	116
16	328	-6	-66	257	118
17	333	-6	-66	261	114
18	336	-6	-67	264	110
19	339	-6	-67	266	105
20	329	-6	-64	259	98
21	342	-6	-67	270	97
22	344	-6	-67	271	93
23	346	-6	-67	273	89
24	348	-6	-67	275	85
25	338	-6	-64	268	79
Total (undisc.)	5,947	-345	-1,147	4,455	
Results:					
	ENPV @ 5%, 25 yrs		million USD		2,024
	EIRR @ 25 yrs		%		53.0%
	Investment Costs excl. benef. contr.		million USD		178
Assumptions:					
	Number of treated watersheds		#		47
	Project area		1,000 ha		525
	Project beneficiaries		1,000 people		706
	Reduced GHG emissions		mil. t CO ₂ -eq		-22.9

Note:

- See notes for Table 1.



Figure 3: Economic Analysis - Estimated Annual Flow of Benefits and Costs



Note:

- EFA model calculations. See Table 2.

96. Table 3 shows that, when excluding the reduced GHG emissions, 64% of incremental net benefits are generated through activities on non-cropland areas, particularly due to the transformation of 36,000 ha from bush and grassland to forest plantation. This constitutes an ENPV of USD 178 per year per treated hectare and an EIRR of 51%. A substantial part is also generated by cropland and livestock production at USD 49/ha/year and USD 45/ha/year, respectively. Much of the incremental benefit estimated from cropland comes from transforming 14,000 ha of unproductive land to green corridor plantations. While overall net returns to investing in CSRPs is lower, the NPV is positive and therefore economically and financially feasible when comparing to project-level discount rates. As noted earlier, part of the risk management plan could be to ensure that the CSRPs are used to their capacity of up to 100-250 tonnes, which is based conservatively on absorbing only part of the production from the Project area. These results are sensitive to how Project investment costs are allocated between benefit flows. As such, the return-on-investment results by benefit flow should be interpreted with care.



Table 3: Economic Analysis – Key Efficiency Indicators by Benefit Flow excl. GHG Emissions

Benefit Flow	ENPV Benefit, million USD	ENPV Cost, million USD	ENPV, million USD	EIRR	ENPV/year million USD	ENPV/yr/unit USD	Unit
Cropland	411	160	251	19%	10.0	49	205,000 ha
Non-cropland	1,162	266	896	51%	35.8	178	201,000 ha
Livestock	354	125	229	27%	9.1	45	205,000 ha
CSRPs	266	246	20	25%	0.8	16,967	47 CSRPs
Carbon Balance	0	0	0	-	0.0	0	406,000 ha
Total	2,193	798	1,395	33%	55,795.3	137	406,000 ha

Note:

- Economic discount rate = 5%. Analysis period is 25 years. Exchange rate: 1 USD = ETB 38
- Costs include variable costs and investment costs. Results are sensitive to allocation of investment costs between benefit flows. Results should be interpreted with care.
- Excludes social value of carbon. Compare to Scenario 2 in Table 1.

97. **The ENPV of USD 178/year/ha calculated for non-cropland areas compares well to other estimates, while the cropland estimated ENPV of USD 49/year/ha may be too conservative.** Pistorius et al. (2017, Table 2) estimate the net present value of forest restoration efforts to be USD 17/year/ha for afforestation/reforestation of marginal sites and USD 183/year/ha for woodlots. They use a 20-year model without GHG emission benefits and with a discount rate of 6%. In the current EFA, this could be compared to the ENPV on non-cropland, which is USD 148/year/ha and includes a mixture of treatments. Hurni et al. (2015, Table 21) estimate the average net present value of SLM technologies to be between USD 192-219/year/ha in 2014 terms. They use a 30-year model with a 12.5% discount rate and no GHG emission benefits. These estimates are considerably higher than the USD 49/year/ha calculated with the current EFA assumptions – both if they are converted to 2020 terms and a lower discount rate.

98. **Switching values.** A switching values analysis was conducted where each assumption is changed until the Base Case ENPV turns zero (i.e. a break-even analysis). The Project break-even is not very sensitive to any one particular assumption. On top of the list, a 86% decrease in livestock yields; or a 135% increase in variable livestock costs; or a general 134% decrease in non-cropland yields could all reduce ENPV to zero. The large and unlikely changes required to turn the ENPV zero in the switching values analysis does not reveal how sensitive results are at the margin. So an alternative sensitivity analysis is performed.

99. **Elasticities.** Instead of switching values, elasticities were calculated for key assumptions. A 1% increase in soil loss in the final year can increase the ENPV by 2%. A general 1% increase in livestock yields can lead to a 1.2% increase in ENPV. A 1% increase in the discount rate can lead to a 0.7% decrease in estimated ENPV. A general 1% increase in non-cropland yields increases ENPV by 0.7%. Other variables with significant impact on Project returns are: variable livestock costs, adoption rates, crop yields, and shadow price of carbon. On the basis of this analysis, as part of a risk management plan, it is particularly important to ensure that farmers can negotiate and obtain fair output prices and achieve target yields going forward, for example through establishing links to CSRPs and providing technical advice that encourages adoption of improved production practices.



100. Some risk factors cannot be estimated well in a switching values or elasticity analysis. To analyze the impact on Project returns from selected assumptions, some specific cases are calculated. Table 4 summarizes the impact of key risk factors as discussed below.

101. World Bank guidelines recommend using a 5% economic discount rate. Increasing the discount rate from 5% to 10% reduces project returns by 50%. Project returns are still considerable at a 10% discount rate with a BCR of 3.

102. **If the Project only reaches half of the targeted area due to unexpected cost increases, estimated project returns fall by 57% and the rate of return drops from 53% to 28%.** The second case in Table 4 estimates the impact if costs increase and the Project is implemented in a smaller geographical area, such as due to a natural disaster. If the Project only reaches 75% of the initial target area, estimated returns fall by 28% and the EIRR drops from 53% to 40%. If only half the target area is achieved, the estimated ENPV falls by 57% and the rate of return is 28%.

Table 4: Sensitivity Analysis of Economic Efficiency – Cases

Case	ENPV – 25 Years		Benefit Cost Ratio – 25 Years	Economic IRR	Payback Period
	million USD	% change			
Base Case	2,024	0%	3.5	53%	4.8
1. Economic Discount Rate changed to 8%	1,416	-30%	3.3	53%	4.8
Economic Discount Rate changed to 10%	1,012	-50%	3.0	53%	4.8
2. 75% of target area achieved	1,451	-28%	3.2	40%	5.6
50% of target area achieved	876	-57%	2.8	28%	7.0
3. Adoption rate - annual increased by 10%	2,499	23%	3.6	78%	3.8
Adoption rate - annual increased by 15%	2,657	31%	3.6	101%	3.2
4. 1 year Benefits Delay (0=no delay)	1,914	-5%	3.5	41%	5.6
2 years Benefits Delay (0=no delay)	1,802	-11%	3.4	35%	6.5
5. W/P # animals per farm = 90% of WO/P	1,938	-4%	4.0	52%	4.9
W/P # animals per farm = 80% of WO/P	1,851	-9%	4.7	50%	5.0
6. Social Value of GHG Emissions reduced by 10%	1,961	-3%	3.5	51%	5.0
Social Value of GHG Emissions increased by 10%	2,087	3%	3.6	56%	4.6
7. Accelerated annual soil loss incr. by 50% by year 25	2,080	3%	3.6	53%	4.8
Accelerated annual soil loss incr. by 70% by year 25	2,085	3%	3.6	53%	4.8
8. Yield Loss Factors from Erosion increased by 100%	2,073	2%	3.6	53%	4.8
Yield Loss Factors from Erosion increased by 200%	2,073	2%	3.6	53%	4.8

Note:

- WO/P = Without Project (Baseline); W/P = With Project.
- 5% discount rate - Economic Analysis



103. **Increased annual adoption rate increases Project returns significantly such that a doubling of the annual adoption rate from 5% to 10% can increase ENPV by 23%.** Increasing annual adoption further to 15% can lead to 31% higher ENPV. Close monitoring and support for target farmers and implementing water management plans could help increase the adoption rate. This also includes ensuring that beneficiaries are successful at applying for commercial loans, obtaining the necessary quality inputs, and implementing their investments.

104. **Project delays can reduce returns by 5-11%.** A delay in when beneficiaries are willing and able to adopt new farming practices and implement their investments can lead to reduced project returns. Table 4 shows that a 2-year delay in benefits can reduce the ENPV by 11% and reduce the EIRR from 53% to 35%. While not always avoidable, project delays can be minimized with close monitoring and by ensuring implementation does not lose momentum.

105. **The estimated returns could fall by 4-9% if the number of animals per farm dropped by 10-20%.** Further data are needed to determine if households respond by lowering the number of livestock units they own when the yield per animal goes up as noted in a recent livestock impact study for SLMP-2 (see World Bank, 2017d).

106. **Results are sensitive to the estimated impact on GHG emissions because a 10% reduction in value can reduce ENPV by 3%.** This also implies that it is important that the assumptions entered in the EX-ACT model reflect the Project accurately.

107. **Estimated yield loss from soil erosion may be too low in the Base Case compared to some available studies.** If the yield loss factors are trebled from maximum 1.5% to 4.5% - which is still conservative in accordance with some studies (see Panagos et al. 2018, and Gebreselassie, 2016) – ENPV can increase by 2%. Note that, this analysis does not consider climate change which may create increased future soil erosion and yield loss.

108. The main expected net benefits which could not be quantified due to lack of data include:

- Direct benefits from new income generating activities such as; grain-, meat-, dairy-, and bamboo-processing; tree seedling nurseries; manufacturing of improved cook stoves, production of improved environmental services; and private sector initiatives for PES or CSR.
- Value of reduced firewood collection and improved indoor air pollution from cook stoves.
- Benefits from improved administration and tenure rights such as conservation of protected areas, biodiversity and tourism.
- Benefits to other sectors of the economy that will take advantage of increased productivity and resilience in the agriculture sector.
- Benefits captured in neighboring communities through informal dissemination of improved land and water management practices.
- Downstream effects of reduced risk of flooding and reduced cost of sediment build-up in irrigation and hydroelectric dams.
- Benefits from improved nutrition such as due to a more varied food production in the area.
- The value of capacity building among direct beneficiaries is captured in the EFA model. Project funded capacity building and institutional development at all levels have direct value in that they increase the skill level in public sector institutions and enable them to work more efficiently in providing essential and enhanced public good services. These institutional benefits are not quantified in the EFA, but are seen as critical to ensure that the other benefits can be realized when it comes to building productive alliances with access to agricultural financing, land, and other business enabling services.



109. In light of RLLP II providing an ENPV of USD 2,024 million over 25 years (ETB 77 billion) and an ERR of 53% and the additional potential net benefits that could not be quantified yet, the project investment is expected to yield significant returns even when considering key risk factors.

110. The project team should continue to collect more data to improve the current EFA analysis and also for evaluating the project at mid-term and completion. Particular focus could be on:

- Validating assumptions behind all changes in WO/P and W/P gross margins for crops, livestock, non-cropland, CSRPs together with other new IGAs.
- Validating the assumed farm sizes and cropping/livestock patterns of representative farms including whether Project incentives will lead to changes in cropping pattern and stocking rate.
- Updating the analysis if budget cost tables are revised and also explore how to assign shares of the costs to different benefit flows.
- Continuously ensuring that the EFA analysis is aligned with applicable target indicators.
- Refining the estimation of impact on carbon balance using the EX-ACT Model.



ANNEX 3: Environmental and Social Safeguards Institutional and Implementation Arrangements

Environmental and Social Safeguards Institutional and Implementation Arrangements

111. The implementation of the RLLP II activities and particularly the environmental and social safeguard will take place through the existing government institutional structures from the federal to the local or community level, and follow the implementation arrangements in RLLP. RLLP builds upon existing implementation structures and includes environmental and social safeguard implementation of the safeguard instruments (ESMF, SA, RPF and GMG). RLLP II implementation is centered in the MoA which will be responsible for project implementation at all levels of the government's existing implementation structure for its Sustainable Land Management Program: Federal, Regional State, Zone, Woreda (District), and Kebele (Sub-district). These entities and their staff are generally capacitated and ready to implement in the RLLP II woredas in Oromia, Amhara, SNNP, Tigray, Benishangul, Gumuz, Sidama and Gambella regional states.

112. *At Federal/National level:* The overall coordination and implementation of the project will be facilitated by the Federal Ministry of Agriculture (MoA) in collaboration with other relevant Ministries (e.g. MoF, MoWIE, EFCCC, etc). The MoA will use the organizational structure and institutional arrangements established to coordinate all RLLP finance by the Government and development partners. The RLLP has its own National Steering Committee (NSC) and will use an independent and fully responsible National Technical Committee (NTC) which existed for SLMP II. The RLLP coordination Unit (RLLPCU) within the MoA is the core unit that coordinates the project activities. The MoA is responsible for the day-to-day program management, preparation of annual work plan and progress reports, monitoring/supervision of overall implementation progress; evaluation of program impacts, environmental and social safeguards, financial administration, procurement of goods and services.

113. The National Steering Committee (NSC) has high level representations from the MoA, MoFED, MoWIE, EFCCC, EIAR and BoA of the RLLP II regions. The Committee is chaired by the State Minister for Natural Resources in the MoA and will be responsible for (a) establishing policy guidelines and providing overall supervision for project implementation; (b) approving the annual federal and regional work plan, budget and the annual procurement plan; and (c) reviewing the annual implementation performance report to be prepared by the RLLP Coordination Unit, including environmental and social safeguards; and overseeing the implementation of corrective actions, when necessary.

114. The National Technical Committee (NTC) is composed of senior technical staff from MoA, MoF, MoWIE, EFCCC and EIAR. Representatives from the development partners who are supporting RLLP/RLLP II are members of the committee. The NTC is responsible for providing technical advice to the MoA on coordination and synergies, technical issues of the RLLP and other similar projects, including environmental and social safeguard on the quality of project implementation reports, special study documents on policy, guidelines, documentation of best practices, and M&E reports.



115. The RLLP-PCU will be led by an appointed senior technical staff as National Project Coordinator at MoA. The unit will be responsible for the day-to-day management of RLLP/RLLP II and will be responsible for (a) preparation of consolidated annual work plan and progress reports; (b) monitoring and supervision of overall implementation progress and evaluation of project impacts; (c) financial administration; including environmental and social safeguard; and, (d) procuring goods and services.

116. *Regional:* Implementation will be led by the Bureau of Agriculture (BoA). The BoA will use a regional coordinator recruited for RLLP and responsible for approving annual work plan and progress reports from the Woredas. The reports will then be submitted to the National RLLP-PCU. A Regional Steering Committee (RSC) will be formed from heads of relevant sectors to provide guidance and leadership at the regional level. The RSC will meet quarterly to review performance, endorse the quarterly progress reports and provide necessary guidance on project implementation, and endorse the annual plan at the beginning of the fiscal year.

117. *Woreda and Kebele level:* The implementation of the project will be undertaken jointly by Woreda office of Agriculture through the Woreda Technical Committee (WTC), the Kebele Watershed Team (KWT), and communities. The WoA will assign an independent Focal Person who will take the lead responsibility in the overall implementation of the program. The WTC and KWT will assist communities in: (i) developing annual work plan and budgets for submission to the Region for endorsement and integration into the Regions' work plan and budgets; (ii) facilitating community participation in watershed planning and rehabilitation; (iii) training; (iv) monitoring and evaluation; (v) dissemination of innovations in RLLP.

Arrangements for Environmental and Social Safeguards

118. The Environmental and Social Safeguard (ESS) is one of the programs supported in RLLP II, with the aim to ensure that subproject activities to be implemented are not only technically, economically and financially viable, but are also environmentally friendly and socially acceptable for the sustainability of the RLLP II investments. For the attainment of the RLLP II development objective and ensuring environmental and social sustainability the following institutional arrangement will be used in existing and new target watersheds.

119. **National Project Coordination Unit (NPCU)** – The NPCU shall recruit/hire one environmental and one social development specialist (Safeguards and Gender) who will work closely with regional safeguard specialists, zonal and woreda focal persons assigned in each of the RLLP II implementing regions. The environmental and social safeguard specialists (each one) shall consolidate all compliance and performance monitoring reports collected from the six regions. They will assist in monitoring and closely following up of the effective implementation of the Environmental and Social Management Framework (ESMF), Social Assessment (SA), Resettlement Policy Framework (RPF) and Gender Mainstreaming Guideline (GMG). Additionally, they will provide the required technical backstopping, review of subproject and activity plan, design, cost, and baseline documents to ensure environmental and social factors and mitigation measures are incorporated, prepare monthly and annual work plans, organize annual review programs, and collect and consolidate progress report and send the consolidated report to development partners on a quarter bases.



120. **Regional Project Coordination Unit (RPCU):** The RPCU will designate/recruit one environmental and one social development specialist (safeguard and gender) who will follow the overall implementation of the ESMF, SA, RPF and GMG at woreda, kebele and community levels. The regional safeguards team shall undergo training in environmental and social safeguards and gender mainstreaming aspects of subproject preparation, review and approval. They will closely work with the regional infrastructure and watershed specialists of the region during the planning and construction time to avoid the late occurrence (proactive engagement) of impacts on the environment and the community. They will collect the performance of safeguard activities from the woreda; undergo a detail analysis on the quality of reports, and the implementation of mitigation measures on a specified period. They will review the subprojects referred to the region for ESIA together with the regulatory institution or delegated regulatory authority. A consolidated plan will be sent to the national project coordination unit through the M&E unit and a separate standalone report to the NPCU safeguards specialists.

121. **Zonal Focal Person of the Project:** The RLLP II at the zonal level is led by a steering committee. The Focal person at the zonal level is responsible for the overall coordination and monitoring of the environmental and social safeguard activities at woreda level. He/she will compile and consolidate quarter and annual implementation progress reports submitted by the woredas and will send to the RPCU. He/she will facilitate the implementation of the review process for those subprojects sent to zonal environmental regulatory body for ESIA purpose. Zonal focal persons will support woredas in properly directing the steps while conducting the ESIA through their own human resources at the woreda level and/or by a consulting firm licensed by the EFCCC or other international entities entrusted for the purpose.

122. **Woreda Focal Person of the Project:** The woreda focal person is responsible for coordinating the different stakeholders in the planning and implementation of the RLLP II activities at grass root level, kebele and community level. He/she supports kebele Development Agents in the identification and screening of subprojects. However, for high and medium risk subprojects he/she should request support from safeguards experts either at Zonal or regional levels after screening results. He/she will follow the implementation of mitigation measures that are planned in the ESMP, Social Management Plan (SMP) and RPF. Besides, he/she will play a significant role in facilitating the WTC members to play their respective roles in designing the anticipated potential environmental and social impacts and the mitigation measures subjected to their concerned sector offices. He/she prepare and submit a consolidated report on the performance of the environmental and social safeguard activities along with the M&E.

123. **Kebele level implementation:** Identification and initial environmental and social screening of subproject/activity of the RLLP II starts from the community and kebele level which are eligible for support. The Kebele Watershed Team (KWT) and Community Watershed Team (CWT) at kebele and community level, respectively, are responsible to follow up and monitor the implementation of the Environmental and Social Management Framework, Social Assessment (including the Social Management Plan), RPF and gender mainstreaming guideline and site-specific plans, such as ESMP and SMP as applicable and in a timely way. Development Agents at the kebele level (Natural Resource Management, Crop Development, Livestock Development, Irrigation and/or others) have the responsibility to ensure the overall implementation of the ESMF, SA, RPF and GMG.



124. **Sub-Project Identification and Watershed Planning Process:** Sub-projects are identified by the communities based on their local needs and priorities through a participatory watershed planning process whereby all community members have the opportunity for sharing ideas and making decisions during the planning and implementation of RLLP II activities. The DAs at the Kebeles and the Kebele Watershed Team members will provide the necessary technical support to the Community Watershed Team during the identification, planning and implementation of the activities. The planning process is guided by the MoA Community Based Participatory Watershed Development Guidelines. The list of identified sub-projects will then be referred to the KWT with the support of Development Agent.

Summary of potential social risks, challenges and mitigation measures related to RLLP II by project component

Component	Potential risks and challenges	Mitigation measures	Responsible body	Required Budget
Component 1: Investment in green infrastructure for resilient watershed	<ul style="list-style-type: none"> Focus on supporting smallholder farmers to scale up and adopt best-fit sustainable land and water management technologies and practices. Hence there is a possible risk/challenge of not properly addressing the circumstances of people, such as communities who entirely depend on natural resources, who peruse peculiar livelihood systems and natural resource management strategies 	<ul style="list-style-type: none"> Devise a mechanism to include livelihood strategies of communities who are entirely dependent on natural resources into the RLLP activities. For example, traditional beekeeping though largely takes the form of forest honey collection, can be integrated into the RLLP activities with an injection of modern knowledge and technology based on their demand such as beekeeping technology as the latter is more productive, sustainable and environmentally and appropriate for women to manage. 	MoA-PCU	The proposed mitigation measures are integrated into component 1.3
	<ul style="list-style-type: none"> The creation of benefit streams through markets and other market based instruments like results-based payments involve the risk /challenge of not properly considering the elderly, people with disability and poor members of the community 	<ul style="list-style-type: none"> It is recommended that the project through consultation with the beneficiary communities, devise possible mechanisms on how to make the old, the sick and people with disability benefit from the project even when they cannot afford to contribute either labor or cash to the project implementation. For example, the elderly people can be used as advisors, people with disability as time keeper, etc. 	MoA-PCU	The proposed mitigation measures are integrated into component 1.1



	<ul style="list-style-type: none"> Watershed community saving is part of the project activities that helps Users' Groups who voluntarily organize themselves to engage in IGA suitable to their respective environment. In principle membership is open to all members, but the minimum cash contribution and active participation requirement to run the IGA leaves out some members of the community who cannot not afford membership. This involves the risk of further disadvantaging the vulnerable groups. 	<ul style="list-style-type: none"> The project should devise a mechanism (e.g., interest free loan, for those who cannot be involved in the regular scheme) by which watershed community members who are likely to be left out due to the inability to meet the minimum membership requirement can also benefit from the scheme. For vulnerable and historically underserved communities unable to join cooperatives due to the inability to pay, the registration fee should be supported through flexible local level solutions such as means-test-based exemption of the registration fee; cover the registration fee from the cost of project activities; keeping the registration fee as low as the poorest of the poor can afford; and by introducing installment based payment. 	MoA-PCU	The required budget will be covered from component 1.3
	<ul style="list-style-type: none"> Female household heads may face the risk of not benefiting from the Project in equal measure with male counterparts because of not being able to balance their domestic responsibilities with their project-related role in the treatment of communal lands. 	<ul style="list-style-type: none"> Special support needs to be provided to women playing the dual role of mothers and household heads, and active participation in the Project with male community members. Arrangements may be made in consultations with watershed committees in this respect. Suggested ways to help them balance their competing responsibilities may be allowing them to a certain number of hours or days off from the minimum required time of labor contribution to the Project. 	MoA-PCU	More measures are identified in the gender action plan.
	<p>Construction water harvesting structures, community pond may cause</p> <ul style="list-style-type: none"> Competing claims over water use and 	<ul style="list-style-type: none"> Carry out assessment study on water demand and availability, Community consultations and consensus with upper and downstream community, Careful design and installation of 	All implementers MoA, MoWIE	The required budget will be covered from component 1.1



	<p>conflicts</p> <ul style="list-style-type: none"> • Competing claims up & down stream over water and conflicts, • Ponds may become a breeding place for disease vectors (malaria) and malaria infestation may increase, • Land acquisition, loss of assets, loss of land • Mismanagement of water may cause gully erosion • Loss of water due to mismanagement, • Impacts on physical cultural resources 	<p>canal structures so that excess flows will be directed to natural waterways,</p> <ul style="list-style-type: none"> • Consult PAP, pay compensation /replace land for land, compensate for loss of land, livelihoods or economic benefits, • Conduct social assessment, • Plant mosquito repellent tree and shrub species around water ponds, • Construct fence/ in the activity cost include the budget, • Apply water efficient technologies and techniques, • Provide alternative designs and locations or avoid if sub-projects directly affect physical cultural resources 		
	<p>Construction and rehabilitation of community access roads and path might cause</p> <ul style="list-style-type: none"> • Road side erosion and initiation of flooding and gully erosion in agricultural fields, • Quarry site opening causes pollution of surface and ground water, • Disturbance to cultural, religious and historical sites or resources • Land acquisition loss of livelihood and economic benefits 	<ul style="list-style-type: none"> • Chanel road spillways to natural waterways, • Rehabilitate quarry sites with natural vegetation, rip raping, shaping and refilling, and avoid creation of standing water, • Avoid disturbance to cultural or religious sites. Unavoidable incidences must be agreed with stake holders such as leaders of churches, mosques and community. • Avoid occupied land. Prepare procedures to ensure equitable resolution, • Avoid if project causes relocation of people. 	MoA	The required budget will be covered from component 1.1



	<p>Degraded land treatment and rehabilitation on communal and private lands using physical and biological SWC measures might cause</p> <ul style="list-style-type: none"> • Restriction of access to communal lands • Restriction of human and livestock mobility • Risk of involuntary land acquisition and causing relocation of households • Risk of conflict over diverse interests • Loss of economic or livelihood benefits • Wildlife attack on domestic animals and increase of crop pests (birds, primates, mammals) • Loss of farmland due to structures, establishing of wood stands at homestead level 	<ul style="list-style-type: none"> • Provide alternative routes formed for mobility • Compensations for loss of access (if caused economic loss) • Provision of alternatives (options for cut and carry, awareness on alternative forage sources, forage species provision) • Consecutive community consultations and consensus on benefits and costs, responsibilities of management, benefit sharing arrangements • Carry out social assessment report and prepare social management plan if up to 40 HHs are affected or less than 20% economic loss by the activity • Prepare resettlement action plan if more than 40 HHS are affected or more than 20% economic loss by the activity • Avoid appropriation of land or eviction of households 	MoA	The required budget will be covered from component 1.1
	<ul style="list-style-type: none"> • Competition with annual or food crops. 	<ul style="list-style-type: none"> • Planting sites should be different and with sufficient distance from crop fields 	MoA	
Component 2: Strengthening institutions & information modernization	<ul style="list-style-type: none"> • Lessons learned from SLMP II show that inadequate attention to the use of locally available indigenous knowledge systems and time-tested adaptation strategies can undermine the potential positive roles 	<ul style="list-style-type: none"> • Use of traditional and indigenous knowledge of land use, natural resources conservation practices and conflict resolution mechanism should be included in project implementation manuals for effective implementation of project activities 	MoA-PCU	The required budget will be covered from Component 1 and 2



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