THE FEDERAL DEMOCRATIC REPUBLIC OF ETHIOPIA

MINISTRY OF AGRICULTURE

AGRICULTURAL GROWTH PROGRAM (AGP- II)

ADDITIONAL FINANCING

REVISED ENVIRONMENTAL AND SOCIAL MANAGEMENT FRAMEWORK (ESMF)

June 2020
Addis Ababa, Ethiopia

Acronyms

ADLI	Agricultural Development-Led Industrialization
ADPLACs	Agricultural Development Partner's Linkage Advisory Councils
AF	Additional Financing
AGP	Agricultural Growth Program
AGP-CU	Agricultural Growth Program Coordination Unit
AGP-FCU	Agricultural Growth Program Federal Coordination Unit
AGP-FSC	Agricultural Growth Program Federal Steering Committee
AGP-FTC	Agricultural Growth Program Federal Technical Committee
AGP-RCU	Agricultural Growth Program Regional Coordination Unit
AGP-RSC	Agricultural Growth Program Regional Steering Committee
AGP-RTC	Agricultural Growth Program Regional Technical Committee
AGP-WSC	Agricultural Growth Program Woreda Steering Committee
AGP-WTC	Agricultural Growth Program Woreda Technical Committee
ARCCH	Authority for Research and Conservation of Cultural Heritages
BoA	Bureau of Agriculture
CIGs	Common Interested Groups
CLPP	Community Level Participatory Planning
CRC	Compensation and Resettlement Committee
DA	Development Agent
EA	Environmental Assessment
EFCC.	Environment, Forest and Climate Change
EIAR	Ethiopian Institute of Agricultural Research
EPLAUA	Environmental Protection, Land Administration and Use
EPA	Environmental Protection Authority
EPE	Environmental Policy of Ethiopia
ESIA	Environmental and Social Impact Assessment
ESMF	Environmental and Social Management Framework
ESMP	Environmental and Social Management Plan
ETB	Ethiopian Birr
FAO	Food and Agriculture Organization
FDRE	Federal Democratic Republic of Ethiopia
FRGs	Farmers' Research and Extension Groups
FTC	Farmer Training Center
GBV	Gender Based violence
GoE	Government of Ethiopia
GTP	Growth and Transformation Plan
HYV	High Yielding Varieties
IAs	Implementing Agencies
IPMP	Integrated Pest Management Plan
KDCs	Kebele Development Committees

LRP	Livelihood Restoration Plan
MoA	Ministry of Agriculture
NRM	Natural Resources Management
PAD	Project Appraisal Document
PAPs	Project Affected Persons
PCDP	Pastoral Community Development Program
PCR	Physical Cultural Resources
PDO	Project Development Objective
PHRD	Plant Health Regulatory Directorate
PIM	Project Implementation Manual
PMP	Pest Management Plan
RAP	Resettlement Action Plan
RPF	Resettlement Policy Framework
SA	Social Assessment
SBD	Standard Bidding Document for Procurement of Small Works
SC	Steering CommitteeSH
SEA	Sexual Exploitation and Abuse
SLM	Sustainable Land Management
SS-Dam	Sediment Storage Dam
SSI	Small Scale Irrigation
TC	Technical Committee
WSC	Woreda Steering Committee
WTC	Woreda Technical Committee
WoA	Woreda Office of Agriculture

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Executive Summary

1. General Context

The Second Agricultural Growth (AGP2) Project (P148591) was approved on March 5, 2015 and declared effective on August 31, 2015. Eventually, the Government of Ethiopia seeks for an Additional Financing (AF) of US$75 million from the World Bank for the AGP II to achieve scale-up of development effectiveness of the project. In addition to AF, a restructuring is being sought to (a) extend the closing date of the project to December 30, 2022; and, (b) revise indicators and targets in the Results Framework (RF). While the AF does not change the overall approach of the parent project to achieving its PDO and the PDO itself has been maintained as it is. The introduction of additional activities has been informed by lessons learned during implementation of the parent project. The geographic focus of the project remains the same but additional value chains are considered under the AF. The original components of the project will continue to be implemented. No additional sub-components (and withdrawal categories) are envisaged. The proposed AF will not change safeguards arrangements that are currently in place for the parent project. No additional safeguards policies will be triggered and there will be no change in the project's safeguards category. The overall risk rating is maintained as Substantial.

This ESMF is, therefore, an update of the ESMF of AGP II. The ESMF has been updated based on the context of the Ethiopian environmental policy procedures and the Bank's Safeguards Policies. The project objectives, components and types of activities to be financed, implementation arrangements and implementing bodies at each administrative level as well as identified risks and triggered safeguard instruments will remain to be the same as AGP II. As a result, restructuring of the project does not require changes in the screening formats and other basic ESMF requirements. However, the ESMF is revised to reflect the changes made in the context of the AGP II AF. The revised version will be disclosed in country and within the World Bank's external website.

This ESMF is updated to ensure that the environmental and social impacts of sub-projects, to be financed under the AGP-II AF, are properly considered during subproject identification, planning, designing and implementation processes. It outlines the principles, rules, guidelines and procedures to be followed during the screening of sub-projects against any potential environmental and social impacts, preparation of safeguard instruments, review and approval of the safeguard instruments, implementation of mitigation measures identified and planned in the safeguard instruments, and the monitoring of the mitigation measures. The document guides in designing appropriate measures and plans to reduce, mitigate and/or offset adverse impacts and enhance positive outcomes.

The main objectives of this ESMF are to: a) establish clear procedures and methodologies for integrating environmental and social issues in planning, review, approval and implementation of subprojects to be financed under AGP-II; b) Specify appropriate roles and responsibilities, and outline the necessary reporting procedures, for managing and monitoring environmental and social concerns related to AGP-II subprojects; c) Strengthen environmental, social, health and safety performance, labor and working conditions, with particular emphasis on issues of gender-based violence. d) Determine human resource trainees' selection procedure, including the training, capacity building and technical assistance needed to successfully implement the provisions of the ESMF; e) Establish the budget required to implement the ESMF requirements; and f) Provide practical resources for implementing the ESMF.In parallel to this

ESMF, the Resettlement Policy Framework (RPF) and Social Assessment (SA) have been updated for AGP-II AF so as to identify and address social impacts and risks of AGP-II AF.

The ESMF document and the Project Appraisal Document (PAD) of AGP-II, Program Concept Note of AF and the Project Appraisal Document (PAD) for Additional Financing (AF), were reviewed to gather information on the program components and sub-components, institutional arrangements for the implementation of the program and the ESMF, the anticipated sub-project types, the identified potential environmental and social impacts, the proposed mitigation measures and how these were designed to be implemented vis-à-vis the applicable safeguard policies. This revised version of the ESMF is prepared based on AGP-II ESMF and enriched further from relevant reference materials.

A thorough review of the national relevant environmental and social management policies, proclamations, regulations, and guidelines in the country related to AGP-II subprojects were reviewed. The World Bank safeguards policies triggered by AGP-II were also reviewed when updating this ESMF. Furthermore, a number of consultations were made with various stakeholders found at federal, regional, woreda and community level with Kebele development Committees (KDCs) and project beneficiaries.

Description of the Program

AGP-II has five major components. Component 1: Agricultural Public Services; Component 2: Agricultural Research; Component 3: Small-Scale Irrigation; Component 4: Agricultural Marketing and Value Chains; and Component 5: Program Management, Capacity Building and Monitoring and Evaluation.

Components 1 to 4 have subprojects which have environmental and social concerns. These subprojects include rehabilitation, upgrading and/or improvements of existing Small Scale Irrigation (SSI); household and micro-irrigation development; establishments of new SSI; implementation of watershed based soil and water conservation subprojects; development/construction of feeder road and foot bridge; construction and modernization of market centers; establishment of warehouses, storage and grading facilities; support the seed supply system; and support to livestock input supply and breed improvement, strengthening animal health services; strengthening soil fertility management services; strengthening plant health services; support the implementation of best agricultural practices; support the promotion and demonstration of agricultural mechanization technologies for smallholder farmers; introduction and promotion of pre- and post-harvest technologies; and Support establishment of integrated agricultural technology demonstration sites/watersheds.

The following subprojects are not eligible for funding by the project: purchase of land (involving project support); sub-project proposed by fewer than 10 farmers/households; construction of residential accommodation for family or larger group; and commercial activities not related to or directly supporting agriculture including value-addition.

The planning and implementation of AGP-II is planned to be done in a decentralized manner following demand-driven and incentive-(performance) based approach along the value chains. At federal and regional level, MoA and BoA through AGP Coordination Unit (AGP-CUs) are the main responsible bodies to implement the ESMF respectively. Environmental and Social Safeguard Specialists are

recruited at federal and regional AGP-CUs for following up the proper and day-to-day implementation of the ESMF. At regional level, the regional Environmental protection, Land Administration and Use Authority (EPLAUA) are responsible for ensuring the implementation of the ESMF. At Woreda level the overall mandate of supervising the implementation of the ESMF will be that of the Office of EPLAUA. At Kebele level, KDC are responsible to follow up and supervise implementation of the ESMF. The Kebele level Natural Resources Management (NRM) Development Agent (DA) has the responsibility to ensure the implementation of the ESMF.

Environmental and social management requirements

The selection, planning, design and implementation of the subprojects under AGP II AF have to be consistent with the relevant national environmental and social management requirements as well as the World Bank safeguards policies applicable to the program and its subprojects and international conventions. In each case, national, regional, woreda and local institutions to be involved in screening, reviewing and approving subprojects; and they will carry out their respective roles and responsibilities. The responsibilities may include identification of subprojects, screening, conducting environmental and social assessment (ESA), and reviewing the ESA report for ensuring compliance to obligatory requirements under laws and regulations, and issuing approvals for subproject implementation.

The AGP has been assigned as EA Category "B" project given that significant adverse environmental and social impacts are not expected to occur due to the nature and scale of the proposed sub-project activities. The following World Bank Operational Policies were triggered by the AGP subprojects: Environmental Assessment (OP/BP 4.01), Natural Habitats (OP/BP 4.04), Pest Management (OP/BP 4.09), Indigenous People (OP/BP 4.10), Physical Cultural Resources (OP/BP 4.11), Involuntary Resettlement (OP/BP 4.12), Safety of Dams (OP/BP 4.37), and Projects on International Waterways (OP/BP 7.50).

Potential Positive Impact of AGP-II Implementation

The AGP-II will have the following, but not limited, potential positive impacts:

- ✓ Provision of extension service to farmers in most of the program implementation areas will be improved as a result of various capacity building activities implemented by the program thereby increasing the production and productivity of smallholder farmers;
- ✓ Clear and measurable benefits in terms of productivity, household income, production diversification, and increasing the availability of varied household diets can be achieved through implementation of small scale and micro-irrigation subprojects;
- ✓ The establishment of SSI schemes will provide the water quantity required for continuous small-scale irrigation use during dry season and will increase the yield, cropping intensity, and irrigated land area;
- ✓ Implementation of watershed-based soil and water conservation subprojects will bring benefit like reduced land degradation, improved water flow for the SSI and micro-irrigation subprojects and improving the sustainability of the irrigation schemes and technologies by protecting them from flood damage and siltation problem;
- ✓ Improve the income and livelihood of the community through implementation of different farmer group and community subprojects;

- ✓ Improve the capacity of implementing institution in managing projects;
- ✓ Improve the sustainability of subprojects by considering environmental and social safeguard issues in the project cycle management; and
- ✓ Improve community level participatory project planning, implementation, monitoring and evaluation.

Potential Negative Impact of AGP-II subprojects

Most of the subprojects planned under the AGP-II will vary in a scale. Due to some of the AGP-II subproject like development and management of small scale and micro-irrigation infrastructures subprojects, construction of rural feeder road, development and management of market centre, watershed management, and introduction of some improved agricultural technologies may have some localized but less sensitive, site specific and perhaps reversible environmental impacts if appropriate screening is not done and if such impacts are not considered with regard to their locations or in the design of the subprojects. Some of the negative environmental and social impacts due to these subprojects include:

- Intensification of agricultural activities, due to the irrigated agriculture, may likely introduce new species some of which may be invasive;
- Increased land degradation due to the infrastructure subprojects, if not properly managed;
- Land acquisition and property losses in some cases;
- Water user conflict between the upstream and downstream community when implementing small scale irrigation subprojects;
- Increased use of agrochemicals that often associated with intensive agricultural practices;
- Rehabilitation of degraded areas may limit community access to some natural resources;
- Use of hazardous laboratory chemicals in animal health services, and soil testing laboratories may cause environmental pollution and human health risk;
- Increased salinity of soil on the irrigated agriculture due to inefficient water application methods;
- Introduction of exotic livestock species which may cause reduced livestock diversity, and introduction of new diseases; and

  Watershed management subproject may involve the introduction of new species, which if poorly planned could result in the introduction of invasive species. **Cumulative Impacts:** To address the issues of cumulative environmental and social impacts of AGP-II AF sub projects and other development activities, reference will be made to the **IFC's Good Practice Handbook: Cumulative Impact Assessment and Management.**

The potential risks on Gender Based Violence (GBV), sexual exploitation and abuse (SEA) and sexual harassment (SH) include:

- Risks associated with sexual harassment (SH), sexual exploitation and abuse (SEA) and HIV/AIDS transmission especially during the construction phase of AGP sub-projects, The lack or having limited controlling power of women on land and property, and the fact that the cultural situations in some AGP-II target areas favor men to have more than wife; are the possible risks associated with sexual harassment (SH), sexual exploitation and abuse (SEA) and GBV.

  Cumulative Impacts: To address the issues of cumulative environmental and social impacts of AGP-II sub projects and other development activities, reference will be made to the **IFC's Good Practice Handbook: Cumulative Impact Assessment and Management.**

Potential mitigation measures of AGP-II subprojects

- Protect and encourage regeneration of endemic and **indigenous** plant species
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- Minimize the changes in the topography of the land
- Consultation of the PAPs.
- Alternative rout alignment to decrease loses;
- Timely compensation for the properties and land lost with proper socio-economic survey and documentation of it.
- Proper consultation of community at the upstream, downstream and command area and reach consensus on the solution.
- Implement Integrated pest management (IPM) approach to reduce reliance on agricultural chemicals.
- Each laboratory needs to have health and occupational safety guideline;
- Have safety requirements in place for the handling, storage, and response to spills. or exposures;
- Clearly segregate and properly label hazardous materials and wastes
- Treat and dispose hazardous materials and waste in accordance with applicable laws and procedures.
- Implement Integrated Pest Management (IPM), which refers to a mix of farmer-driven, ecologically based pest control practices that seek to reduce reliance on synthetic chemical pesticidesApply improved land and water management practices.
- Training for creating awareness on the need for the introduction of improved technologies for increasing crop production.
- Quarantine law has to be seriously followed to avoid the potential adverse consequences of exotic species introduction.
- Thoroughly research new species of livestock. Determine their grazing/browsing preferences and compare them to those of current livestock species,
- Pilot-test new breeds and species before introducing them in a broad program, and monitor their impacts over time.
- Select the appropriate soil and water conservation technologies to that specific situation (based on climate and watershed characteristics); properly design and follow up the construction of the technologies (flood protection structures-cut off drain, water ways, gully treatment structures-check dam, terraces and others physical structures) to avoid the breach of the structures.
- Keep use of pesticides away from rivers and streams.
- Plant native grasses, trees, and shrubs to soak water naturally into the ground. Plant trees wherever possible

Subproject Preparation, Approval, Implementation and Reporting

The processes, procedures and institutional arrangements for addressing adverse environmental and social concerns when identifying, preparing, approving and implementing subprojects are defined in generic steps in this ESMF. When demand-driven subprojects are identified and prepared at Kebele level by the communities or groups, these subprojects will be screened at Kebele level by the DAs and KDCs against environmental and social screening checklists prepared for this purpose. Similarly, these subprojects will be screened, ESA (ESMP/ESIA) carried out, reviewed, and approved at Woreda and regional levels. Quarter and annual report should be prepared at woreda, regional and federal levels using the institutional arrangements, and the roles and responsibilities identified for the implementation of the ESMF. Regular annual reviews on the implementation of the ESMF for the subprojects are to be carried out by an independent local consultant that is not otherwise involved in the implementation of the project.

Capacity Building, Training, and Technical Assistance

During the implementation of AGP-II parent program, a number of training and awareness creation were conducted at different levels on ESMF and other safeguard instruments. In most cases, there was high staff turnover that were trained on environmental and social management. For the successful implementation of the ESMF during AGP-II parent program and AF implementation period, sufficient understanding of the mechanisms for implementing the ESMF will be required by the various stakeholders at different level (especially at woreda and kebele level) implementing AGP-II subprojects. Hence capacity building trainings and awareness creation should be provided. The focuses of the trainings include national and the World Bank environmental and social legal, policy and administrative requirements; ESMF process, procedures, and institutional arrangement to implement the ESMF; environmental and social screening of subprojects and ESMP preparation; environmental and social impact assessment methodologies; reporting, monitoring and follow-up of ESMF; Pest management Plan (PMP) including Integrated pest Management (IPM) concept, principle, approaches and applications; and Resettlement Policy Framework (RPF) and Resettlement Action Plan (RAP) preparation, implementation and monitoring. For effective implementation of the ESMF, technical assistance both general and specific, is required at Federal, Region, Zone, Woreda and Local (Kebele) levels.

ESMF Implementation Budget

Detail ESMF implementation budget is estimated for training, technical assistances and environmental and social reviews. For the specific technical assistances, the budget is part of the subproject cost and is not included here. The implementation of the safeguards management of activities of the AF- including capacity building and monitoring, supervision and technical support require an estimated budget of ETB **5,194, 756 (Five million one hundredninety four seven hundred fifty-six birr).** This is on top of ETB 52.540 million allocated for AGP-II parent program ESMF implementation and is under utilization.

1. Introduction

1.1 General Background of the Program

The Second Agricultural Growth (AGP2) Project (P148591) was approved on March 5, 2015 and declared effective on August 31, 2015. AGP2 is a US$350 million IDA credit to which other DPs (the European Union (EU), Global Affairs Canada, the Dutch Ministry of Foregin Affairs and the United States Agency for International Development have added a further US$ 103.16 million in a Multi-donor Trust Fund (MDTF). The PDO of the parent project is “to increase agricultural productivity and commercialization of small holder farmers”.

In due course, the Government of Ethiopia (GoE) seeks for an Additional Financing (AF) of US$75 million from the World Bank for the AGP II to achieve scale-up of development effectiveness of the project. The AF of US$ 75 million is address financing gaps resulting from cost over-runs on the project’s infrastructural development activities (investment on Small-Scale Irrigation (SSI) schemes) arising from enhanced design features and increased unit costs due to inflation.

In addition to AF, a restructuring is being sought to (a) extend the closing date of the project to December, 30, 2022; and, (b) revise indicators and targets in the Results Framework (RF). The AF will

provide additional resources to Component 3. on-going SSI schemes and Component 4. Market centers and bridges. While the AF does not change the overall approach of the parent project to achieving its PDO and the PDO itself has been maintained as it is, the introduction of additional activities has been informed by lessons learned during implementation of the parent project. The geographic focus of the project remains the same, while the original components of the project will continue to be implemented. No additional sub-components (and withdrawal categories) are envisaged. The proposed AF will not change safeguards arrangements that are currently in place for the parent project. No additional safeguards policies will be triggered and there will be no change in the project's safeguards category. The overall risk rating is maintained as Substantial.

The number of project implementing woredas were 157 initially, but has increased to 167 due to administrative restructuring by the government. The distribution of number of AGP II woredas among Regional's States after the restructuring is , 68 woredas are in Oromiya, 45 woredas are in Amhara, 35 woredas in SNNPR, 13 woredas in Tigray, 2 woredas in Benishangul Gumuz, 2 woredas in Gambella and 1 woreda each in Harari and Dire Dawa. These target areas have the highest growth potential, primarily based on agro-ecological conditions and access to markets

With regard to the implementation of AGP –II Components, components 1 to 4 have subprojects which have environmental and social concerns. These subprojects include Conduct research to Strengthening soil testing laboratories with chemicals/reagents,establishing animal production services**,** strengthening soil testing laboratories with chemicals/reagents, sstrengthening animal health clinics, posts, and regional animal health laboratories with laboratory chemicals/reagents, and equipment,Strengthening Plant Health Services, build the infrastructure of a) Laboratory facilities, b) Farm machineries, c) Transport facilities d) Irrigation infrastructure and facilities, watershed based soil and water conservation subprojects, development/construction of feeder road and foot bridge, construction and modernization of market centers, establishment of warehouses, storage and grading facilities; strengthening soil fertility management services; strengthening plant health services; support the promotion and demonstration of agricultural mechanization technologies for smallholder farmers,introduction and promotion of pre- and post-harvest technologies, and support establishment of integrated agricultural technology demonstration sites/watersheds.

The ESMFwhich was prepared for AGP II is updated to incorporate the environmental and social management issues of activities in Additional Financing, to enrich the document with additional description of impacts and mitigation measures more elaborately from orginal AGP-II ESMF and to strengthen environmental, social, health and Safety performance, labor and working conditions, human resource trainees' selection procedure, including issues of gender-based violence, based on World Bank's, Standard bidding documents for Procurement of small Works (SBD) developed in April,2015 for procurement of small works and updated on October,2017.

1.2. Purpose and Objective of the ESMF

This ESMF has been prepared to serve as a safeguard instrument to ensure that the environmental and social impacts of sub-projects, to be financed under AGP-II Parent program and additional financing are adequately addressed during subproject identification, planning, designing and implementation. The

ESMF guides in designing of appropriate measures and plans to reduce, mitigate and/or offset adverse impacts and enhance positive outcomes of AGP-II sub projects.

The ESMFwhich was prepared for AGP II is currently updated inoder to fit with the implementation arrangement of Additional Financing, to enrich the document with additional description of impacts and mitigation measures which were not included in the previous AGP-II ESMF and to strengthen environmental, social, health and Safety performance, labor and working conditions, human resource trainees' selection procedure, including issues of gender-based violence, based on World Bank's, Standard bidding documents for Procurement of small Works (SBD) developed in April,2015 for procurement of small works and updated on October,2017.

Resettlement Policy Framework (RPF) prepared for AGP II is also updated and will be used to address land acquisition and changes to access to livelihood resources, its valuation, entitlements and compensation; dispute resolution and grievance redress procedures in cases of involuntary or voluntary resettlements.

1.3. Scope of the ESMF

The scope of this ESMF is limited to ensure that adverse environmental and social impacts of AGP II parent program and those sub projects included in additional financing are avoided or appropriately mitigated and compensated during the implementation period till the project clousure December 30, 2022.

1.4 Methodology of the ESMF Preparation

While updating this ESMF, the methodology used among others include review of documents and consulutation with relevant stakeholders.

Review of Project Related Documents: A thorough review of the international conventions, the applicable WB's safeguard operational policies, and national relevant environmental and social management policies, proclamations, regulations, and guidelines in the country related to AGP-II subprojects was done. This helps to take into account of these policies and laws during identification of sub-projects; environmental and social screening of subprojects; environmental and social management plans (ESMP) preparation; carrying of environmental and social impact assessment (ESIA) if required; and review and approval of these safeguard instruments. In addition, these documents, especially the proclamations and operational guidelines provide important information on environmental and social management issues, on the ESIA procedures on different environmental and social impacts of different sectors' project; and relevant institutions to prepare, review and approve these safeguard instruments.

Consultation with Relevant Stakeholders

During the revision of AGP-II ESMF, for AF, consultations were made with AGP-II implementing Agencies and other stakeholders at federal, regional, woreda and community level with Kebele development Committees (KDCs) and project beneficiaries.

Consultation with Federal Stakeholders

During the revision of AGP-II ESMF, questionnaires related with regulatory frameworks ***on plant protection and IPM, administration of*** **Pesticide registration and regulation, pesticide storage**

handling, disposal, challenges, and future actions on pest and pesticide Product management **were** distributed to the experts working in the Plant Health Regulatory Directorate General (PHRD), of the Ministry of Agriculture (MoA).Questionnaire Survey was also conducted with researchers selected from different directorates in the EIAR,.Consultation with the Director of Heritage Research Directorate, in the Authority for Research and Conservation of Cultural Heritage was conducted on matters related to the Physical Cultural Resources that potentially exist in the AGP-II intervention areas. It was noted that it is necessary to involve personnel of cultural and tourism bureaus operating in and around the AGP sub project implementation sites.

Consultation with Regional Stakeholders

Regional level AGP-II AF stakeholder consultations were held in the three AGP-II intervention regions (Amhara, Oromia, and SNNP) with 34(2F) participants. The participants of the consultations include experts and department heads from bureau of EPLAUA, bureau of water resources/irrigation development, bureau of livestock sector, bureau of road authority, bureau of agriculture, regional AGP-CU, regional plant health clinics, and agricultural research institutions. The experience and best practices in implementing the ESMF during AGP-II, the challenges, and proposed solutions for AGP-II period were discussed in detail in light of the following main points: quality of the safeguard instruments prepared; social safeguard implementation status; implementation of the mitigation measures, monitoring of the implementation of the mitigation measures, sector integration in implementing the ESMF; pest and pesticide product management; cumulative impact especially related to Small Scale Irrigation (SSI) and Micro-irrigation subprojects and Pest Management and unaddressed environmental and social issues in AGP- II Implementation period that we need to consider in AGP-II AF. .

Consultations with Woreda SC and TC members

Consultations were held with **128 (11F)** woreda AGP TC members, found in 10 sample Woredas found in three AGP interventions regions (Amhara, Oromia and SNNP). The points of discussion were the experience, best practices and challenges when implementing the ESMF in AGP-II period; and the proposed solution to improve the performance of the ESMF during AGP-II AF,giving special attention to: subproject screening, review, and approval, quality of safeguard instruments (ESMP/ESIA,RAP), implementation of mitigation measures and monitoring of safeguard instruments implementation, the positive and negative impact of AGP in general.

Consultations with Kebele Development and Communities

Kebele level consultations were held with **113 (20F) KDCs** members and **243 (93F**) community members/ project beneficiaries in the 22 sample Kebeles. The opinions of KDCs and project beneficiaries were captured. The points of discussions were the positive and negative impacts of AGP II subprojects on the environment and the society, involvement of the local community in subproject identification; involvement of the KDCs in environmental and social screening of subprojects; involvement of the community in environmental and social assessment study especially during ESMP and ESIA preparation, benefits and gaps/ challenges of ESMF implementation during AGP-II implementation and environmental and social safeguard issues that need to be addressed in AGP-II AF.

2. Description of the Program

2.1. Purpose and Objective of the Program

AGP-II is a continuation of the first AGP designed for five years (2015- 2020) with the objective of increasing agricultural productivity and commercialization of small holder farmers targeted by the Program. It also specifically targets women farmers with tailor made innovations, activities and technical assistance, as a gap between female and male farmers remains in Ethiopia. It also contributes to dietary diversity and consumption at HH level and implemented in all the regions of AGP I with an additional 3 regions and one City administrative council. The program is currently being implemented in 167 Woredas. The Woredas are distributed among the following national regional states and city administration: Amhara, Oromia, SNNPR, Tigray, Benishangul- Gumuz, Gambella, Harari and Dire Dawa city administration.

2.2. Project Components:

Component One: Agricultural Public Services. To increase the access to public agricultural services of smallholder farmers, the project will support:

(a) The identification of local priorities for public services through the establishment, operation and strengthening of Agriculture Development Partners Linkage Advisory Councils (ADPLACs), and linkages to other planning mechanisms including community consultation and local strategic plans.

(b) The strengthening of public service delivery, including for agricultural extension services; livestock production and animal health services; crop production and plant health services; natural resource management services; soil fertility management services; and agricultural mechanization. This would include supporting small scale works and equipment (including for mobility of service providers) for local service providers (Farmer Training Centers (FTCs); Animal Health Posts); promotion and demonstration of identified priority technologies at FTC and model farmers, including for agricultural mechanization; support for regional level facilities (soil laboratories, etc.); training and human capacity support for service providers (Subject Matter Specialists, Development Agents, Animal Health Workers, etc.).

(c) Support the scaling up of identified "best" practice following the government's strategy, including the identification (through a community consultation process) of local good practices, validation and verification of local practices, and extension though FTCs and model farmers. In this regard, the project would align and receive additional support through the proposed Netherlands-financed CASCAPE project. Screening of technologies will include systematic assessment of nutrition, gender5 impact and contribution to climate-smart agriculture (including tillage, soil nutrients etc.).

Component Two: Agricultural Research. To increase the supply of demand driven agricultural technologies which directly link to the other components, the project will support:

(a) the release of technologies to the agricultural extension system, through: i) the identification of prioritized technologies, for which the National Agricultural Research System has completed research station validation, and which are directly linked to the project objectives identified through local planning processes (Component 1); support small scale irrigation (Component 3); and/or support the commercialization of selected value chains (Component 4); and ii) field testing new technologies through

Farmer Research and Extension Groups. Screening of technologies will include systematic assessment of nutrition, gender-impact and contribution to climate-smart agriculture (including tillage, soil nutrients etc.).
(b) The multiplication of improved technologies i.e. breeder and pre-basic seeds for production (Component 1&3) and marketing (Component 4); machinery/implement prototypes (Component 1);

(c) Capacity building for the agricultural research system to enable both national and regional research centers to effectively respond to emerging research needs, including for increased focus on high value crops.

Component Three: Small-scale Irrigation. To increase the access to and efficient utilization of irrigation water of small holder farmers, the project will support:

(a) Increased availability of irrigated water through i) the rehabilitation, upgrading and/or improvement of existing Small-scale Irrigation Schemes; ii) establishment of new SSI systems integrated with access roads where necessary; and iii) household/micro irrigation systems.

(b) Improved water management services through establishing and/or strengthening Irrigation Water Users Associations

Component Four: Agriculture marketing and value chains. To commercialize small holder farmers through market access and efficiency of input and output markets, the project would support:

(a) The availability of agricultural inputs and specifically for seed through support to seed multiplication and the scale up of Direct Seed Marketing / community-based seed production.

(b) The strengthening of formal and informal farmer organizations, including formal farmer organizations (Unions, Primary Cooperatives) and informal, commercially oriented farmer groups (informal groups establishment would be focused on women and youth groups). The project would support business plan preparation and implementation, including through the provision of matching grants to qualifying groups. Service providers, including the Cooperative Agency, would receive capacity support. Improved access to credit (both rural savings and credit cooperatives and Micro-finance Institutions) would be facilitated.

(c) The strengthening of selected livestock and crop value chains (to be confirmed, though likely to include those currently supported under AGP (coffee, sesame, maize, wheat, honey, chickpea, meat (shoat and cattle), milk, with the possible addition of horticulture and poultry), through a range of activities including technical assistance to cooperatives and market buyers (including processors and exporters), linkages between VC participants, including from importing markets (such as participation in trade shows); competitive matching grants etc. Note that this sub-component is likely to be financed through a parallel financing mechanism funded by USAID.

(d) Market infrastructure development and management, including (i) construction and modernized management of public market centers at woreda level; (ii) where clear rationale and exit strategy for public sector investment is demonstrated, to support the construction of warehouses, storage and grading facilities; and (iii) foot bridges which address critical market access bottlenecks for communities.

Component Five: Program Management, Capacity Building and Monitoring and Evaluation. To ensure project implementation, the effective monitoring and evaluation of results and a consistent and effective approach to capacity development, the project would support:

(a) Program management and coordination, including (i) financing the staffing of federal, regional and woreda coordination units and Steering Committees; (ii) procurement, financial management and safeguard functions; and (iii) goods and equipment to support project management and implementation.

(b) Monitoring, evaluation and learning, including (i) regular monitoring of project inputs and outputs; (ii) participatory monitoring and feedback; (iii) baseline followed by mid-term and end of project impact assessments; and (iv) internal learning, Knowledge sharing and communication.

(c) Capacity Development Support Facility, which will provide technical support to all human capacity building, throughout the project in order to (i) improve the quality of capacity development interventions; and (ii) strengthen the institutional capacity of implementing agencies. Note that this subcomponent would be financed through a parallel financing provided by Canada DFATD.

2.3. Program Components and Interventions Supported by Additional Financing

Interventions and activities selected for additional financing will be included in the following three components:

Component 3: Small Scale Irrigation.

3.1. Increased availability of irrigated water through: i) the rehabilitation, upgrading and/or improvement of existing SSI schemes; ii) establishment of new SSI systems integrated with access roads where necessary; and iii) HHI systems.

Component 4: Agriculture Marketing and Value Chains

Subcomponent 4.4: Support Market Infrastructure Development and Management

- Under this subcomponent the interventions to be supported will be construction of cold storages and provision of cold chain cars, operationalizing the existing market centers, development of small bridges, and Market Information Systems (MIS).

Component 5: Program Management, Monitoring, Evaluation and Learning.

The AF will provide additional resources to bridge a funding gap on infrastructure investments (on-going SSI schemes, market centers and bridges) due to cost increments. 3: SSI Development, US$ 43.95 million ; Compoennt 4: Agricultural Marketing and VC Development, US$23.64 million ; and Componet 5: Project Management, Capacity Building and M&**E** US$7.41 million).

3. Environmental and Social Context and Baseline Conditions

AGP-II is being implemented in different agro-ecological zones located in different parts of the country (Figure 1), characterized by different regimes of biophysical environments such as rainfall, temperature, growing seasons and socioeconomic environments. The environmental and social baseline condition of AGP-II intervention regions is briefly described below

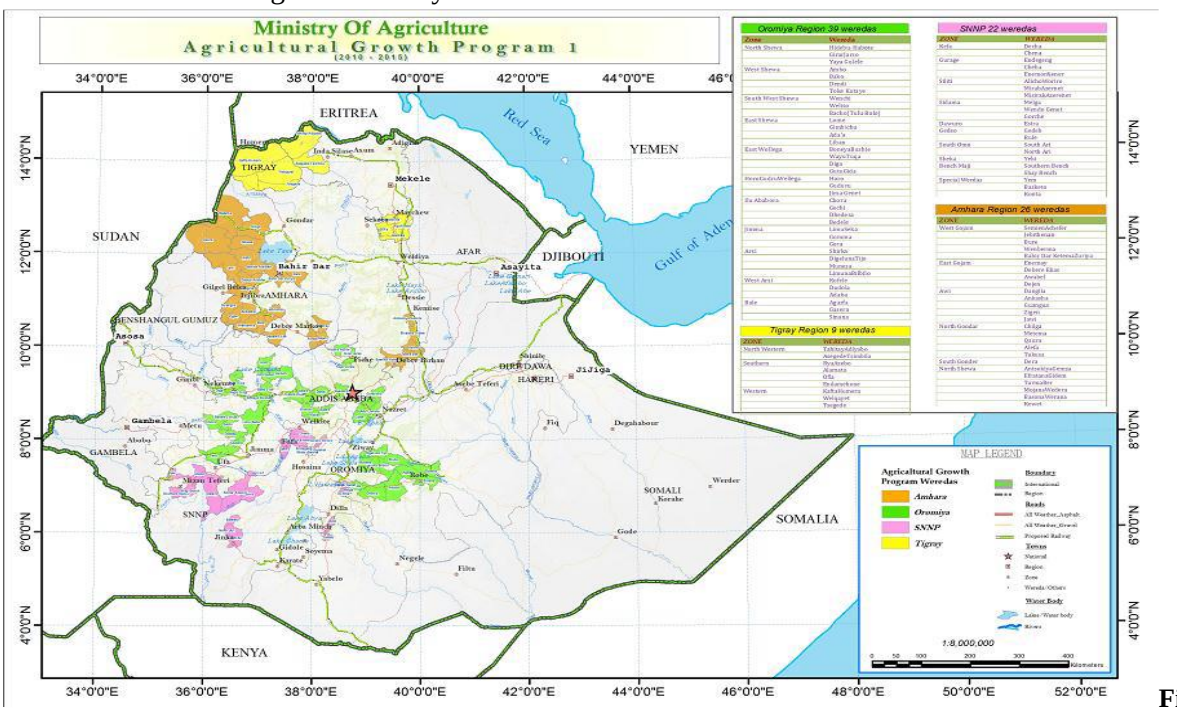

Figure 1: Program target areas

3.1. Physical Environment

Relief

The relief of AGP-II intervention regions are characterized by diverse relief including plains, gorges, plateaus, hills and mountains.

Climate

Lowlands AGP-II intervention regions experience high temperature and low precipitation; whereas, highlands experience amiable temperature and ample rainfall. In general, mean annual temperature in the regions varies from less than 10^0c in high altitudes (cool) to over 30^0c in tropical lowlands. Generally, the regions experience annual temperature ranging from 10^0C to 30^0C, with mean annual temperature of 19^0C, where the highlands and mountainous areas in the regions receive lowest mean annual temperature, while lowlands and valley bottoms get highest mean annual temperature records. The amount, duration and intensity of rainfall in AGP-II regions vary considerably. The annual rainfall in the regions ranges from 303-2553mm where the highest rainfall record is observed in the highland areas while the lowest precipitation amount is recorded in the lowland parts of the regions.

Soil and Geology:Though there are a number of soil types found in the AGP-II intervention regions, the major soil types include Nitosols, Vertisols, Cambisols, Acrisols, Luvisols, Lithosols, Aluvisols, Arenosols and Regolsols. In general, most of the soils have good agricultural potentials. However, soils on the highlands of the regions have been subject to serious erosion due to human activities (deforestation, over cultivation, poor farming practices, etc). The Precambrian, Palaeozoic, Mesozoic, and Cenozoic rocks are the three main geologic formation found in the AGP-II regions. Proterozoic rock formation is also found in the Tigray regional state.

Water Resources (River Basin and Lakes: AGP-II intervention regions have abundant surface and ground water resource potential. Large areas of the regions are drained by many major rivers, streams and lake basins. The main river basins in the AGP-II regions includes Nile/Abay/Basin, Baro Basin, Gibe/Omo/Basin, Awash Basin, Wabi Shebele Basin, Genale basin, Rift Valley Basin, and Segan Basin all found in Oromia region; Abay River / Blue Nile/, Tekeze River, Jema river and Awash River basins which are found in Amhara region; Baro-Akobo, Omo-Gibe, Genale and Rift Valley drainage basins and the Awash basin found in SNNPR regions; and Tekeze, Mereb and Denakil basin found in Tigray region. There are also a number of sub-basins and tributary rivers. There are a number of lakes found in the AGP-II intervention areas like Lake Tana, Zengena and Haik in Amhara region; lake Abaya-the largest rift valley lake in Ethiopia, Chamo, Hawassa, and Rudolf in SNNPR; Ashengie lake in Tigray region; and Ziway/Dembel, Abijata, Shalla, Langano, Beseka, Abaya, Istifani and Awasa (the last three lakes shared with Oromia region) found in SNNPR; lake Chukala, Hora (Kilole), Bishoftu (Babogeya), Hora Oda (Arsede), Megerisa, Wenchi and Dendi in Oromia region.In addition to surface water (rivers and lakes), the regions have also high potential of underground water. Particularly Bacho Plains (in West and South West Shewa of Oromia region) and Rift Valley areas (East Shewa and Borena of Oromia region) have huge underground water potential. Bacho plains and Rift Valley are the second and third largest, respectively at national level regarding their underground water reserve.

3.2 Biological Environment

Forests

Though AGP-II will be implemented mainly in agricultural lands, there are priority forest areas, plantation forests, bushes and shrubs found in these AGP-II intervention regions. Out of the 58 National Forest Priority Areas of the Country, 49 are found in Oromia (some in AGP-II intervention areas and some not). Their areal coverage accounts for about 8.1% of the total surface area of the Region. The region has forest of rich biodiversity like Harena (Bale), Chilimo (West Shewa,Dendi woreda), Yayu (Ilu Abba Bora), Dindin (West Wellega), Anfarara (Guji), Munessa (West Arsi) and Menagesha Suba (Finfinne Surrounding and Wolmera woreda) forests. Keffa, Bench Maji and Sheka zones' forest are among the few remnant wet afromontane forests of Ethiopia.

The natural forest in Amhara Region is heavily depleted and degraded by intensive human interference, mainly for agricultural purpose and for energy (firewood) production. Currently less than 10% of the total estimated forest area is considered to be natural forest in the region. To conserve and sustainably utilize the resource 17 priority forest areas are identified in the region which comprise both natural and plantation that are used for source of seed and commercial. Among these, 3 (Wof Washa in North Shewa,

Illa in Guanga Woreda, and Yegodena in Awabel woreda) of them are found in AGP-II intervention Woredas.Tigray region has 6 state forests. These are Wujig-Mahgo-Waren natural forest (in Southern zone); Hugumburda-Grat kahassu (Southern), Hirmi (North Eastern), Waldiba (North Western), Asimba (Eastern) and Desia (Eastern zone).

Protected Areas

In the eight AGP-II intervention regions, there are a number of national parks, regional parks, wildlife sanctuaries, wildlife reserve areas, and controlled hunting areas. In Oromia region there are three national parks (Bale Mountains, Awash and Abijatta Shalla) and regional (Dhera Zilfekar), five wildlife sanctuaries (Senkelle, Yabello, Babile, Erer-fafen and Kuni Muktar) and three wildlife reserves (Awash, Bale and Chelbi) and many controlled hunting areas that hosted mammals, birds, grazers, browsers and hunters. Tigray region has one national park which is Kafta-Sheraro national park (in Western and North Western zones). Siemen Mountains National Park and (Alatish National Parks) are found in Amhara regional state. SNNPR encompasses 5 national parks (Mago National Park, Nechsar National Park, Omo National Park, Chebera Churchura, and Maze Park), 2 wild life reserves (Chewbahir, and Tana) and 6 (Akobo, Boyo Swamp, Maze sheleko, omo West, Murle, and segen) controlled hunting areas. In Gambella region, Gambella National Park is found. It is the largest protected area in Ethiopia.***Flora***

The most common tree/shrub species found in the above mentioned protected areas and forests are: *Croton macrostachyus, Phonix reclinata, Vepris dainelli, Sapium ellepticum, Pouteria adolfifriedericii, Chionanthus mildbraedii, Draceaena steudneri, Schefflera volkensii,Milletia ferruginea, Chionanthus mildbraedii, Macaranga capensis,* and *Psychotria orophila, Ole africana, Juniperous procera, Podocarpus falcatus, Acacia species, Hygenia aabyssinica, Ximenia american and Ficus.*

Endemic plants found especially in the Bonga, Bogineda and Mankira Forest of the SNNPR include:*Erythrina brucei, Milletia ferruginea, Solanecio gigas, Tiliacora troupinii Menispermaceae, Vepris dainelli, Aframomum corrorima, Brillantaisia grotanellii, Satureja paradoxa, Vernonia tewoldei, Mikaniopsis clematoides, Lippia adoensis, Clematis longicauda, Pilea bambuseti ssp aethiopica, Pentas tenuis, Dorstenia soerensenii, Phyllanthus limmuensis, and Cyrtorchis ehrythraeae*

Fauna

In Oromia region, Awash National Park alone has 400 species of birds and 46 species of animals like lion, Vervet Monkey, Beissa Oryx, Greater Kudu, Lesser Kudu, Swayne's Hartebeest, Hamadryas Baboon, Anubis Baboon, Waterbuck and Salt's Dik-dik. Bale Mountains National Park has 200 bird species (like Wattled Ibis, Black-winged Lovebird, Wattled Crane, Rouget's Rail, etc) and 46 mammals including Mountain Nyala, Red Fox, Menelik's Bushbuck, Duiker, Warthog, Leopard, Bohor Reedbuck, Serval Cat, Colobus Monkey and Anubis Baboon. And, Abijata-Shalla LakesNational Park hosts367 different species of birds (like Great White Pelicans, Greater and Lesser Flamingos and Sacred Ibis) and 31 species of mammals (spotted Hyena, Golden and Black Backed Jackals, Olive Baboon, Grant's Gazelle, etc). In addition, there are elephants, cheetahs, buffalo, oribi, warthog, Bohor Reedbuck, Civet Cat and various birds and other wildlife species in sanctuaries, reserves and controlled hunting areas in the Region. The major wild animals found in the national parks, wild life reserves, controlled hunting areas and in the water bodies of the SNNPR includes Nubian Giraffe, Elephant, Buffalo, Black Rhinoceros, Hippopotamus, Zebera, Swayn's Hartbeast (which is endemic), Hartebeest, Eland, Defarsa (waterbuck), Oryx, Lessser kudu, Grants Gazelle, Lion, Cheetah, Warthog, Aardvark, Civet, Caracal,

Aardwolf, Hyena, Colobus Monkey, DeBrazza's monkey, ostrich, crocodile and other reptiles, Amphibians and Bird species.

In Amhara region, Walia Ibex, Simen Fox, Gelada Baboons and different species of birds, most of which are endemic to Ethiopia are found in Semien Mountain National Park. Endangered bird species in Amahara region include Harwood, Francolin and Ostrich. Similarly, in Tigray regions, there are several flora and fauna found in the parks, water bodies and forests. The Gambella National Parks help protect the diverse and abundant wildlife, particularly the thousands of White eared kob that migrated to and from the park each year.

3.3 Socio-economic conditions

The major economic sector for the existence of the people of the AGP-II regions, like that of other regions in the country, is agriculture in majority being mixed farming. That is the farmers exercise both crop farming and animal husbandry at the same time. Ox farming is implemented by the smallholders covering the majority of the farmers. Livestock serves as a source of manure and fuel, pay land tax, fertilizers and as a saving to buffer bleak seasons of food/seed shortage. Due to the high complexity and strong inter-linkage between crop production and livestock tending, it is difficult to consider the two livelihoods separately. Over 90% of the people of AGP-II intervention regions live in the rural area and agriculture has been remained the source of livelihood for the overwhelming majority of the people of the regions.

Livestock plays a significant role in the economy of the country as well as the regions in general and the farmers and households in particular. In general, they provide food (milk, meat, egg, hides and skins, etc), draught power for cultivation, serve as a means of transportation and as a saving or hoarding. They are also kept for prestige as an indication of social status and wealth in the society.

4. Policy and Legal Context

This section describes the National policy, legislative and institutional issues, the applicable WB safeguard policies triggered by the AGP-II and AF activities and the international conventions that are most relevant to the implementation of the ESMF and these are elaborated in the following sections.

4.1 National Policies, Strategies and institutions

The 1995 Constitution of the Federal Democratic Republic of Ethiopia urges the proponent to present the ESIA of his/her project. The following administrative, legal and policy are worth mentioning to abide the implementation of the proposed project in line with their requirements.

The Constitution of the Federal Democratic Republic of Ethiopia (FDRE) (Proc. 1/1995)

The 1995 constitution of Ethiopia is the base for the formulation of policies and strategies relevant to social development, environment protection and economic growth, in Articles 43, 44 and 92 and articles 40, 41, 42, 89 and 90 which refer to environmental and social issues respectively.It provides a basic framework for Environmental and Social Impact Assessment (ESIA) system. The concept of Sustainable Development, Environmental Rights, and Environmental Objectives are stipulated in the constitutional article 43, 44, and 92 respectively.

Article 43: The Right to Development

1. The Peoples of Ethiopia as a whole, and each Nation, Nationality and People in Ethiopia in particular have the right to improved living standards and to sustainable development.
2. Nationals have the right to participate in national development and, in particular, to be consulted with respect to policies and projects affecting their community.
3. All international agreements and relations concluded, established or conducted by the State shall protect and ensure Ethiopia's right to sustainable development.
4. The basic aim of development activities shall be to enhance the capacity of citizens for development and to meet their basic needs.

Articl 44: Environment Rights

1. All persons have the right to live in a clean and healthy environment.

2. All persons who have been displaced or whose livelihoods have been adversely affected as a result of State programmes have the right to commensurate monetary or alternative means of compensation, including relocation with adequate state assistance.

Article 92: Environmental Objectives

- Government shall endeavor to ensure that all Ethiopians live in a clean and healthy environment.
- The design and implementation of programmes and projects of development shall not damage or destroy the environment.

- People have the right to full consultation and to the expression of views in the planning and implementations of environmental policies and projects that affect them directly.
- Government and citizens shall have the duty to protect the environment.
- Furthermore, in Ethiopia, environmental management is grounded in a policy and legal framework that governs rights and obligations of citizens and enterprises.
- Article 42, sub-article 2 of the FDRE constitution recognized workers right for healthy and safe work environment.

The major ESIA policy and legal framework of Ethiopia are provided below: The Environmental Policy of Ethiopia (FDRE, 1997)

The Environmental Policy of Ethiopia (EPE) was issued in April 1997. The overall policy goal is to improve and enhance the health and quality of life of all Ethiopians and promote sustainable social and economic development through sound management and use of natural, human-made and cultural resources and their environment as a whole, "so as to meet the needs of the present generation without compromising the ability of future generations to meet their own needs". The policy consists mainly of guiding principles and various sectoral and cross-sectoral policies for sustainable environmental management. The policy seeks to ensure the empowerment and participation of the people and their organizations at all levels in environmental management activities, raise public awareness and promote understanding of the essential linkage between environment and development. In addition to its guiding principles, the policy addresses sectoral and cross sectoral environmental issues. The policy emphasizes the early recognition of environmental issues in project planning at all levels of administration. The principal features of the Environmental Policy in this area are:

a) Provides for protection of human and natural environments.
b) Provides for an early consideration of environmental impacts in projects design.
c) Recognizes public consultation.
d) Includes mitigation plans and contingency plans.
e) Provides for monitoring and auditing
f) Establishes legally binding requirements
g) Institutionalizes policy implementation

The policy also included the need for environmental impact assessment to address social, cultural and economic impacts. The issues raised in environmental policy provide an adequate policy basis for natural resource environmental assessment and it tells what major environmental issues should be addressed in the environmental impact assessment procedure.

Biodiversity Conservation and Research Policy

The biodiversity policy was approved in 1998 and it provides policy guidance towards the effective conservation, rational development and sustainable utilization of the country's biodiversity. The policy objectives accentuate public participation in biodiversity conservation, development and utilization, and also ensure that communities share from the benefit accrued from the utilization of the genetic resources and their traditional knowledge. The policy consists of comprehensive provisions on the conservation and sustainable utilization of biodiversity, and it underlines the requirements for implementers to adopt during

planning and operational phase of projects and for those projects engaged in biological resource utilization to follow ESIA procedures.

Ethiopian Water Resources Management Policy (1999)

The 1999 Water Resource Management Policy of Ethiopia gives due emphasis to the sustainable water supply. Water resources management and administration in the country should be based on Ethiopia's Water Resource Management Policy and the water resources laws of the country as indicated in Proclamation No. 197/2000. The overall goal of the policy is to enhance and promote all national efforts towards the efficient, equitable and optimum utilization of the available Water Resources of Ethiopia for significant socioeconomic development on sustainable basis. The policy aims to ensure access to water for everyone fairly and in a sustainable manner, protect water resources and sources, and promote cooperation for the management of river basins.

The 1999 Water Resource Management Policy of Ethiopia gives due emphasis to the sustainable water supply through natural resource development intervention in the upper catchments and the integration of water resource management and river basins with the goals of other sectoral developments in health, mines, energy, agriculture, etc. In section 2.2.2-A, it addresses two environmental issues which include the need to incorporate environmental conservation & protection as integral parts of water resource management and the requirement of EIA as a major criterion in all water resource projects.

The policy also sets an integrated intervention framework to implement community-based water supply, sanitation and hygiene. The policy indicates that water supply and maintenance operations need cost recovery and user contributions. The policy became operational following with the subsequent issuances of the Water Sector Strategy (2000), water sector development program (2002), Water and Sanitation Universal Access Plan, UAP (2005) and the Water, Sanitation and Hygiene (WASH) Memorandum of Understanding (2006).

Agriculture Policy of Ethiopia (APE)

Agriculture Development Led Industrialization's (ADLI) core principle is that increased agricultural productivity is the engine for both agricultural and industrial growth i.e. green revolution technologies substantially improve the low productivity of traditional Ethiopian farming systems. It is aimed at transforming the country's economy into a well-developed and prospered one. This agricultural policy and strategies is based on the objective realities of the country and its prime objective is to accelerate agricultural production and productivity at all levels.

The ADLI is reflected in the Rural Development Strategy (2001) which further stresses the role of increased agricultural production as the basis for the country's development. The strategy is driven by the quest for ensuring food security and enhancing rural employment opportunities. The Strategy is made up of eight building blocks; namely: Technology generation and dissemination; Food security, including resettlement and water harvesting; Agricultural extension and vocational training; Agricultural marketing (of inputs and outputs); Rural finance; Development of cooperatives; Rural transport; and Rural land administration and management. In most of the above building blocks, environmental and social considerations are included in an implicit manner. Explicit consideration is rather given to the need to

sustain production through use of appropriate technologies, development of tailored extensions and trainings to agro-ecological zones, and sustainable land management and land use.

The National Social Protection Policy of Ethiopia

The National Social Protection Policy of Ethiopiawas issued in March, 2012. The overall policy goal is to ensure fair and sustainable utilization of resources from the economic growth of the country and to reduce poverty significantly, to take social protection measures to ensure access and equitable benefit for the poorest of the poor and vulnerable segments of the society from the social and economic development. "

Ensuring social protection helps to reduce poverty and vulnerability with a meaningful impact, to protect the poorest segments of society from falling further deep in to destitution, to increase human development and productivity in order to break intergenerational cycle of poverty, to enhance eqitable use of resources, to bring social justice and stable peace, to reduce discrimination and exclusion, to strengthen nationalfeeling, and to enhance economic and social development. In general, to sustain social and economic development, to boost social justice, to ensure the respect of dignity and rights of citizens, it was found out necessary to develop a social protection frame. The principal articles of the National social Protection Policy of Ethiopia are:

Article 4.4. The implementation of policy shall give special emphasis to gender issues and the principle of equality.
Article 4.8. Social Protection measures shall progressively ensure the economic, social and human rights of all Ethiopians,
Article 4.9. Social protection measures shall be implemented without discrimination and exclusion.
Article 4.11. The implementation of social protection services will be mainstreamed and implemented in different government and non-government development institutions programs, strategies and action plans;
The policy gives due emphasis to the following target groups:

- Children under difficult circumstances,
- Vulnerable pregnant and lactating women,
- Vulnerable people with disabilities and people with mental health problems,
- Elderly with no care and supoort,
- Labor constrained citizens unable to get basic social and economic services,
- Victims of social problems such as beggars, commercial sex workers, drug andmedicine addicted,
- Citizens affected by HIV and AIDS and other chronic diseases that constrain their ability to work,
- Segments of the society vulnerable to violence and abuse,
- Segments of the society vulnerable to natural and manmade risks,
- Unemployed citizens,
- Citizens engaged in the informal sector and who have not social insurance coverage,
- Victims of human trafficking and repatriated emigrants,

The Conservation Strategy of Ethiopia (CSE, 1996)

The Conservation Strategy of Ethiopia (CSE) provides an adequate umbrella strategic framework, detailing principles, guidelines and strategies for the effective management of the environment. It also elaborates state of resource bases of the country, as well as the institutional arrangement and action plans for the realization of the strategy. Since the early 1990s, the Federal Government of Ethiopia has undertaken a number of initiatives that aims to develop regional, national and sectoral strategies to conserve and protect the environment. Paramount amongst these was the conservation strategy of Ethiopia (CSE, 1996). This document provides a strategic framework for integrating environment into new and existing policies, programs and projects. It is also an important policy document, which views environmental management as an important component of development. It recognizes the importance of incorporating environmental factors into development activities from the outset. The major environmental and natural resources management issues facing Ethiopia are well documented in the CSE (FDRE, 1997). The CSE sets out detailed strategies and action plans as well as the institutional arrangements required for the implementation of sectoral as well as cross-sectoral interventions for the management of Ethiopia's natural, man-made and cultural resources. The most important areas that are addressed by the CSE include the following:

a) Management of forest and woodland resources.
b) Land resource use policy and strategies; physical land use planning.
c) Integration of social, cultural and gender issues in sustainable resources and environmental management.
d) Promotion of participation in sustainable development of natural, artificial and cultural resources, and environmental protection.
e) Development of environmental education, public awareness and human resources

Sustainable Development and Poverty Reduction Strategy Programme (SDPRP, 2002)

The Sustainable Development and Poverty Reduction Strategy Programme [SDPRP], issued on July 2002, outlines the fundamental development objectives of the government of Ethiopia to build a free-market economic system that will enable the economy to develop rapidly, and the country to extricate itself from poverty and dependence on food aid, where the poor people are the main beneficiaries of the economic growth. The programme recognizes the importance of environmental protection as a prerequisite for sustainable development and treats it as crosscutting issue. Accordingly, it points out three priority areas for action: strengthening and expanding on-going efforts to address land degradation, deforestation, overgrazing, soil erosion, loss of soil fertility and the disruption of the hydrological cycle, by giving special attention to highly degraded, drought prone and food insecure areas; strengthening regulatory and institutional capacity; and strengthening the measures currently under implementation to preserve, develop, manage and sustainably use biodiversity resources deficit highland areas of the country. Accordingly, water harvesting, proper land utilization and environmental rehabilitation are identified as the top priority areas of intervention. These help to combat drought and famine, which are induced by negative environmental manifestations such as desertification and land degradation.

Food Security Strategy (FSS)

The Food Security Strategy (FSS), adopted in March 2002, is basically derived from the country's rural development policy. It aims at increasing domestic food production; ensuring access to food for food deficit households; and strengthening emergency response capabilities. It is recognized that soil, water, and vegetation are the main asset base of both the farming community and economy of the country, without which the achievement of food security is unlikely. Water and natural resource conservation based agricultural development is considered as a centerpiece of the strategy. It has also given due attention to the problems of environmental degradation, population pressure, and land shortage particularly in moisture.

Occupational Health and Workplace Rights

Occupational health and workplace rights concerned with the safety, health, and welfare of people at work. In many common laws, employers or organizations have the duty to take reasonable care of the safety of their employees. The Ethiopian legal system has adopted employer‘s liability for employment safety since the promulgation of the 1960 Civil Code (Arts.2548-2559). Employers have the duty of ensuring the workplace safety both at prevention and at remedial stage. At the level of prevention, the employer's duty is bound to prevent preventable risks. For this purpose, it is required to provide safety equipments and train how and when to make use of them (Art.92 LP). The employee has also a corresponding duty at prevention level to make use of the protective tools at appropriate time and place (Art.93 LP). Employer‘s liability is not only limited to the stage of prevention but also required to cover the remedial costs if the injury is associated with the employment. At remedial stage the employer is required to take compensatory measures after the damage has sustained. In other words, once industrial accident or occupational disease is sustained, the employer is expected to cover cost of medication including the cost for any necessary prosthetic or orthopedic appliances.

Occupational health and workplace safety issues are under the authority of Ministry of Labor and Social Affairs (MoLSA). By proclamation № 4/1995, MoLSA is given the powers and duties to determine standards and measures for the safety and health of workers and follow up their implementation; collect, compile and disseminate information on safety and health of workers. Labor proclamation № 377/2003 provided elaborate articles on the necessary measure that employer should take to safeguard the health and safety of the workers. In particular, article 12 stipulates the obligations of an employer "to take all the necessary occupational safety and health measures and to abide by the standards and directives to be given by the appropriate authorities in respect of these measures". Article 92 of this proclamation also details the obligations of the employer as:

- Comply with the occupational health and safety requirements provided for in this Proclamation;
- Take appropriate steps to ensure that workers are properly instructed and notified concerning the hazards of their respective occupations and the precautions necessary to avoid accident and injury to health; ensure that directives are given and also assign safety officer; establish an occupational, safety and health committee of which the committee's establishment, shall be determined by a directive issued by the Minister;
- Provide workers with personal protective equipment, clothing and materials instruct them of their use;

- Register employment accident and occupational diseases and notify the labor inspection of same;
- Arrange; according to the nature of the work, at his own expenses for the medical examination of newly recruited workers and for those workers engaged in hazardous work, as may be necessary;
- Ensure that the work place and premises do not cause danger to the health and safety of the workers;
- Take appropriate pre-executions to ensure that all the processes of work shall not be a source or cause of physical, chemical, biological, ergonomically and psychological hazards to the health and safety of the workers;
- Obey the directives issued by the appropriate authority in accordance with this Proclamation.

Measures Related to Occupational Health Control

Any employer shall ensure the availability of occupational health service to his employees. The use of any machinery or instrument which generates excessive noise is prohibited. Any person who uses such machinery or instruments shall install noise reducing apparatus such as ear plug or other instruments

Labour Proclamation No. 377/2003

In the preamble of this proclamation, it is stated that it is essential to ensure that worker-employer relations are governed by the basic principles of rights and obligations with a view to enabling workers and employers to maintain industrial peace and work in the spirit of harmony and cooperation towards the all-round development of our country; The relevant articles in relation to women and young employment, are provided as follows.

1. **Article 87:** ***Working Conditions of Women***

Sub article 1. Women shall not be discriminated against as regards employment and payment, on the basis of their sex.

Sub artcilcle 2. It is prohibited to employ women on type of work that may be considered to be particularly arduous or harmful to their health.

Sub artcilcle 3. No pregnant woman shall be assigned to night work between 10 p.m. and 6 a.m. or be employed on overtime work.

Sub artcilcle 4. No pregnant woman shall be given an assignment outside her permanent place of work, provided, however, she shall be transferred to another place of work if her job is dangerous to her health or pregnancy as ascertained by a medical doctor.

Sub artcilcle 5. An employer shall not terminate the contract of employment of a women during her pregnancy and until four months of her confinement.

2. **Article 88:** ***Maternity Leave***

Sub article 1. An employer shall grant leave to a pregnant woman worker without deducting her wages, for medical examination connected with her pregnancy, provided, however, that she is obliged to present a me dical certificate of her examination.

Sub article 2. A pregnant woman worker shall, upon the recommendation of a medical doctor, be entitled to a leave with pay.

Sub article 3. A woman worker shall be granted a period of 30 consecutive days of leave with pay preceding the presumed date of her confinement and a period of 60 consecutive days of leave after her confinement.

Sub article 4. Where a pregnant woman worker does not deliver within the 30 days of her prenatal leave she is entitled to an additional leave until her confinement in accordance with sub-article 2 of this Article. If delivery takes place before the 30 days period has elapsed, the post-natal leave under sub-article 3 of this Article shall commence.

3. **Artcile 89:** ***Working Conditions of Young Workers***

- Sub article 2. It is prohibited to employ persons under 14 years of age.
- Sub article 3. It is prohibited to employ young workers which on account of its nature or due to the condition in which it is carried out, endangers the life or health of the young workers performing it.
- Sub article 4. the list of activities prohibited to young worker include in particular:
  - ✓ work connected with electric power generation plants transformers or transmission, lines.
  - ✓ underground work, such as mines, quarries and similar works;
  - ✓ Work in sewers and digging tunnels.

Special Decree No, 20/1990 Council of State Special Decree to Provide for the Registration and Control of Pesticide

In the preamble it is stated that the purpose of the proclamation is to make it possible to minimize, to the extent reliable, the adverse effects that utilization of pesticides might cause to human beings, animals, plants and the environment. According to this proclamation, any substance, mixtures thereof or a living organism intended for use in preventing, destroying or controlling any pest; the following in particular is termed as "pesticide":

 unwanted species of plants or animals causing harm during, or otherwise interfering with, the production, processing, storage, transport or marketing of food commodities, agricultural produces, wood and wood products or animal feedstuffs; insects or other pests in or on the bodies of animals and causing harm to their health.

- Vectors of human and animal disease: it also includes substances or mixtures thereof intended for use as a plant-growth regulator, defoliant, desiccant or agent for thinning fruit or preventing the premature fall of fruit and substances applied to crops, either before or after harvest, to protect the commodity form deterioration during storage or transport.

The proclamation prohibits the following:

- The manufacture, import, sells or use of pesticide not registered in accordance with this special decree,
- The import, storage, transport or offer for sale of pesticides where not packed or labeled as provided in this special decree and directives issued hereunder.
- Authorization of registration is granted if the pesticide is used or handled according to the instructions contained in its proposed label, would constitute a risk to human beings, animals and the environment of such a minimal extent or degree as to be outweighed by the necessity or advantages of using it.

Proclamations and Environmental Guidelines

Environmental Protection Organs Establishment Proclamation, No. 295/2002

The proclamation was made to re-establish the federal Environmental Protection Authority (EPA), to establish Sectoral Environmental Units and Regional Environmental Protection Agencies. The authority is recently restructured as Environment, Forest and Climate Change Comission. The former EPA was established to formulate policies, strategies, laws and standards, which foster social and economic development in a manner that enhance the welfare of humans and the safety of the environment, sustainable development projects and to spearhead in ensuring the effectiveness of the process during their implementation.

The former *Environmental Protection Authority* (EPA) and currently, the Environment, Forest and Climate Change Comission among others, has the powers and duties to:

- Coordinate measures to ensure that the environmental objectives provided under the Constitution and the basic principles set out in the environmental Policy of Ethiopia are realized;
- Prepare, review and update, or as necessary, cause the preparation of environmental policies strategies and laws in consultation with the competent agencies, other concerned organs and the public at large and upon approval, monitor and enforce their implementation;
- Liaise with competent agencies in the field of environmental protection and rehabilitation and support them in capacity development;
- Establish a system for environmental impact assessment of public and private projects, as well as social and economic development policies, strategies, laws, and programs; and
- Provide advice and support to regions regarding the management and protection of the environment.

Sectoral Environmental Units (SEUs): Every competent agency (sectoral) is required by the Proclamation No. 295/2002 to establish or designate an environmental unit that shall be responsible for coordination and follow up so that the activities of the competent agency are in harmony with this Proclamation and with other environmental protection requirements. Accordingly, some sectoral agencies (e.g., Ministry of Agriculture) have now at least environmentalist to deal with environmental issues. Other ministries like Ministry of Mines, Ministry of Transport, Ministry of Housing and Construction, Ethiopian Road Authority, and others have environmental unit for the same purpose.

Regional States' Constitutions: Regional states have their own constitutions upholding the federal constitution in its entirety and constituting their regional particulars. All the regional state constitutions have addressed land and natural resources management and environmental protection. The regional states constitutions state that:

- The regional governments are entrusted to administer land and natural resources in the name of the people and deploy for the common benefit of the same;
- The regional governments and all citizens of the regions are responsible for the conservation of natural resources and the environment; and
- Concerned communities shall be given opportunity to express their opinions in the formulation and implementation of policies in relation to the environment.

Regional Environmental Protection Agencies (REPAs): **The Proclamation No. 295/2002**

The Proclamation decrees that each national regional state shall establish an independent regional environmental agency or designate an existing agency that shall, based on the Ethiopian Environmental Policy and Conservation Strategy and ensuring public participation in the decision-making process. REPAs are responsible for:

- Coordinating the formulation, implementation, review and revision of regional conservation strategies;
- Environmental monitoring, protection and regulation;
- Ensuring the implementation of federal environmental standards or, as may be appropriate, and issue and implement their own no less stringent standards; and
- Preparing reports on the respective state of the environment and sustainable development of their respective states and submits the same to the Authority.

The Environmental Impact Assessment Proclamation (Proc. № 299/2002)

As per the procedures in the proclamation, a proponent is required to undertake a timely environmental and impact assessment - EIA, assess the possible adverse impacts of the proposed project, and propose the means of mitigation, and shall submit the study report to the relevant body (Federal or regional EPA) for review and decision. It is also a requirement that EIA reports be prepared by an expert that meet the requirements specified under any directive issued by the Authority (regional/federal).

This proclamation has made EIA to be a mandatory legal prerequisite for the implementation of major development projects, programs and plans. It is a basic legal framework to harmonize and integrate environmental, economic, cultural, and other social considerations into a decision-making process in a manner that promotes sustainable development. Artticle3, sub-article 1 of this proclamation stipulates that no person shall commence implementation of a proposed project identified by directive as requiring EIA without first passing through environmental impact assessment process and obtaining authorization from the competent environmental agency. The proclamation obliges investment licensing institutions to get authorization from relevant environmental bodies prior to issuing investment permits or operation license to projects (Art. 3). It also requires such licensing institutions to suspend or cancel the permit or license they have issued for projects where the concerned environmental body suspends or cancels the authorization given for implementation of the project (Art. 12). The proclamation also allows for the imposition of a fine between fifty-thousand and one hundred thousand birr on any project owner who commences implementation of a project without obtaining authorization from environmental agencies or who makes false presentation in the environmental impact assessment study report (Art. 18).

Jurisdictions in the Proclamation: The regional environmental agency in each region shall be responsible for the evaluation and authorization or any environmental impact study report and the monitoring of its implementation if the project is not subject to licensing, execution and supervision by a federal agency and if it is unlikely to produce trans-regional impact.

Environmental Pollution Control Proclamation (Proc. № 300/2002)

It is promulgated with a view to eliminate or, when not possible to mitigate pollution as an undesirable consequence of social and economic development activities. This proclamation is one of the basic legal documents, which need to be observed as corresponding to effective ESIA administration.
The aim of the proclamation is to control and manage possible causes of environmental pollution from hazardous substances, waste and any other forms of pollutants that pose serious environmental, social and health threats. The proclamation has important provisions on environmental standards, inspection procedures, offences and penalties, etc…. In its provision to control pollution, the proclamation states that, among others:

- No person shall pollute or cause any other person to pollute the environment by violating the relevant environmental standards,
- The Authority or the relevant Regional environmental agency may take an administrative or legal measure against a person who, in violation of law, releases any pollutant to the environment.

Solid Waste Management Proclamation, No. 513/2007

This proclamationaims to promote community participation to prevent adverse impacts and enhance benefits resulting from solid waste management. It provides for preparation of solid waste management action plans by urban local governments

The Definition of Powers and Duties of the Executive Organs of the FDRE, Proclamation № 916/2015

This proclamation mandated the Ministry of Environment, Forest, and Climate Change (MEFCC) to 'establish a system and follow up implementation for undertaking environmental impact assessment or strategic environmental assessment on social and economic development polices, strategies, laws, programmes and project set by the government or Private' (Article 30, sub article 1/b). It also requires MEFCC to 'establish a system for evaluating and decision making, in accordance with the Environmental Impact Assessment Proclamation, the impacts of implementation of investment programs and projects on environment prior to approvals of their implementation by the concerned sectoral licensing organ or the concerned regional organ' (Article 30, sub-article 1/e).

Proclamation on Expropriation of Landholdings for Public Purposes and Payment of Compensation: Proclamation 455/2005

Prior to this proclamation, no specific legal framework existed relating to expropriation and compensation. As a result, there have been serious shortcomings in the processes associated with land expropriation, resettlement and associated compensation payments in Ethiopia. The proclamation address issues related to *Public domain Entitlement, Property laws, Land asset classification and valuation, customary laws, Procedures for expropriation, Procedures for grievance redress.* The proclamation establishes the legal principles and framework for expropriation and compensation.

Regarding the determination of compensation, the basis and amount of compensation is clearly explained in Article 7(1) which states that "land holder whose holding has been expropriated shall be entitled to

payment of compensation for his property situated on the land and for permanent improvements he made". Article 7(2) also states that "the amount of compensation for property situated on the expropriated land shall be determined on the basis of replacement cost of the property". Under article 8(1) of this proclamation a displaced land holder whose land holding has been permanently expropriated shall in addition to the compensation payable under the articles of this proclamation is paid displacement compensation, which shall be equivalent to ten times the average annual income he secured to bring the five years preceding the expropriations of the land.

Rural land Administration and Use Proclamation, No.456/2005

The main aim of the Proclamation is to conserve and develop natural resources in rural areas by promoting sustainable land use practices. To encourage farmers and pastoralists to implement measures to guard against soil erosion, the Proclamation introduces a Rural Land Holding Certificate, which provides a level of security of tenure. The MoA is tasked with implementing the Proclamation by providing support and co-coordinating the activities of the regional governments. Regional governments have an obligation to establish a competent organization to implement the rural land administration and land use law. Accordingly, the regional and Woreda/District Environmental Protection, Land Administration and Use Authority (EPLAUA) are responsible for rural land administration. The Proclamation states that if a land, that has already been registered, is to be acquired for public works or for investment, compensation commensurate with the improvements made to the land shall be paid to the land use holder or substitute land shall be offered. The Proclamation imposes restrictions on the use of various categories of land, for example wetland areas, steep slopes, land dissected by gullies, etc.

Regulation for the payment of Compensation for property Situated on Landholdings Expropriated for public purposes: Regulation No. 135/2007

This regulation is issued by the Council of Ministers for the purpose of not only paying compensation but also to assist displaced persons to restore their livelihood. It describes the detail implementation procedures in when settling issues related to Public domain Entitlement, Property laws, Land asset classification and valuation, customary laws, Procedures for expropriation, Procedures for grievance redress. The regulation *provides the procedures for application of Proclamation No 455/2005.* The regulation identifies the type of properties eligible for payments of compensation which includes buildings, fences, crops, perennial crops, trees, protected grass, improvement made on rural land; relocated property, mining license and burial grounds.

Ethiopian Water Resources Management Proclamation, No. 197/2000

The proclamation is decreed to ensure that the water resources of the country are protected and utilized for the highest social and economic benefits of the people of Ethiopia, to follow up and supervise that they are duly conserved, ensure that harmful effects of water are prevented, and that the management of water resources is carried out properly. It proclaims that all water resources of the country are the common property of the Ethiopian people and the state. It has provisions on general principles of water use and management, inventory of water resources, professional engagement in water resource management and supply. Among other articles, the proclamation clearly indicates the requirements on

water bank management and prevention of harmful effects on water resources in the articles 24 and 25 of the proclamation.

The supervising body (the Ministry Water, Irrigation and Energy), in collaboration and in consultation with the appropriate public body may:

- Delimit the boundaries of the banks of certain water bodies;
- Prohibit clearing and cutting trees or vegetation and construction of residential houses within the delimited banks of water bodies;
- The appropriate public bodies shall, before allowing or causing the founding of towns or villages, request the supervising body for technical advice in order to prevent or avoid damages, adverse impacts or accidents which may occur as a result of floods and other factors related to water.

Pesticide Registration and Control Proclamation: Proclamation No. 674/2010

To minimize the adverse effect of pesticide, use on human beings, animals, plant and the environment, the country has enacted Pesticide Registration and Control Proclamation (No. 674/2010). The proclamation aims to regulate the manufacture, formulation, import, export, transport, storage, distribution, sale, use and disposal of pesticide. Before this proclamation was enacted, there was Pesticide Registration and Control decree.

This Proclamation:

- Covers agricultural, household, public health, and industrial pesticides;
- Provides registration and control responsibilities to the Ministry of Agriculture;
- Seeks to promote safer pesticide handling and use in the country;
- Requires that all pesticides should be registered on the basis of demonstrated product effectiveness and safety for humans, non-target organisms and the environment;
- Prohibits importation of highly hazardous, severally restricted or banned pesticides (including most Organochlorines); and
- Obliges that all pesticides must display labels that meet specific Ministry of Agriculture label requirements.

Guidelines are produced and distributed to the grassroot level to help them monitor pesticide distribution, application, handling and storage. But there are enough data to compliment that the guidelines have not been reaching all the smallholder farmers who have been using pesticides. Other policies, proclamation and guidelines that address the safe use and management of pesticide and chemicals include the Agricultural Policy, the Environmental Pollution Control proclamation (No 300/2002), labor Proclamation (42/93), and Public Health Proclamation (200/2000) among others.

Physical Cultural Resources Management

Ethiopia has enacted PROCLAMATION NO. 209/2000 A PROCLAMATION TO PROVIDE FOR RESEARCH AND CONSERVATION ON OF CUL TURAL HERITAGE. ***Article 4 Sub article 42 of this proclamation states that:*** I) "The Council of Ministers may, upon the recommendation of the Minister, dec!are any area as , reserved area and publish same in the Negarit Gazeta, where an assemblage of immovable Cultural Heritage is situated or where such an area is deemed to be an archaeological site.'

'2) Unless otherwise specifically decided by the Council of Ministers, no person may, without a permit issued by the Authority, carry out building or road construction, excavations of .any type or any operation that may cause ground disturbance in an area declared reserved pursuant to Sub-Article (I) of this Article.

3) Any person who holds permit to conduct construction works in a reserved area and who discovers Cultural Heritage in the course of construction activities shall stop construction and shall forthwith report same in writing to the Authority." **Environmental and Social impact Assessment Guidelines and Directives**

The former EPA has published series of environmental and social impact assessment guidelines for the different sectors outlining the key issues, principles, procedures and processes to be adopted and adhered to avoid and/or mitigate potentially negative environmental and social impacts during project planning, implementation and operation by government, public and private entities. Later these guidelines are revised and compiled into one comprehensive guideline, "***Environmental and Social Impact Assessments Guideline*** **September 2017".**

This guideline outlines the screening, review and approval process for development projects in Ethiopia and defines the criteria for undertaking an ESIA. According to this ESIA procedural guideline, projects are categorized into three schedules:

Schedule 1: Projects which may have adverse and significant environmental impacts thus requiring a full Environmental Impact Assessment;
Schedule 2: Projects whose type, scale or other relevant characteristics have potential to cause some significant environmental impacts but are not likely to warrant a full ESIA study
Schedule 3: Projects which would have no significant environmental and social impact and do not require an ESIA.

However, projects situated in an environmentally sensitive areas such as land prone to erosion; desertification; areas of historic or archaeological interest; important landscape; religiously important area, etc. will fall under Schedule I irrespective of the nature of the project.

Environmental Impact Assessment Guideline, May 2000

The guideline provides the policy and legislative framework, the general ESIA process and key sectoral environmental issues, standards and recommendations for environmental management in key sectors such as agriculture, industry, transport, tannery, dams and reservoirs, mining, textiles, irrigation, hydropower and resettlement projects.

Environmental and Social Management Plan Preparation Guideline, Nov. 2004

The guideline provides the essential components to be covered in any environmental and social management plan (e.g., identified impacts, mitigation measures, monitoring, capacity building, etc) and structured formats for mitigation measures, monitoring and institutional arrangements for the implementatioan of ESMPs.

***Environmental and Social Impact Assessments Guideline* September 2017**

It is a revised version of the Ethiopian ESIA Guidelines with the aim to integrate social issues (gender, health, workplace rights etc) in to the environmental impact assessment system of the country.

A Directive Issued to Determine Projects Subject to Environmental Impact Assessment, Directive No.1/ 2008

The directive was issued to identify and list out those investment projects subject to mandatory Environmental and Social Impact Assessment. The regions are entitled to issue similar directive to their own specific cases based on these directives. Extensive list of project types requiring ESIA are provided in this directive.

4.2 Relevant and Applicable International Conventions Ratified by Ethiopia

The Ethiopian government is party to a number of regional and international conventions and protocols on environment. Article 9(4) of the constitution of the Federal Democratic Republic of Ethiopia provides the legitimacy that once an international agreement is ratified through the accepted or established procedure. It automatically becomes an integral part of the law of the land. Ethiopia has ratified several international/multilateral environmental conventions and many of the principles and provisions in those conventions have been well addressed in the national environmental policies and regulations.

Consequently, the following, among others are international conventions and protocols that are highly relevant to the implementation of the AGP II sub projects, and hence such program implementation need to be in compliance with those conventions. Some of these conventions include the following:

Convention on Biological Diversity

This convention has three goals, and Ethiopia ratified to meet the goals through proclamation No.98/94 on May 31, 1994:

- Conservation of biodiversity;
- Sustainable use of the components of biodiversity; and
- Fair and equitable sharing of the benefits arising from the use of genetic resources.

United Nations Framework Convention on Climate Change

This convention takes into account the fact that climate change has trans-boundary impacts. The basic objective of the convention is to provide for agreed limits on the release of greenhouse gases into the atmosphere so as to reduce the impacts of climate change. Ethiopia ratified this convention through proclamation No. 97/1994 on May 2/1994. The proposed project needs to be implemented in a manner it promotes adaptation to and mitigation of climate change.

The United Nations Conventions to Combat Desertification

The objective of the convention is to combat desertification and mitigate the effects of droughts in countries experiencing serious drought and desertification, particularly in Africa. Ethiopia has ratified the convention through its proclamation No. 80/1997. Respecting the convention is so important as the proposed project is implemented in historically prone to drought and flooding**.**

The Bamako convention

The Bamako convention on the ban of the import into Africa and the on the control of trans-boundary movements and management of hazardous wastes within Africa, adopted in Bamako, Mali on 30 January 1991. The **objective of the convention is** to protect the health of populations and the environment of African countries concerning the movement, dumping and handling of hazardous waste coming from other countries.

The Basel Convention

The Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal is the most comprehensive global environmental agreement on hazardous and other wastes. It aims to protect human health and the environment against the adverse effects resulting from the generation, management, transboundary movements and disposal of hazardous and other wastes.

The Basel Convention regulates the transboundary movements of hazardous and other wastes and obliges its Parties to ensure that such wastes are managed and disposed of in an environmentally sound manner.

The Rotterdam Convention

This Convention relates to prior informed consent in the context of international trade in specific hazardous industrial chemicals and pesticides. Ethiopia has ratified this Convention by Proclamation No. 278/2002, on July 2, 2002.

The Stockholm Convention on Persistent Organic Pollutants

The Convention aims to ban the use of Persistent Organic Pollutants (POPs). Ethiopia has ratified this Convention by Proc. No. 279/2002, on July 2, 2002. Therefore, any investment is required to respect the objective of the Convention as per the system of the country.

The *Rotterdam convention on Prior Informed Consent (PIC), Basel convention, Stockholm convention on (POPs), and Bamako Convention (1991),* have importance in pesticides managements. Consideration of these conventions is therefore essential when managing pests and pesticide products.

The International Covenant on Economic, Social and Cultural Rights

This agreement together with the international agreement on Civil and Political Rights and the Universal Declaration on Human Rights make up the International Bill of Rights. It addresses such fundamental rights as the right to fair conditions of employment, the right to social security, the right to food, clothing and housing, and the right to culture. The Convention is adopted in 1966 and come in to force in 1976,

ratified by Ethiopia in 1993. **The United Nations Convention on the Elimination of all forms of Discrimination Against Women (UNCEDAW)**

The Convention establishes that discrimination against and inequality faced by women violates human right's principles. It calls on States' Parties to actively remedy discrimination against women in several key areas such as marriage, employment, education and religion. CEDAW was adopted by the General Assembly in 1979 and ratified by Ethiopia in 1981.

The Universal Declaration of Human Rights

This declaration was enacted in 1948 and boldly states the need for the protection of human rights. Civil, political, economic, social and cultural rights are the core constituents of the declaration. Ethiopia has accepted the declaration to duly respect the very natural and democratic rights stipulated in this declaration.

The International Labor Organization (ILO) Conventions

The International Labour Organization (ILO) has promulgated several international conventions and standards. Convention No. 111/1958 that deals with the prevention of discrimination in respect of employment and occupation, Convention No. 100/1951 that calls for all eligible workers are to be paid equal amount for equal type of work, Convention 87/1948 that gives the freedom of association and protection of the right to organize by workers and employers, Convention 98/1949 that gives the right to the workers to organize and collective bargaining, Convention 29/1930 that strives to prevent forced or compulsory labour and Convention 105/1957 that calls for the abolition of forced labour are few of them which Ethiopia is party to them.

Because Ethiopia is part to these and other ILO's Convention, employers in the country are not allowed to discriminate their workers on any basis (such as race, color, gender, age, religion, social class, political tendencies, nationality, union membership, civil status or any other motives). Employers must offer equal pay, training, promotion and benefit opportunities to all workers for the same type of work. No forced labour is allowed for any reason (as a political coercion or education or as a punishment for holding or expressing political views or views ideologically opposed to the established political, social or economic system or as a method of mobilizing and using labour for purposes of economic development or as a means of labour discipline or as a punishment for having participated in strikes or as a means of racial, social, national or religious discrimination). ILO Conventions urge that employers must protect the occupation health and safety of the workers as well as create safe working environment with the primary objectives of preventing, if possible, or reducing work-related accidents, injuries and diseases.

4.3 World Bank Safeguard Policies

The ESMF will be required to comply with not only the relevant national policy and legal frameworks but also with the applicable environmental and social safeguard policies of the World Bank. In this section, the Bank's applicable environmental and social safeguards policies and their applicability are discussed.
In preparing this ESMF, a consideration of the type of projects planned vis-a-vis and the requirements of the Bank Safeguard policies, has led to the determination that the following Bank policies are triggered by

AGP-II parent program including those sub projects planned to be executed under the AGP-II Additional Financing.

- *Environmental Assessment (OP/BP 4.01)*
- *Natural Habitats (OP/BP 4.04)*
- *Pest Management (OP/BP 4.09)*
- *Indigenous People (OP/BP 4.10)*
- *Physical Cultural Resources (OP/BP 4.11)*
- *Involuntary Resettlement (OP/BP 4.12)*
- *Safety of Dams (OP/BP 4.37)*
- *Projects on International Waterways (OP/BP 7.50)*

Table 1 The WB Environmental and Social Safeguards Policies triggerd in AGP-II

WB Safeguard Policy	Triggered		Justification
	Yes	No	
Environmental Assessment (OP/BP 4.01)	√		The policy is triggered because component I-IV of AGP – II consist of interventions that trigger EA: **Interventions of component I**. Include the strengtheningof: • soil testing laboratories with chemicals/reagents, • soil fertility management services through production of lime, animal health posts and clinics and animal health clinics with laboratory chemicals/reagents and equipments, The construction and rehabilitation of FTCs, the use of pesticide chemicals (herbicide, insecticide, fungicide and others) and watershed development; **Proposed research activities under Component II;** will include activities such as generation of improved crop varieties, management of improved animal husbandry practices, improved dual purpose poultry breeds, biotechnology/tissue culturedevelopment and optimization, construction of research infrastructure such as on-farm small-scale infrastructure (including irrigation facilities), construction of (cold room, ponds, poultry house, laboratories and training centers; **Interventions of component III:** The development of irrigation Projects; and **Interventions of Component IV:** Which include construction of infra structures (Farmers' training centers, market centers, ware houses, foot bridges etc);are likely to result in negative environmental and social impacts that are however localized, reversible and cost-effectively mitigable.Since the specific sites, nature and scope of risk were not known prior to appraisal, a separate environmental and social management section is provided which illustrates the possible impacts and their proposed mitigation measures in this updated ESMF . It is believed that the safeguard instruments will provide a uniform approach for addressing identified potential negative environmental and social impacts as well as screening procedures and monitoring plans for compliance management. The project has been classified as a Category B under OP/BP 4.01 Environmental Assessment.

WB Safeguard Policy	Triggered		Justification
	Yes	No	
Natural Habitats (OP/BP 4.04)	√		• The policy is triggered because there are component I- IV interventions, such as construction of FTCs, watershed development, construction of (Irrigation facilities, cold room, ponds, poultry house, laboratories,training centers, market centers, ware houses, foot bridges etc); • Production of lime involves extraction (quarrying) of the raw materials (limestone/dolomite), watershed development, livestock production also results in land degradation, and loss of biodiversity. • Irrigation projects may cause deterioration of river water quality down stream and contamination of local ground water (higher salinity, nutrients, agro chemicals) affecting aquatic animals like fishes. • The adverse environmental and social impacts relating to implementation of the **infra structure** projects related to the construction of Farmers' training centers, market centers, ware houses, foot bridges etc are ground and surface water contamination which result in loss of soil resources, vegetation cover and finally loss of habitat for aquatic and terrestrial animals.
Pest Management (OP/BP 4.09)	√		Not withstanding the fact that the Government of Ethiopia supports the use of integrated pest management (IPM) approach to reduce reliance on agricultural chemicals, it is likely that activities of component I such as strengthening of public service delivery through increased crop production, and Component II (research) activities such as the propagation and production of improved crop varieties may result in emergence of pests beyond economic threshold and thereby resulting in the need to apply pesticides. No pesticides or agrochemicals will be purchased and supplied by AGP-II, to farmers outside of their participation in research trials or demonstrations activities. A separate Pest Management Plan (PMP) has to be prepared which incorporates Integrated Pest Management Plan (IPMP).
Forestry (OP/BP 4.36)		√	The policy is not triggered as program activities of AGP-II do not have any impacts on the health and quality of forests, nor is there an aim to change the management, protection, or utilization of forests, as all activities will be implemented in existing AGP-II agricultural lands and research areas.
Indigenous Peoples (OP/BP 4.10)	√		The policy is triggered when the project affects the indigenous people to ensure that the AGP-II sub projects foster full respect for the dignity, human rights, and cultural uniqueness of vulnerable and historically under-served communities and people; ensure that they do not suffer adverse effects during the development process; and ensure that such communities and peoples receive social and economic benefits that are culturally appropriate as well as gender and intergenerationally inclusive.

WB Safeguard Policy	Triggered		Justification
	Yes	No	
Physical Cultural Resources (OP/BP 4.11)	√		The policy is triggered by the AGP-II because the small-scale infrastructure sub-projects such as establishment of new SSI, micro irrigation schemes, involve access road construction, rural feeder and foot bridge construction, and construction of market shed and warehouse which may potentially affect physical and cultural resources. The necessary steps of public consultations, engagement of cultural or religious leaders, local communities, local authorities including cultural and tourism offices need to be consulted before decision on project is made.
Involuntary Resettlement (OP/BP 4.12)	√		This policy is triggered because it covers not only physical relocation, but any loss of land or other assets resulting in: (i) relocation or loss of shelter; (ii) loss of assets or access to assets; (iii) loss of income sources or means of livelihood, whether or not the affected people must move to another location. AGP II subprojects like small scale irrigation development and management, rural feeder road construction, and market centre development and management may not necessarily cause large scale involuntary land acquisition and property losses due to their nature and scale. However, such subprojects may cause some involuntary land acquisition and property losses. Hence this policy is triggered.
Safety of Dams (OP/BP 4.37)	√		This policy is triggered when the Bank finances: (i) a project involving construction of a large dam (15 m or higher) or a high hazard dam; and (ii) a project which is dependent on an existing dam. For small dams, generic dam safety measures designed by qualified engineers are usually adequate. AGP-II would not finance any new establishment or rehabilitation of large-scale irrigation facilities and dams above 15meter height and a dam having special design complexities including foundations and located in a zone of high seismicity as such dams are considered as high hazard even with their dam height less than 4.5m. However, AGP-II might finance the construction of check dams or small dams for water storage (less than 15m height) and will finance activities that may rely on the performance of an existing dam. In an event that AGP-II finances the construction of a small-scale irrigation scheme (dams); the implementing agency is required to use the Small Dams Safety Guideline that the MoA has prepared.
Projects on International Waterways (OP/BP 7.50)	√		This policy is triggered if (a) any river, canal, lake or similar body of water that forms a boundary between, or any river or body of surface water that flows through two or more states, whether Bank members or not; (b) any tributary or other body of surface water that is a component of any waterway described under (a); and (c) any bay, gulf strait, or channel bounded by two or more states, or if within one state recognized as a necessary channel of communication between the open sea and other states, and any river flowing into such waters. AGP-II Woredas are located in international water basins mainly Blue

WB Safeguard Policy	Triggered		Justification
	Yes	No	
			Nile, Wabe Shebele, Omo, Tekeze and Baro. Some of the AGP subprojects such as the development of new and rehabilitation of existing small-scale irrigation schemes trigger OP 7.50. While the impact of such individual sub-projects would be negligible, and the cumulative abstraction is minor. The GoE or the World Bank notifies the riparian countries regarding this policy.
Disputed Areas (OP/BP 7.60)		√	This policy is not triggered because AGP-II sub projects are not implemented in a "disputed area," with neither of the neighbouring countries.

Gap Analysis Between the Ethiopian Law and the Bank's Safeguard Policies

As per the requirement s of the Environmental Impact Assessment Proclamation (Proc. № 299/2002) and the Environmental Competence Certificate Directive of Ethiopia; ESIA should be undertaken by an independent licensed consulting firm composed of multi disciplinary team of experts. However, in the AGP II ESMF, it is mentioned that the ES screening and preparation of other site-specific safeguards instruments (Screening Check list, ESMP/RAP/PMP) is undertaken by the respective IAs. These gaps has been addressed due to the fact that the IAs have their own team of experts that can meet the requirements of the Ethiopian Legislations. So that they will be able to obtain their own ESIA consulting license from the respective regulatory bodies and conduct the Environmental and Social Impact assessment accordingly.

As there is no national guideline or a comprehensive and technical legal instrument on Environment, Social, Health and Safety (ESHS) as well as Occupational, Health And Safety (OHS) on general or sectoral for agriculture area, the project will be using the general ESHS guideline as well as the ESHS for annual and perennial crop production (agriculture sector) gudidelines.

5. Potential Environmental and Social Impacts of AGP II Sub projects

The ESMF emphasizes that subproject planning should strive for plans and designs that avoid or minimize creating adverse environmental and social impacts that have to be explicitly managed. All the potential environmental and social impacts which result due to the implementation of AGP-II subprojects and their associated potential mitigation measures are described in detail below.

5.1 Potential Positive Impacts of AGP-II and AF sub projects.

The AGP-II will have the following, but not limited, potential positive impacts:

- ✓ Provision of extension service to farmers in most of the program implementation areas will be improved as a result of various capacity building activities implemented by the program thereby increasing the production and productivity of smallholder farmers.
- ✓ Clear and measurable benefits in terms of productivity, household income, production diversification, and increasing the availability of varied household diets can be achieved through implementation of small scale and micro-irrigation subprojects.
- ✓ Increase the supply of demand driven agricultural technologies that directly link to the other components through the release of improved technologies to the agricultural extension system.
- ✓ Increased production of animals, as well as reduceed prevalence of animal diseases AGP-II supports the provision of improved livestock breeds, through the establishment of small-scale modern bee queen rearing demonstration and training centers, establishment of fish hatchery centers and strengthening of National Artificial Insemination Centers (NAIC) and strengthening animal health services
- ✓ The establishment of SSI schemes will provide the water quantity required for continuous small-scale irrigation use during dry season and will increase the yield, cropping intensity, and irrigated land area of smallholder farmers.
- ✓ Increased access to and efficient utilization of irrigation water by smallholder farmers.
- ✓ Implementation of watershed-based soil and water conservation subprojects will bring benefit like reduced land degradation, improved water flow for the SSI and micro-irrigation subprojects and improving the sustainability of the irrigation schemes and technologies by protecting them from flood damage and siltation problem;
- ✓ Improve the income and livelihood of the community through implementation of different farmer group and community subprojects;
- ✓ Improve the capacity of implementing institution in managing projects;
- ✓ Improve the sustainability of subprojects by considering environmental and social safeguard issues in the project cycle management; and
- ✓ Improve community level participatory project planning, implementation, monitoring and evaluation.
- ✓ increase in productivity and creating access to market. (increase the commercialization of agricultural products through increased smallholder farmers access to input and output markets.

5.2 Potential Adverse Impacts and Proposed Mitigation Measures

5.2.1 Risks associated withComponent One: Public Agricultural Support Services

Although AGP-II, does not support for drug purchase, it strengthens the *animal health posts, clinics, regional animal health laboratories* and *Artificial Insemination service* centres by capacitating them in terms of training, equipment and laboratory chemicals/reagents purchase.These laboratory chemicals/reagents which are used for the analysis of different pathogens, as they are hazardous in nature, have significant environmental and health impacts on humans. They need proper handling, utilization, storage, transport and disposal. A waste from animal health care clinics and post, which have similar characteristics with that of domestic waste generated in the laboratory but contaminated with hazardous chemicals/waste and sample fluid (blood) of the animals become hazardous and infectious and need proper management like any hazardous and infectious wastes. All ranges of the chemical and chemical waste management technologies and principles have to be followed and implemented.

Potential adverse environmental impacts of laboratory chemicals and associated chemically loaded wastes

Although animal healthcare posts and clinics' activities provide many important benefits to the community, they can also unintentionally do great harm through poor design and management of waste management systems. The waste generated from these institutions pose serious problem. If handled, treated or disposed of incorrectly it can spread disease, poison people, livestock, wild animals, plants and whole ecosystems.

Water Pollution

Animal health service and soil testing laboratories use a wide range of chemicals, disinfectants and samples. Direct release, without treatment and segregation of any of these chemicals and hazardous wastes to the drainage/sewer system can contaminate water bodies and create health risks for the general public, directly or indirectly. Such pollution is also detrimental to aquatic life.

Air Pollution

The operation of laboratories may result in a number of hazardous emissions to the air from fume hoods and vents, sterilization/disinfection technologies; refrigerants (Ozone depleting substances) and treatment technologies (incinerators, if any). Open and incomplete burning of wastes can create hazardous air emissions such as dioxins.

Soil Contamination

The disposal of untreated and un-segregated solid waste (containing organic, degradable mixed with hazardous chemicals) can result in contamination of the soil and the solid waste system.

Improper Handling and Disposal of Chemicals and hazardous wastes

Improper handling of hazardous chemicals is a health hazard for the laboratory workers and its indiscriminate disposal can have environmental risks as detailed above. The same applies for other substances, such as untreated and expired chemicals, treated samples of body fluid of animals and soil samples, and sharps (needles, syringes, broken laboratory glassware etc). Indiscriminate dumping of wastes can also result in illegal and dangerous recycling of chemicals, sharps and other substances, which can become a public health hazard. The potential adverse impacts and their associated mitigation measures are summarized in Table 2below.

Table 2 Potential Impacts and Mitigation Measuresof Laboratory Chemicals

Potential impacts	Potential mitigation measures
Water Pollution Air Pollution Soil Contamination Chemicals and hazardous wastes	• Establish a good purchasing and procurement practices. • Have a plan in place for the use, handling, storage and disposal of hazardous materials and waste; • Ensure the selection and implementation of environmentally sound and cost-effective treatment technologies. • Maintain an inventory on the types and locations of hazardous materials and waste; • Each laboratory needs to have health and occupational safety guideline, including laboratory waste management guideline; • Have safety requirements in place for the handling, storage, and response to spills. or exposures; • Clearly segregate and properly label hazardous materials and waste; • Treat and dispose hazardous materials and waste in accordance with applicable laws and procedures

Pest Management

Farmers use pesticide chemicals (herbicide, insecticide, fungicide and others) to increase agricultural productivity. Pesticides have played an important role in creating and sustaining the agricultural revolution. Because of their toxic nature, however, pesticides pose a risk to humans, animals, and the environment when they are not handled properly. Absence of safety precautions can result in accidents, affecting the producer, the employees, their families, and farm animals, sometimes with serious consequences. Those at greatest risk are those who experience the greatest exposures typically smaller holder farmers, farm workers and their families. These populations are also often the poorest members of society. Larger-holders are more likely to have received training on pesticide risk avoidance; however, laborers hired by them may not. The unsafe use of pesticide product also poses serious negative impact on the environment (soil, water, plant, wildlife, microorganisms, and others). Unsafe use and management of pesticide will affect these biophysical environments.

Integrated Pest Management (IPM) is an effective tool to combat the negative effects of pesticide misuse, which can result in the destruction of crop pollinators leading to poor crop yields; elimination of the natural enemies of crop pests and consequent loss of natural pest control that keeps the populations of crop pests very low; development of pest resistance to pesticides, encouraging further increases in the use of chemical pesticides; contamination of the soil and water bodies; pesticide poisoning of farmers and deleterious effects on human health; unacceptable levels of pesticide residues in harvested produce and in the food chain; and loss of biodiversity in the environment. Successful IPM is based on building sound farmer knowledge of the agro-ecological processes of the farming environment and empowering them to

make informed decisions on the most appropriate management strategies to apply a specific period of crop development and production cycle. The use of IPM practices, the measures to be taken during IPM practice are summarizes in table 3 below.

Table 3 Issues of Integrated Pest Management

Major issues to be addressed	IPM Actions
Increased use and reliance on chemical pesticides	• Promote adoption of IPM on chemical pesticide practices through farmer education and training. • Move farmers away from input-dependent crop/pest management practices and promote use of locally produced organic matter, botanical pesticides and biological control
Current pest management practices	Allocate adequate resources to implement the Ethiopian Pesticide Registration and Control Proclamation (Proclamation no. 674/2010: • Increase IPM awareness amongst policy makers and farming community; and • Abolish free distribution of pesticides to farmers and promote safe handling and application of pesticides
Enforcement of legislation	Develop clear stand-alone pesticide policy, strategies regulations and guidelines. Strengthen institutional capacity to effectively supervise compliance with pesticide legislation
IPM research and extension	Strengthen IPM research; • Strengthen IPM extension; • Strengthen collaboration for field implementation of IPM.
Environmental hazards of pesticide misuse	Create public awareness of pesticide misuse hazards through public awareness campaigns; Undertake regular assessment of pesticide residues in irrigated agricultural production systems and in harvested produce; and Carry out monitoring of pesticide poisoning in the farming and rural communities.
Increased dependence on chemical control	Support traditional mixed cropping systems to keep pest species from reaching damaging levels. • Promote proper disposal of unused agricultural chemicals and packaging materials.

- Evaluate pests' impact before control programs are implemented, to identify pests, size of problems and possible natural controls.
- Evaluate non-pesticide management options, including a range of preventive measures and alternative pest control methods (physical, mechanical, and biochemical)
- Evaluate whether synthetic pesticides are necessary or not, whether less toxic varieties are available for the purpose, and how to minimize exposure for users and the environment.

If there are no feasible alternatives to pesticides, take the following measures to mitigate and reduce their risks to human health and the environment. Note that risk is a function of both toxicity and exposure.

Reducing risk means (1) selecting less toxic pesticides and (2) selecting pesticides that will lead to the least human exposure before, during and after use.

Screening Pesticides

The use of any pesticide should be based on an assessment of the nature and degree of associated risks, taking into account the intended users. With respect to the classification of pesticides and their specific formulations, the Bank refers to the **World Health Organization's *RecommendedClassification* of *Pesticides* by*Hazard and Guidelines to Classification.***

The Bank requires that the following criteria apply to the selection and use of pesticides:

a. They must have negligible adverse human health effects.
b. They must be shown to be effective against the target species.
c. They must have minimal effect on non-target species and the natural environment. The methods, timing, and frequency of pesticide application are aimed at minimizing damage to natural enemies. Pesticides used in public health programs must be demonstrably safe for inhabitants and domestic animals in the treated areas, as well as for personnel applying them.
d. Their use must take into account the need to prevent the development of resistance in pests.
e. They do not fall in WHO classes **IA (extremely hazardous)** and **IB (**highly hazardous)**,** or formulations of products in Class II if (a) country lacks restrictions on their distribution and use; or (b) they are likely be used by, or be accessible to, lay personnel, farmers, or others without training, equipment, and facilities to handle, store, and apply these products properly.

Disposal of unused and obsolete pesticide, and empty pesticide containers

The safe management and disposal of pesticide-related waste (*unused and obsolete pesticide, and empty pesticide container*) should be provided and coordinated by regulatory authorities, pesticide distributors and suppliers. Other organizations that support and advise pesticide users, such as extension and health promotion services, non-governmental organizations (NGOs), agricultural colleges and schools, also have important roles to play. Governments and their agencies, including ministries of agriculture, health, environment and education, are responsible for regulating the manufacture, import, distribution and use of pesticides. These responsibilities should be extended to include the management of pesticide-related waste products, including empty containers, which are often overlooked.

A mechanism has to be designed to collect all empty pesticide containers from farmers and safely disposed and never reused. It is extremely dangerous to use them for anything else. Consult the pesticide label, the manufacturer, or the manufacturer's representative for specific recommendations regarding container cleanup and disposal.

Management plan has to be prepared when there is a plan to use pesticide to mitigate all the impacts associated with the pesticide using the above-mentioned measures. The implementation of the plan has to be supervised, monitored and audited, and monitoring plan has to be prepared.

Cumulative Impacts of Pesticides

Some of the AGP-II subprojects may result in cumulative impacts on natural resources unless due to attention is not given. Stakeholder consultations were done with Woreda and regional level AGP-II

implementing agencies especially regional water resources/Irrigation Development bureaus on issues related to cumulative impacts of AGP-II subprojects. During the implementation support supervision and monitoring at field level in the AGP-I implementation period, there are potential cumulative impacts especially related to small scale and micro-irrigation subprojects, and increased use of pesticide.

The following major cumulative impacts are observed and envisaged.

The regional and Woreda participants of the stakeholder consultations mentioned that there are potential cumulative environmental and social impacts of AGP and with other projects working on irrigation water development and management projects/subprojects. In some cases, a number of shallow wells have been constructed here and there in a particular location without sufficient study on their feasibility. As a result of this, in some areas, there is sign of lowering water table. In other cases, there are river diversion small scale irrigation subprojects implemented by AGP, and other non-AGP projects diverting the same river in a number of sites creating conflict among the irrigation water users found at different command areas. The other participant indicated that there are real cases that a number of SSI subprojects (river diversion subprojects) implemented on the same river resulting social conflicts. There are also cases which SSI subprojects share the same water sources for water supply and creating environmental and social concern. If such problems here and there not managed timely in a sustainable manner, it will be social problems and the sustainability of these subprojects will be seriously affected.

It is recommended by the participants of the consultation that: the implementation of the irrigation subprojects should be with proper planning and study of the potential water resources especially basin based study rather than working on subproject based study; working more on the water recharge mechanisms like implementation of watershed management activities in integration with SSI subprojects to enhance the ground water potential establishing strong sector integration; diversifying/shifting to other water resource alternatives like micro-dams; promoting and implementing water efficient technologies; and giving more attention on the planning and study of water resources development. Increased use of agrochemicals especially pesticide may have downstream impacts polluting downstream water bodies, affecting the health of the community and environment. Participants of the consultations indicated that IPM based crop protection approaches have to be followed. Participants also mentioned that capacity building training on IPM and safe pesticide product management should be done continuously at different level especially focusing to farmers, development agents and Woreda crop protection experts. Strengthening institutions working on crop protection is one aspect in this regard to safeguard the environment and the health of the community.

Characterization of the Pest Problem and Action Threshold Levels

Having pests onsite do notnecessarily mean a pest problem exists. Therefore, under this plan, the agricultural specialists should set Action Thresholdwhich will trigger the need for intervention. An Action Threshold is defined as the pest population or plant damage level that requires action to prevent irreversible damage or economic losses. If the pest presence or plant damage for example is greater than the action threshold then a pest problem exists which needs intervention. The agricultural specialists will

be required to consider several factors includingbut not limited to the following when trying to determine action threshold levels:

• Level of loss that can be tolerated;
• Plant tolerance or resistance to the pests;
• Weather and site conditions;
• Time of the year;
• Pest damage potential;
• Presence and adequacy of natural pest enemies; and
• Pest reproductive characteristics.

Table 4 Potential Impacts and Mitigation Measures of Pesticides

Potential impacts	**Potential mitigation measures**
Risks to the environment Soil contamination, Water pollution Loss of biodiversity (Death of plant, wildlife, and microorganisms), Rrisks to human health	Implement Integrated Pest Management (IPM) technique and reduce reliance on synthetic chemical pesticides. Mminimize pesticide use and minimize health and environmental risk when pesticides are used. Use alternative pest control methods (physical, mechanical, and biochemical) If there are no feasible alternatives to pesticides, select less toxic pesticides that will lead to the least human exposure before, during and after use, according to the World Health Organization's *RecommendedClassification* of *Pesticides* by*Hazard and Guidelines to Classification.* Reduce exposure time or the degree of exposure. Label properly to indicate how the pesticide will be used safely and effectively. Label should specifically indicate: Provide continuous training for farmers, and laborers (hired by farmers) regarding application, protective equipment, clothing, and mixing of componentchemicals, etc Check that safety equipment (protective clothing, breathing apparatus, etc is complete, of the correct quality and is in good condition. Arrange health monitoring as may be necessary for certain hazardous agrochemicals based on their frequency of use. Enforce any exclusion period after application-time during which humans, livestock, etc., must be kept away from the treated area; Assure proper cleaning and rinsing off ofBathe or washthoroughly again after completing the above four actions. Bathe or washthoroughly protective clothing and dry them after application. Develop a mechanism/ design a system for safe d**isposal of unused and obsolete pesticide, and empty pesticide containers** and never reused. Ensure the safe disposal of empty containers, tank washings and surplus pesticides. Develop a workable monitoring and evaluation system

Production of Lime :

AGP-II Additional Financing provides supports to increase the production of lime as part of the soil fertility management support. Production of lime involves extraction (quarrying) of the raw materials (limestone/dolomite) from the environment by clearing the site including the removal of vegetation, top soil; crushing and milling the crushed materials. Quarrying activities cause social and environmental

impact. In particular, it is often necessary to blast rocks with explosives in order to extract material for processing which gives rise to **noise pollution, air pollution**, **erosion, sedimentation of water bodies**, **damage to biodiversity** and **habitat destruction.** Crushing and milling process also has environmental and health problem. The health impact on farmers during the application of the lime is also a critical problem. It needs special attention on reducing or avoiding the impact. The potential **Impacts and their associated mitigation Measures are summarized in table 5 below.**

Table 5 . Potential Impacts and Mitigation Measuresof of Lime production

Potential Impacts	**Potential Mitigation Measure**
Removal of vegetation causes sedimentation of water bodies, Habitat destruction. Damage to biodiversity, Soil erosion.	Remove, without destroying, large plants and ground cover where possible. Replant indigenous plants and local flora as soon as possible. Minimize disturbance of native flora during construction Use erosion control measures
Water pollution	Implement soil erosion control measures on farmers' field to control the Wash-off from the limestone dumps will lead to the adjoining surface water body increase water alkalinity, and increase in suspended solids
Blast rocks with explosives creates noise pollution,	Provide with ear muffs/ ear plugs to the workers continuously exposed to a high noise Introduction of controlled blasting operations
Respiratory health problem on farmers during application on the field. (air pollution)	Equip farmers with protection measures/equipment Train farmers how and when to apply the lime
Human health problem due to vector borne diseases	Develop logging, quarrying and borrowing plans that take into account cumulative effects Monitor adherence to plans and impacts of extraction practices Fill in quarries and pits before abandoning Control runoff into pit
Contamination of soil and water from sewage and solid waste, and health impact from the sanitary problem at the quarry and production site	Proper sanitary facilities should be taken care so that employees do not suffer from any health ailment. The employees shall also be made aware of general sanitary practices Site human waste and solid waste disposal systems to avoid surface and groundwater contamination
Physical Cultural Resources impacted	Identify and avoid cultural or religious sites. If disturbance unavoidable, agreement on mitigating measures must first be reached with stake holders concerned (eg. Community, mosque, church). If excavation encounters archaeological artifacts, halt construction and notify relevant authorities.
Land Acquisition and property losses for quarry sites, production plant site, etc	Consultation of the PAPs Alternative rout alignment to decrease loses; Timely compensation for the properties and land lost with proper socio-economic survey and documentation of it

Livestock breed improvement

AGP-II supports to provide improved technologies and livestock breeds to improve the productivity of the livestock sector. The program will finance for the provision of exotic cows, heifers, exotic ewes, improved ram and bulls.

Potential environmental impacts and associated mitigation measures of livestock breed

The introduction of exotic livestock breed may result in **loss of genetic diversity in livestock** species. Breeds may have traits conferring resistance to emergent or future pathogens or have other favorable adaptations to local environments. The consistent replacement of local breeds with more productive imported ones can contribute to the **extinction of that breed** and of all the genetic diversity harbored within its population. In addition, the introduction of exotic livestock breed may also result in the introduction of new pathogens. Therefore, introduction of a new breed into an area should be approached with caution. The long-term full costs and benefits of introducing a given new livestock species into a particular environment should be assessed. The following issues must be taken into account before introducing the exotic breed.

The potential adverse impacts and the associated potential mitigation measures for livestock breed are summarized in table 6 below

Table 6 Potential Impacts and Mitigation Measuresof Livestock breed improvement

Potential impacts	Potential mitigation measures
Loss of genetic diversity in livestock. Impacts on non-target species or bio-diversity, on pest or virus resistance, and on transfer of genes to wild relatives or to conventional crops. Risk of extinction of local breeds. Extinction of the breed species Introduction of new pathogens.	Permission has to be given from the relevant authorities. (Quarantine law has to be seriously followed to avoid the potential adverse consequences of exotic species introduction) Thoroughly research new species of livestock. Determine their grazing/browsing preferences and compare them to those of current livestock species. Pilot-test new breeds and species before introducing them in a broad program and monitor their impacts over time. Evaluate the advantage of local breeds against the new breed's disease resistance and hardiness in the local environment. Evaluate the risks of introducing new diseases that might be transferred to wildlife.

Potential environmental impacts and associated mitigation measures of Animal production services

The intensification of livestock production results in increased use of veterinary products and the production of different types of waste, like manure feedlots. The pollution or contamination of the environment, especially water supplies, due to animal wastes (manure and liquid manure) is an increasing problem and must be foreseen when planning new animal housing, especially in the industrial production systems. Proper action has to be taken for the careful use or safe disposal of the slaughterhouse waste. These can be valuable by-products if appropriately processed. This should involve sterilization of affected or contaminated material before further processing and release for use. Improper disposal of this type of waste can lead to an increase of predatory animal species (e.g. hyenas, rural dogs, etc),

Major animal health activities, such as vaccination campaigns or parasite (e.g. tsetse or ticks) control programmes, have positive impacts on productivity and size of animal populations that lead to increased animal population pressure and may contribute to land degradation unless correct land-use planning is implemented.Proper land-use planning and utilization, taking into account the diverse agricultural, topographical and geographical aspects involved, is essential in reducing the risk of adverse ecological developments while increasing productivity and animal disease control. Therefore, it requires a multidisciplinary approach to ensure the correct planning and utilization of the land. The potential adverse impacts and their associated mitigation measures for animal production services (livestock, fishery and poultry are summarized in table 7, table 8 and table 9 respectively below

Table 7 Potential Impacts and Mitigation Measuresof Livestock Production

Potential impacts	**Mitigation measures**
Expansion of grazing land for livestock is a key factor in deforestation, and contributes to anthropogenic carbon dioxide emissions. Methane is emittedfrom enteric fermentation by ruminants, and nitrous oxide mostly from manure. These result inglobal warming, due to green house gas emissions.	Collect and store manure for composting and later application to fields; Sustainable intensification of livestock and feed crop production, improved animal nutrition and manure management to cut methane and nitrogen emissions.
Land degradation, through overgrazing, reduced soil fertility, erosion and desertification	Restore damaged land through soil conservation, silvopastoralism, better management of grazing systems and protection of sensitive areas.
Human health hazards Introduction of diseases to humans and contamination of water bodies for human use by animal manures and urine; Pollution and environmental disruption from inappropriate use of pesticide for livestock disease control; Spreading of disease as a result of contact with contaminated domestic animals/birds, carcasses or slurry.	Keep manure and urine away from household areas and water bodies; Consider using a biogas system; Provide protective clothes to minimize danger to workers applying pesticide; Avoid overuse of pesticide; Apply pesticides at recommended times and doses; Consider integrated pest management; Sanitize animal housing areas; Identify and segregate sick animals and develop management procedures for adequate removal and disposal of dead animals).
Human health hazards Introduction of diseases to humans and contamination of water bodies for human use by animal manures and urine; Pollution and environmental disruption from inappropriate use of pesticide for livestock disease control; Spreading of disease as a result of contact with contaminated domestic animals/birds, carcasses or slurry.	Keep manure and urine away from household areas and water bodies; Consider using a biogas system; Provide protective clothes to minimize danger to workers applying pesticide; Avoid overuse of pesticide; Apply pesticides at recommended times and doses; Consider integrated pest management; Sanitize animal housing areas; Identify and segregate sick animals and develop management procedures for adequate removal and disposal of dead animals).
Water quality problem/ Water pollution / Increased muddiness of surface water courses due to soil disturbances from grazing and increased soil erosion; Contamination of water supplies from leaching or runoff of animal wastes (urine and manures)	Fence off water bodies from grazing animals; Manage manure and waste properly preventing from entering into water bodies. Better management of animal waste in industrial production units, better diets to improve nutrient absorption, improved manure management and better use of processed manure on

Potential impacts	Mitigation measures
chemicals from tanneries, fertilizers and pesticides used for feed crops, and sediments from eroded pastures, anthropogenic ammonia, which contributes significantly to **acid rain** and acidification of ecosystems.	croplands.
Biodiversity loss:	Improved protection of wild areas, maintain connectivity among protected areas.
Occupational Health and Safety Exposure to physical hazards; Exposure to chemical hazards from disinfecting agents, antibiotic, hormonal products to control parasite; Exposure to biological agents (bacteria, fungi, mites, and viruses transmitted from live animals, manure, animal carcasses, and parasites and ticks).	Instruct staff in correct livestock care, to reduce the incidence of bites and kicks; Avoid and control exposure to any pesticide/chemicals; Train personnel that apply chemicals/pesticide; Inform workers of potential risks of exposure to biological agents and provide training in recognizing and mitigating those risks; Provide personal protective equipment to reduce contact with materials potentially containing pathogens.

Table 8 Potential Impacts and Mitigation Measures of Fish Hatchery

Potential impacts	Mitigation measures
Capture fish	
Overexploitation of fisheries stock and long-term degradation of the resource base.	*Fisheries management for optimum sustained yield:* restricted harvests (minimum size limits, catch quotas, seasonal closures); clear restrictions (trawl bans, specified net mesh size); closure of areas (permanent reserves, periodic closures); limited entry system (licensing, exclusive access); prohibited practices (use of explosive, drift nets); Consideration of sustainable traditional fishery practices and incorporation to extent possible in modern fisheries management system.
Capture of non-target species and habitat damage through use of certain equipment and fishing practices.	Limitation or prohibition of use of such equipments and fishing practices; Testing and pilot scale use prior large-scale introduction of new technologies; Expanded use of fish by development of new products and markets.
Introduction of exotics leading to degradation of native stock	Prohibition of exotic introduction; If it is done, it should be done only with extreme care and only after precautions are in place in fish farming operation.
For culture fish	
Erosion and siltation problems arising in construction phase	Restriction of clearance to area needed for ponds; Pond construction during dry seasons; Stabilization of exposed soil with grasses or other ground covering, and other physical and biological soil and water conservation measures.
Local depletion of larval and young organisms for pond stocking.	Production of larvae and young in nursery
Water pollution from pond	Release into water body with adequate dilution and dispersal

Potential impacts	Mitigation measures
effluent (nutrient-rich and with varying chemical content depending on intensity of pond management).	capability; Dilution prior to release; Timing of release with pond of high water; Shorter retention time of water in pond: more frequent pond water exchange and flushing; Treatment of water prior to release.
Introduction of exotics with subsequent damage to native stocks by competition, predation, spread of disease and parasites.	Avoidance of exotic introductions except where adequate knowledge of biology and life history of species indicates low risk of negative impacts and where adequate safeguards against escape is taken; Regular monitoring for diseases and parasite; if present and spreading, elimination of infected populations; Consideration of using sterile hybrids.
Spread of disease in aquaculture stocks and into natural stocks when dock becomes too dense.	Monitoring of disease incidence; Limitation of numbers when disease is positively correlated with fish; If disease spreads, limitation of diseased individuals.
Land use and agricultural practices in watersheds affecting sediment content and water quality.	Integrated watershed planning and management; Close coordination between fisheries and government agencies responsible for resource management in watersheds to alert them to impacts on fisheries.
Pond failure	Proper sitting, design and construction Proper pond management (flushing or exchange of pond water which must be done frequently enough to prevent the deterioration of water quality in the pond)
Life and property loss entering into the pond	Fencing and training the community; if accident occurred, report the case and provide proper responses timely.

Potential environmental impacts of poultry Production

Poultry production adversely affects the environment in numerous ways – through poor management of manure and litter, waste streams from processing plants (blood, bones, feathers, etc), birds' carcasses, dust, insects, odour, etc. Furthermore, intensive poultry production is held responsible for the emission of greenhouse gasses, acidification, and eutrophication. Some of the major potential impacts and the associated mitigation measures of intensive poultry production are summarized in Table 9 below:

Table 9 Potential Impacts and Mitigation Measures ofPoultry Production

Potential impacts	Mitigation measures
Local disturbances **Odour, flies and rodents and landscape degradation (visual impacts)** in the surroundings of poultry farms carry disease. Odour results due to emissions from poultry farms, It comes from fresh and decomposing waste products such as manure, carcasses, feathers and bedding/ litter, and from animal feeding operations due to the presence of ammonia (NH3), volatile organic compounds (VOCs), and hydrogen sulphide (H2S). Ammonia gas has a sharp and pungent odour and can act as an irritant when present in elevated concentrations	**Odour emissions** can be controlled by: minimizing the surface of manure in contact with air. frequent collection of litter (once a week in dry seasons and twice a week in rainy seasons), closed storage (bags or closed shed); cooling animal manure achieved as a positive side effect of cooling the animal houses. Cooling systems can be equipped with bio filters and air scrubbers that trap odours from the ventilation airflow; lowering litter's water content. This is achieved by the incorporation of hydrophilic products such as hashes, rice husk, peanut husk, dust or sawdust; **Rat proliferation can be controlled by:** minimizing feed losses during storage and feeding; raising cats or keeping snakes in cages close to the poultry barn to scare rats; and use of poison or traps. **Visual impact and landscaping can be improved by**: use of screening trees around the farm facility to reduce the visual impact of farm infrastructure and of noise, dust, light and odour; use of the natural topography and terrain of the site and the existing vegetative cover to maximize visual screening; and use of construction materials that minimize visual impact.
Water Pollution: Improper disposal of poultry carcasses can contribute to water-quality problems especially in areas prone to flooding or where there is a shallow water table. Carcasses can generate excessive amounts of leachate and other pollutants, increasing the potential for water contamination. In addition, improper disposal of manure from houses that contain infected birds, has the potential for pollution of surface and groundwater.	**Water- and food-bornedisease propagation can be prevented by**: storing poultry manure in closed buildings or bags – reduces the emissions of gaseous compounds to the air, and the risk of environmental contamination; storing the manure for one to two months before its application on land or fish ponds; composting manure – potentially reduces or even eliminates certain pathogens and fly larvae and improves the handling characteristics of manure and other residues by reducing their volume, weight and moisture content. drying (with machine or by spreading out) – minimizes the moisture content of manure, inhibits chemical reactions, and thus reduces emissions. The best way to prevent ammonia emissions from poultry litter and manure is to reduce microbial decomposition. manure must be applied at the correct time of year to prevent losses to surface water, groundwater and the atmosphere, and to optimize the utilization of manure nutrients by growing plants; proper timing is a function of several variables, including weather, soil conditions and stage of crop growth. consideration should be given to impacts on the physical environment – e.g. burial pits should be at least 3 metres above the maximum groundwater table.
Soil Pollution Buried birds undergo a decomposition process.	Soil pollution is controlled through the implementation of good fertilization practices. Environmental risks are reduced when

Potential impacts	Mitigation measures
During this process, nutrients, pathogens and other components of the carcass are released into the environment. There is a possibility that some constituents may eventually contaminate soil, groundwater and surface water.	manure is applied in amounts and at times that correspond to crop or fish-pond uptake. dead-bird management and disposal, which must comply with legally accepted practices including rendering, composing, incineration and burial

Potential Environmental Impacts of Animal Health Services

With the increased use of veterinary products for the treatment of disease, control of parasites and enhancement of production levels, it is essential that all those concerned with the handling and administration of such products be made aware of their potential danger to the environment.

Veterinary products are generally supplied with explicit details on their use, disposal, possible side-effects and, in the case of pesticides, their toxicity rating and recommendations for neutralization in case of accident. This information should be in an appropriate language. The details included on the packaging may, however, vary from country to country depending on national regulations governing registration. To ensure an adequate standard of packaging and instructions on use, close cooperation should be established and maintained between animal health services and registration authorities. Products destined for use and administration by untrained personnel, such as livestock owners, should be supplied with instructions in the appropriate language. Labels proposed by manufacturers for new products should be submitted to registration authorities for prior approval

Potential environmental impacts of watershed development

Watershed developmentis the development of watershed area based on type of soil, depth of soil, vegetative cover, harvestable rain water in that area and watering that area and water budgeting and treatment given to soils from the ridge to the valley. The term watershed development encompasses additional dimensions like equity, sustainability, gender and people's participation. It has become a trusted tool for the overall development of the village and people living within a watershed area. Environmental degradation can be tackled effectively through the holistic development of the watershed. A watershed provides a natural geo-hydrological unit for planning any developmental initiative. The main objective of watershed development is: To mitigate the adverse effects of drought on crops and livestock, to control desertification, to encourage restoration of ecological balance and to promote economic development of village community.

Although watersheds provide the above-mentioned benefits, **unhealthy or poorly handled water sheds can cause the following adverse impacts on humans and the environment.**

Table 10 Potential Impacts and Mitigation Measures of Watershed Management

Potential impacts	Potential mitigation measures
Water Pollution Excessive use of pesticides and fertilizers can cause problems if washed into storm sewers or waterways, and p**ollution** of a **watershed** can destroy an entire aquatic ecosystem, including its inhabitants. The polluted water supply that results can become **harmful** to **humans**. Aquatic life quickly suffers the **effects of watershed pollution**, while new pollutants introduced into ecosystems alter wildlife habitat	Keep use of pesticides away from rivers and streams. **Limit fertilizer use. I**f it is a must choose a product without phosphorous, which along with nitrogen, upsets the balance of nutrients in local waterways.
Soil Erosion and Sedimentation: Excess runoff can cause flooding and stream-bank erosion during rainstorms. Timber harvesting on unstable slopes can cause erosion that washes into rivers and streams. Unprotected dirt during construction can wash off lots and fill catch basins and streams with sediments. Removal of trees diminishes plant cover can cause erosion that harms water quality and destroys fish spawning beds. Debris, such as grass clippings dumped into stream channels, deprive of oxygen in water and slows the flow.	Plant native grasses, trees, and shrubs to soak water naturally into the ground. Plant trees wherever possible. Try and keep as many existing trees and shrubs as possible and leave trees or vegetation along the banks as a buffer and provide a natural buffer of native trees, shrubs, and plants around its banks to filter dirty storm water runoff.
Damage to downstream community and environment (Land degradation, land slide and gully formation and flooding) as a result of failure of the physical soil and water conservation structures (Check dam, cut off drain, different terraces, SS Dam and other ground water recharge Structures).	Identify and evaluate the degradation processes Select the appropriate soil and water conservation technologies to that specific situation (based on climate and watershed characteristics); properly design and follow up the construction of the technologies (flood protection structures-cut off drain, water ways, gully treatment structures-check dam, terraces and others physical structures) to avoid the breach of the structures Avoid the generalized use of empirical approaches to select and apply soil and water conservation practices for all situations Plan for the maintenance of the structures and to monitor the same, Involve/participate local communities throughout the project cycle in order them own the project so that they can contribute to the project and keep it in a sustainable manner.
Removal of indigenous /native/ plant species.	Protect and encourage regeneration of endemic and **indigenous** plant species
Spread of plant species outside of plantation becoming a nuisance, competing with native species and becoming weeds in agricultural fields.	Species choice to avoid ones that will grow out of control from desired site.
Introduction of new varieties of plant species for forage and food crops that causes risk of introducing new pests and crop diseases with new germplasm.	Conduct quarantine checks and follow national guidelines for introduction of new germplasm.
Area ex-closures for degraded and upland rehabilitation through natural regeneration and reforestation causes: Restriction of access to humans and livestock Risk of involuntary land acquisition and causing relocation of households.	Awareness creation program on alternative forage sources. Provision of alternatives (options for cut and carry, forage species provision) Consecutive community consultations and consensus on benefits and costs, responsibilities of

Potential impacts	Potential mitigation measures
Risk of conflict over diverse interests. Loss of economic or livelihood benefits	management, benefit sharing arrangements. Compensation for loss of land or economic benefits to victims. Prepare RAP and implement accordingly.

Potential environmental and social impacts of Construction of Farmers Training Centers (FTCs) and other sub- projects (Laboratories, ATVET training centers, Cold Rooms etc)

Establishment of model village by considering mechanization center of excellence at FTCs.)

Farmer Training Centre, as a beneficiary of the AGP-II is required to comply with national environmental regulations including the Environmental Impact Assessment Proclamation of Ethiopia, and the World Bank Safeguards Policies. The following potential environmental and social impacts and their mitigation measures are provided to guide the management of Farmer Training Centre, towards effective environmental, social and occupational health and safety actions in the implementation of the Warehouse Construction and Operation to ensure sustainable development.

Table 11 Potential Impacts and Mitigation Measures of infra structure projects (Construction and Rehabilitation of FTCs, Construction of Laboratories, Training Centers (ATVETs'facilities)

Potential negative impacts	Potential mitigation measures
Impacts to soil and sediment transport**:** which results due to vegetation clearance during land preparation, excavation and civil works, and transport of materials to project site. .	Ensure that the land is not left bare over long periods and exposed to agents of erosion (wind and rainfall). Ensure that excavated soils will be immediately reused by the Contractor for backfilling, and where it cannot be reused, collected for disposal at a dump site Ensure heaped sand for construction of the warehouse covered with tarpaulin to prevent transport of the sand by wind and rainfall.
Visual intrusion during the construction phase	Do not remove trees outside the demarcated area for the FTC. The contractor should Cover the warehouse construction site with roofing sheets to reduce public view of the construction activities.
Air pollution (air quality deterioration, During land preparation, excavation and civil works, transport of materials and equipment to project site.	Ensure regular wetting (watering) of the untarred road leading to the project site to minimize dust emissions in the community during transportation of materials to and from the project site. Ensure trucks using the untarred roads to and from the warehouse, drive at low speed to minimize dust emissions in the community. Cover trucks transporting sand and excavated material to and from the project site, with tarpaulin to prevent windblown dust/soil particles during transport. Cover heaped sand for construction of the warehouse with tarpaulin to prevent windblown dust/soil particles.

Potential negative impacts	Potential mitigation measures
Noise nuisance /pollution/: would occur during the transport of materials and equipment to project site, excavation and civil works, disposal of construction spoil and waste in general.	Avoid unnecessary beeping /tooting of trucks conveying materials to and from the project to minimize noise generated in the community. Avoid construction activities that generate noise (e.g. hammering) at night to prevent public disturbance.
Generation and disposal of solid waste, during land preparation, for the construction of site office and temporary storage facility, excavation and civil works; decommissioning of site office and temporary storage facility.	Collect stems and branches of any trees and shrubs removed at the project site for use as poles, fuel wood and fencing material. Allow community members to collect any twigs and leaves which can be fed to livestock or used as mulch and collect the remaining vegetative material which cannot be reused and dump it at an approved dump site. Ensure efficient use of construction materials to minimize the waste to be generated from the construction of the warehouse. Re-use excavated soil material in backfilling and levelling as much as possible. Collect excavated material and other construction waste such as wood chippings which cannot be re-used at the site and dispose at an approved landfill site. Provide bins at the site for collection and disposal of plastic waste and polythene materials such as lubricant containers. drinking water sachets and carrier bags at an approved dump site. To avoid falloffs in the community during transport, ensure that trucks conveying sand, stone chippings and construction waste to and from the site are not overloaded and possibly covered with net/tarpaulin.
Occupational health and safety issues occur During all construction phase activities.	Hire an experienced contractor with requisite licenses and well-trained workers for the construction of the warehouse, and make sure that the selected contractor has a Health and Safety Policy to guide the construction activities. The contractor has to provide and implement the use of appropriate personal protective equipment such as safety boots, hard huts/helmets, hand gloves, earplugs and nose masks. Make sure that construction equipment such as concrete mixing machines and block molding machines used for construction are in good condition and are well serviced, and the operators are experienced and well trained. Provide good conditioned and well-maintained equipment to reduce frequent breakdowns, noise nuisance and injury which could affect the operator's and other workers' health and safety. Make sure that, first aid and first aid kits are provided on site, and the selected contractor has adequate training in first aid and first aid kits to treat minor ailments. If major cases occurred during construction injured persons has to be referred to the nearest hospital or health post.
Sanitation issues, public health and safety	Provide adequate waste bins at the project site for use to minimize indiscriminate disposal of plastic and polythene material, cans and food waste by the workers. These bins should be frequently transported and emptied at approved dump sites.

Potential negative impacts	Potential mitigation measures
	Collect waste from construction activities, including metal scraps, wood chippings, netting material, rubber seals, lubricating oil containers, nails, etc. on a frequent basis and dispose of at approved dumpsites or landfill sites. Properly cover all trenches or excavations made for the construction of the warehouse, to prevent accidents and collection of stagnant water which could breed mosquitoes. Drivers of trucks transporting materials to and from the project site should adhere to road and traffic regulations such as following speed limits and avoiding parking in unauthorized areas to prevent road accidents. The contractor should construct a temporary toilet facility is at the project site for use by the construction workers.
Land acquisition and restriction of access to natural resources	Follow the procedures specified in the RPF Proper community consultation. Proper Compensation for land and other resources. Give priority to the affected persons in project benefits. Train the PAPs with different income generating skills, and other livelihood enhancement measures.

5.2.2. Risks Associate with Component Two: Agricultural Research

The research component of AGP-II is incorporated as part of this ESMF , to critically review the negative environmental and social impacts resulting from intensification and productivity-enhancing technologies, to present and discuss the environmental and social problems associated with productivity-enhancing technologies, and to propose the possible mitigation measures (corrective steps) to be taken (or not taken). The interventions of agricultural research component of AGP-II their potential adverse environmental and social impacts, and the associated mitigation measures are described as follows.

The accelerated release of improved crop varieties, improved animal husbandry practices, improved dual purpose poultry breeds, irrigated agriculture management technologies, and biotechnology/Tissue culture: Protocol development and optimization have environmental and social concerns and these concerns need to be addressed, so as to ensure the sustainability of the agriculture and to protect the harms which reach to humans and the environment as a result of implementing these sub projects. The potential adverse impacts and possible mitigation measures of the above-mentioned sub projects are described below**.**

Improved crop varieties and management practices

A summary of the major environmental impacts associated with the yield-enhancing technologies and their potential mitigation measures are provided in **Table 12** below.

Table 12 Potential Impacts and Mitigation Measures ofImproved Crop Varieties

Potential adverse impacts	Mitigation measures
The loss of bio diversity (or "genetic erosion") in centers of crop diversity and the narrowing of the genetic base as a result of monoculture.	Reduce or Conduct research to develop pest resistant varieties. Reduce or eliminate pesticides and fertilizer use and apply integrated pest management practices Reduce or eliminate pesticides and fertilizer use and apply

Potential adverse impacts	Mitigation measures
	integrated pest management practices (details are provided in **Table 3 under component I above**; Development and dissemination of crop varieties with resistance to the major cereal pests reduces the need for insecticides for rice and maize and fungicides for wheat. Evidence for the three major cereals indicates that the extent of crop loss due to insects and diseases has dropped over the last two decades and that the extent of yield loss due to the failure to apply chemicals has declined significantly (Litsinger, 1991; Waibel, 1986;
Soil fertility problems (such as declining soil nitrogen supply, micro-nutrient deficiencies and soil toxicities, long-term changes in soil physical characteristics) as a result of widespread adoption of high-yielding varieties of food crops and intensification.	Incorporate cover crops that add organic matter to the **soil**, which leads to **improved soil** structure and promotes a healthy, **fertile soil.** Use green manure or grow legumes to fix nitrogen from the air through the process of biological nitrogen fixation. Tilling of manure or compost into the topsoil whereby fertile humus with functional soil microbiology can be restored. Consider crop rotation.
The problem of waterlogged soils and a rise in water tables, which in arid and semi-arid areas has caused soil salinity problems, reduced yields and abandonment of land.	Improve soil structure and drainage through cultivation. Avoid smearing the sides of planting holes on heavy soils or prick the sides of the hole with a fork before planting. Consider planting trees on a slight mound. Grow plants in raised beds. Use more-tolerant crops or pastures, sow early and increase seed rate Use shallow surface drainage on waterlogged or inundated areas. Use surface water management upslope to prevent water logging occurring or reducing the period of water logging; Use raised beds on high susceptibility flats, with shallow surface drainage. Choose tolerant crop species. (Oats tends to recover better from water logging than wheat and barley. Wheat and barley varieties have a large genetic range of water logging tolerance.to avoid crop damage from water logging:seed crops early; Use long-season varieties plant water logging-susceptible paddocks first and early; crop damage is particularly severe if plants are waterlogged between germination and emergence. Resow the crop if water logging delays emergence and reduces cereal plant density to fewer than 50 plants per square metre, if accessible and if water logging has ended; Increase sowing rates in areas susceptible to water logging – water logging depresses tillering (not sure what this means in this sentence); high sowing rates will also allow crops to compete with weeds that take advantage of stressed crops. Apply nitrogen after water logging when the crop is actively growing where basal nitrogen applications were 0–50 kilograms

Potential adverse impacts	Mitigation measures
	per hectare. Applying nitrogen at the end of a water logging period avoids loss by leaching or denitrification. **Manage weeds:** Weed density affects a crop's ability to recover from water logging. Weeds compete for water and the small amount of remaining nitrogen, hence the waterlogged parts of a field are often weedy. Control root diseases Diseases, particularly take-all, of wheat and barley are often more severe in waterlogged crops because the pathogens tolerate water logging and low oxygen levels better than the crops. Eliminating grasses from the preceding crops or pastures will reduce the severity of take-all in well-drained and waterlogged areas. Leaf diseases are likely to be more severe in waterlogged crops because the crop is already stressed. Spraying may be an option after the site has dried, but only in crops with a high yield potential. Use shallow surface drainage on waterlogged areas Shallow relief drains remove ponded and run-off water from areas affected by inundation, water logging or flooding. All drainage should be part of a whole farm water management system. Use surface water management upslope of water logging Prevent water from flowing down slope where it can lead to erosion, water logging and inundation.
Increased vulnerability of crops to insect pests and diseases, which has led to increased pesticide use and contributed to increases in production costs, human health hazards, contamination of soils, food, surface and ground water, pest resistance, pest resurgence, and development of secondary pests.	The details of the mitigation measures are provided in Table. " 3 Pest Management" section under component I above

Potential environmental impacts of Improved Animal Husbandry Practices,

Potential environmental impacts of Livestock breed

The introduction of exotic livestock breed may result in loss of genetic diversity in livestock species. Breeds may have traits conferring resistance to emergent or future pathogens or have other favorable adaptations to local environments. The consistent replacement of local breeds with more productive imported ones can contribute to the extinction of that breed and of all the genetic diversity harbored within its population. In addition, the introduction of exotic livestock breed may also result in the introduction of new pathogens. The potential adverse impacts and their potential mitigation measures for livestock breed are summarized in **Table 6** under **Component I.**

Potential environmental and social impacts of poultry Production

Poultry production adversely affects the environment in numerous ways, through poor management of manure and litter, waste streams from processing plants (blood, bones, feathers, etc), birds' carcasses, dust, insects, odour, etc. Furthermore, intensive poultry production is held responsible for the emission of greenhouse gasses, acidification, and eutrophication. Some of the major potential impacts and the associated mitigation measures of intensive poultry productionare summarized in summarized in **Table 9** under component I above.

Biotechnology/Tissue culture/: Protocol Development and Optimization: Biotechnology activities suchas tissue culture development require code of practice concerned with protecting the safety of people inside and outside of a laboratory workplace. This area is especially important because laboratory work in the biosciences sometimes requires the use of hazardous materials. These can be biological materials such as viruses or bacteria. They can also be hazardous chemicals.

To cover the hazardous nature of laboratories and laboratory work and direct the researcher/ lab technician to a wide range of information available on laboratory safety, reference should be made to the bio technology laboratory needs to have health and occupational safety guideline developed according to the (World Health Organization,Laboratory bio safety manual third edition, 2004) and (World Health Organization Bio risk management, Laboratory bio security guidance, 2006, The guideline is expected to consist of a reference list of relevant standards, codes of practice, and guidance notes. The document should be provided to assist staff to achieve laboratory safety compliance and management of risks associated with agricultural research laboratory work and to ensure the health, safety and well-being of all personnel working in or accessing laboratories and made available in each laboratory area to cover the wide range of risks posed by biotechnology laboratory operations and practices. Local or departmental laboratory safety manuals and safe work procedures (SWPs) that should be developed and made available in each laboratory area to cover the wide range of risks posed by local laboratory operations and practices. A reference list of relevant standards, codes of practice, guidance notes and legislative documents should be provided to assist staff to achieve laboratory safety compliance and management of risks associated with laboratory work and to ensure the health, safety and well-being of all personnel working in or accessing laboratories.

5.2.3. Support to Adaptation and Generation of Demand Driven Technologies

The demonstration and release of the recommended technologies on farmers' fields and FTCs have land acquisition issues and these have to be handled with proper community consultation and the farmers have to do it voluntarily.

5.2.4. Pre-Extension Demonstration and Participatory Research Schemes

Establishment and strengthening of Farmers' Research and Extension Groups, Model technology village and Cluster

Farmer Training Centre (FTC), as a beneficiary of the AGP-II, is required to comply with national environmental regulations including the Environmental Impact Assessment Proclamation of Ethiopia, and the World Bank Safeguards Policies. The potential adverse environmental and social impacts and their mitigation measures are provided to guide the management of Farmer Training Centre towards effective environmental, social and occupational health and safety actions in the implementation of the Warehouse Construction and Operation to ensure sustainable development. The potential adverse environmental and social impacts arising from the construction and operational phase of FTCs and their associated mitigation measures are provided in **Table 11** under **Component I.**

5.2.5. Improved animal husbandry practices

In AGP-II AF it is planned to develop, pipeline livestock management practices/technologies (poultry, feed lot/fattening/, dairy, small ruminant, apiculture and fishery). The intensification of livestock production results in increased use of veterinary products and the production of different types of waste, like manure feedlots. The pollution or contamination of the environment, especially water supplies, due to animal wastes (manure and liquid manure) is an increasing problem and must be foreseen when planning new animal housing. The potential adverse impacts and their associated mitigation measures for livestock production, fish hatchery and poultry production are provided in **Table 7, 8 and 9** respectively.

Multiplication of Early generation seeds (EGS) of major crop varieties.

Research interventions such as multiplication of EGS at on station and on-farm level following the activity plans and the respective characteristics of target crops have environmental and social concerns.

There are potential risks or negative impacts that could arise from Multiplication of Early generation seeds. These could include: Increased vulnerability to pests due to poor pesticide management or introduction of new cultivars. Localized agro-chemical pollution and reduction of water quality from agro-chemical use or poor handling of pesticides and disposal of empty chemical containers; and Land or water degradation due to the rehabilitation of small-scale irrigation systems or the construction or rehabilitation of buildings. The dissemination of technology, however, could have a potentially large impact in the long term if technologies developed or recommended are widely adopted by farmers. Because this could potentially lead to a large cumulative impact, there is a need to ensure that technology dissemination activities and technology recommendations do not contribute to negative impacts by end-users and farmers.

A summary of the potential negative impacts and the associated potential mitigation measures for technology production (the multiplication of early generation seeds) is provided in **Table 13** below**.**

Table 13 Potential Impacts and Mitigation Measures of Multiplication of Early Generation Seeds

Potential Negative impacts	Potential mitigation measures
Increased vulnerability to pests due to poor pesticide management or introduction of new cultivar.	Use of integrated pest management practices incorporating biological and environmental controls over chemical pesticides where possible. Comprehensive testing of new cultivars for pest resistance prior to release. A summary of the actions to be taken for implementing IPM are provided in **Table 3.** .
Localized agro-chemical pollution and reduction of water quality from agrochemical use or poor handling of pesticides and disposal of empty chemical containers.	Application and Implementation of Integrated Pest Management (IPM) technique and reduce reliance on synthetic chemical pesticides. Minimize pesticide use and minimize health and environmental risk when pesticides are used. A summary of the actions to be taken for implementing IPM
Unintended movement or transmission of genetically modified organisms (GMOs) within or between countries as a result of field trials or other research activities.	Use of international standards for conducting recombinant DNA research and mechanisms for internal approval and monitoring and risk management of research, and the research should be accordingto theEthiopian**Biosafety (Amendment) Proclamation No. 896/2015.** Environmental assessment including risk assessment and management plan for field trails of transgenic crops including post trial monitoring measures all of which should be subject to a third-party expert review prior to implementation.
Land or water degradation due to the construction/rehabilitation of small-scale irrigation systems or the construction or rehabilitation of buildings.	• Conduct Environmental assessment for construction and civil works that follows the Ethiopian EIA proclamation No. 299/2002 and World Bank Operational procedure on environmental assessment. A list of the potential negative impacts and the associated mitigation measures for small scale irrigation systems are provided in **table 14, under component 3**.

5.2.6. Risks Associated with Component Three: Small-Scale Irrigation

Potential environmental impacts of SSI Sub-Projects

The expansion and intensification of agriculture made possible by irrigation has the potential for causing increased **soil erosion and sedimentation, pollution of surface water and groundwater** from agricultural biocides; **deterioration of water quality; increased nutrient levels** in the irrigation and drainage water resulting in algal blooms, proliferation of aquatic weeds and eutrophication in irrigation canals and downstream waterways. Poor water quality below an irrigation project may render the water unfit for other users, harm aquatic species and, because of high nutrient content, result in aquatic weed growth that obstructs waterways and has health, and ecological consequences. Elimination of dry season die-back and the creation of a more humid microclimate may result in an increase of agricultural pests and plant diseases.

Irrigation projects which impound or divert river water have the potential to cause major environmental disturbances, resulting from changes in the hydrology and limnology of river basins. Reducing the river flow changes flood plain land use and ecology and can cause salt water intrusion in the river and into the groundwater of adjacent lands. Diversion of water through irrigation further reduces the water supply for downstream users. Upstream land uses affect the quality of water entering the irrigation area, particularly the sediment content (for example from agriculture-induced erosion) and chemical composition from agricultural pollutants, (fertilizers and pesticides). Use of river water with a large sediment load may result in canal clogging. The potential negative environmental impacts of most large irrigation projects described more in detail below include; waterlogging and salinization of soils, increased incidence of water-borne and water-related diseases, possible negative impacts of dams and reservoirs, problems of resettlement or changes in the lifestyle of local populations. **Potential mitigation measures of SSI Sub-Projects**

Alternatives exist to mitigate adverse effects of irrigation development. Some of them are listed below:

- locating the irrigation sub-projects on the site where negative impacts are minimized;
- improving the efficiency of existing projects and restoring degraded croplands to use rather than establishing a new irrigation project;
- developing small-scale, individually owned irrigation systems as an alternative to large-scale, publicly-owned and managed schemes;
- using sprinkler irrigation and micro-irrigation systems to decrease the risk of waterlogging, erosion and inefficient water use;
- using treated wastewater, where appropriate, to make more water available to other users;
- maintaining flood flows downstream of the dams to ensure that an adequate area is flooded
- each year, among other reasons, for fishery activities.

Socio-economic impacts of irrigation schemes

The objective of irrigation projects is to increase agricultural production and consequently to improve the economic and social well-being of the rural population. However, changing land use patterns may have other impacts on social and economic structure of the project area. Small plots, communal land use rights, and conflicting traditional and legal land rights all create difficulties when land is converted to irrigated agriculture. Land tenure/ownership patterns are almost certain to be disrupted by major rehabilitation works as well as a new irrigation project. Similar problems arise as a result of changes to rights to water. Increased inequity in opportunity often results from changing land use or water use patterns. For example, owners benefit in a greater proportion than tenants or those with communal rights to land. Access improvements and changes to the infrastructure are likely to require some field layout changes and a loss of some cultivated land.

Irrigation projects tend to encourage population densities to increase, either because of the increased production of the area or because they are part of a resettlement project. Impacts resulting from changes to the demographic/ethnic composition may be important and have to be considered at the project planning stage through, for example, sufficient infrastructure provision. The most significant issue arising from large dam construction is resettlement of people displaced by the flooding of land and homes. This can be particularly disruptive to communities and insensitive project development would cause unnecessary problems by lack of inadequate compensation of the affected population. Human migration and displacement are commensurate with a breakdown in community infrastructure which results in a degree of social unrest and may contribute to malnutrition.

Changing land patterns and workloads resulting from the introduction or formalizing of irrigation are likely to affect men and women, ethnic groups and social classes unequally. Groups that use common land to make their living or fulfill their household duties, for example for charcoal making, hunting, grazing, collecting fuel wood, growing vegetables, etc. may be disadvantaged if that same land is taken over for irrigated agriculture or for building irrigation infrastructure. Women, migrant groups and poorer social classes have often lost access to resources and gained increased workloads. Conversely, the increased income and improved nutrition from irrigated agriculture may benefit women and children. The most common socio-economic problems reducing the income generating capacity of irrigation schemes are:

• The social organization of irrigation operation and maintenance (O&M). Poor O&M contributes significantly to long-term salinity and waterlogging problems and needs to be adequately planned at the design stage to sustain the long-term development of the schemes.
• Reduced farming flexibility. Irrigation may only be viable with high-value crops, thus reducing extensive activities such as grazing animals, operating woodlots, etc.
• Changing labour patterns that make labour-intensive irrigation unattractive.
• Insufficient external supports such as markets, agrochemical inputs, extension and credit facilities.

User participation at the planning and design stages of both new schemes and the rehabilitation of existing schemes, as well as the provision of extension, marketing and credit services, can minimize negative impacts and maximize positive ones.

Alternatives to mitigate the negative impacts of irrigation projects

Alternatives exist to mitigate adverse effects of irrigation development.

Table 14 Potential Impacts and Mitigation Measures of SSI and Micro-irrigation Subprojects

Potential impacts	Potential mitigation measures
Soil erosion and sedimentation of water bodies from cart away soil, and other soil excavation activities Environmentally sensitive areas disturbed Water and soil contamination, and human health problem due to mismanagement of waste generated from construction workers camp Vector born, and water related diseases (malaria, bilharzias) whose vectors proliferate in the irrigation waters. And due to impounding water at the small dam, night storage structures, canals, other water harvesting structures, and quarry site and borrow pits. Damage to physical cultural resources	Safe disposal of cart away soil and minimize soil excavation; rehabilitation of areas where soil, excavation done Identify and avoid forest, wetland habitats, and other ecologically sensitive areas with particular biodiversity Management and safe disposal of waste from the construction camps Identify the most environmentally sound source of construction materials that is within budget, develop logging, quarrying and borrowing plans that take into account cumulative effects, decommission/restore area so it is suitable for sustainable use after extraction is completed, design and construct canals that avoid standing water, awareness and training for the community to manage the vector born diseases Design and operation of dam/reservoir/ponds/other water harvesting structures to decrease habitat for vector. Implement measures aimed at the pathogens, immunization, prophylactic or curative drugs; Implement measures aimed at reducing vector densities or vector lifespan: chemical, biological and environmental controls. Implement measures to reduce human/vector or human/pathogen contact: health education, personal care. Have construction crews and supervisors be alert for buried historic, religious and cultural objects and provide them with procedures to follow if such objects are discovered
Land acquisition and property losses from impounding dam site, construction of camp canal, access road, night storage structures, and establishment of quarry site and borrow pits	Alternative rout alignment to decrease loses; Timely compensation based on replacement cost principle for the properties and land lost with proper socio-economic survey and documentation of it; Alternative income generation and livelihood restoration supports based on the scope of the impacts. Consultation of the PAPs
Loss of life and property of the downstream community, and erosion problem due to Dam failure	Implementing the small dam safety guideline prepared for the project
Loss of property (eg. Cattle,.) and life (eg. children) entering into water harvesting structures/ponds	Fencing the structures; awareness creation for the community about the hazard; alternative site that reduce the hazard
Poor land use practices in catchment areas above the reservoir and other water harvesting structures resulting in increased siltation and loss of storage capacity	Implementing watershed based natural resource management above the dam/reservoir/pond
Soil erosion (furrow, surface) in the command area	Proper design and layout of furrows or field avoiding too steep a gradient; land levelling; and design of terraces on hillside minimizing surface erosion hazard
Deterioration of river water quality below irrigation project and contamination of local ground water (higher salinity, nutrients, agrochemicals) affecting fisheries and downstream users	Improved water management; improved agricultural practices and control of inputs (particularly biocides and chemical fertilizers) Implementing soil erosion from the irrigation field to prevent washout of agrochemicals and fertilizer Control of land use in watershed areas Prevention and control of pollution sources
Reduced water quantity for downstream	Conduct water balance during the feasibility study time taking into

Potential impacts	Potential mitigation measures
users resulting social tension, waterways and wetlands	account the water demand for the upstream, downstream and the command area Implement basin-based SSI subprojects rather than subproject based Reassess sufficient amount water to the downstream community available for irrigation, domestic, cattle and ecological function. The feasibility study should address this. Proper consultation of community at the upstream, downstream and command area and reach consensus on the solution Implementing watershed management to enhance the ground water recharge, Implement water efficient management technologies and practices
Water logging and salinization: Waterlogged soil (Vulnerability to water logging) due to overwatering; inadequate drainage	Assess soil characteristics and either avoid or provide adequate drainage for areas prone to water logging Use good irrigation management, matching water demand and supply by location. Install adequate drainage systems. use micro-irrigation which applies water more precisely and can more easily limit quantities to no more than the crops needs Design a high water-efficient irrigation system/method like drip irrigation systems Encourage farmers to value water resources by establishing a system of water user fees tied to consumption Use of lined canals or pipes to prevent seepage wherever applicable Regulation of water application to avoid overwatering (including controlled turn-out to allow cutting off water supply to irrigation ditches)
Salt build-up on irrigated land	Assess the potential for high salinity and employ aalternative irrigation methods and schedules Install and maintain subsurface drainage system Incorporate soil additives. Add gypsum to either the irrigation water or the soil before irrigating Plant salt-tolerant catch crops
Dry wells for drinking water and irrigation	Implement different ground water recharge activities like water conservation work/watershed management Limitation of withdrawal so that it does not exceed “safe yield” (recharge rate) Encourage farmers to value water resources by establishing a system of water user fees tied to consumption
Existing water sources supply/yield depletion	Assess water supply and existing demands and manage sustainability.
Sensitive downstream habitats and water bodies	Identify and avoid effects of diversion or extraction on downstream ecosystems that depend on the surface or groundwater supply

5.2.7. Risks Associated with Component Four: Agricultural Marketing and Value Chains

The overall objective of this component is to commercialize smallholder farmers through increased access to input and output markets. The sub-components with relevant to safeguards are:

- Construction and modernized management of market centers through the construction of Primary crop, fruit and vegetable products market centers, Primary animal market centers, Milk and honey collection and processing centers, Road side market shades.
- Construction and management of warehouses as well as storage, grading and packaging facilities.

- Construction of small bridges.
- Construct cooperative based cold storages and Strengthen existing dry cooperative owned storages.

Potential environmental impacts of (construction of warehouses, market centers, milk and honey collection and processing centers, small bridges etc)

The adverse environmental and social issues relating to implementation of the **infrastructure** projects related to the construction of Farmers' training centers, market centers, warehouses, foot bridges etc are provided below;

Any facilities installed by the Contractor for purpose of conducting construction works should meet appropriate standards of responsible environmental management and safety practice. These include: a) Legally approved and environmentally acceptable extraction of materials from any borrow pits or quarries with proper restoration. b) Minimal clearance of natural vegetation and interference with natural drainage flows, avoidance of any significant degradation of freshwater. c) Environmentally sensitive location of temporary construction yard sites and space for plant and materials storage. d) Safe location and protection of fuel facilities, safe storage of hydrocarbons and other chemicals, re-use/disposal of used oil at approved sites. Fuel storage sites should be bonded by breams so as to confine and mitigate the effects of spillage. The capacity of the confined area to be 100% of volume of fuel stored and protected from rainwater e) Adequate facilities for collection and treatment of wastewater (as required), storage and legal disposal of general construction waste, solid waste, chemicals etc. f) Appropriately restored and unencumbered work sites, yards, camps and quarry sites other facilities at project completion.

5.2.8 .Chance Finds Procedure For Culturally Significant Artifacts'

The Contractor is responsible for familiarizing themselves with the following "Chance Finds Procedures", in case culturally valuable materials are uncovered during excavation, including:

- Stop work immediately following the discovery of any materials with possible archaeological, historical, paleontological, or other cultural value, announce findings to project manager and notify relevant authorities;
- Protect artifacts' as well as possible using plastic covers, and implement measures to stabilize the area, if necessary, to properly protect artifacts'
- Prevent and penalize any unauthorized access to the artefact.
- Restart construction works only upon the authorization of the relevant authorities.

Requirements for chance finds are also outlined in the Act. Article 41 which states that: "Any person who discovers any cultural heritage in the course of excavation connected with mining, explorations, building works, road construction or other similar activities shall report to the Authority and protect and keep same intact until the Authority takes delivery thereof". The Authority shall take all appropriate measures to examine, take delivery and register the Cultural heritage so discovered. Where the Authority fails to take appropriate measures within 6 months, the person that discovered the cultural heritage may be released from the responsibility by submitting a written notification with a full description of the situation to the Regional Government official.

Cost of Compliance

It is expected that compliance with these conditions is already part of standard good workmanship and state of art as generally required under this Contract. The item "Compliance with Environmental Management Conditions" in the Bill of Quantities covers these costs. No other payments will be made to the Contractor for compliance with any request to avoid and/or mitigate an avoidable Environmental and social impact. The detailes of "Annex 12 CHANCE OF FINDS PROCEDURE FOR CULTURAL HERITAGE" are provided in Annex 13.

Table 15 . Potential Impacts and Mitigation Measures of (Farmers' training centers, market centers, warehouses, foot bridges etc)

Potential Impacts	Mitigation measures	Remark
Air Pollution	• Spraying of water around the areas of the construction site, borrow pits and quarry during construction work, at least three times on every construction day especially if construction work is carried out during the dry season. • Discharge of dust and fumesshould be minimized and there should be no burning of toxic substances, by the contractor.	The client/ implementing agency will be responsible for allocation of researces for safeguards compliance; compliance monitoring and documentation. It is also responsible for site specific safeguards tools.
Noise pollution.	• Quarry and borrow pit areas to be used for the extraction of aggregates for construction work should be remotely located away from residential and office areas. • Sensitization and discussion with residential and office workers around the sites about the working hours and the impact of noise. • Provide protection apparatus to workers when exposed to noise levels above 85 dB(A). • Limit construction and transport activities to daytime.	The same as above
Changes in land use and topography.	• Minimize the changes in the natural drainage pattern of the surrounding areas. • There should be clear demarcation of the extent of contractor's work sites including areas for material storage, working yards and plant storage. • There should be no removal of sand or dredged material without an official mining permit and written approval of the SER. • Dump trucks should be equipped with devices to prevent material spillage and roads should be kept clean of mud and construction debris • There should be no disposal of non-biodegradable materials on site without the expressed permission of the Supervising Engineer's Representative (SER) or local authorities. Oil collection traps should be in use in workshop areas. • Used oils should be containerized and transported to an approved local agent for safe disposal or transported with other scrap equipment to an approved facility elsewhere. • Restore the natural drainage of the site and the	The same as abpve

Potential Impacts	Mitigation measures	Remark
	surrounding areas after construction. • The contractor should remove all construction equipment and scrap waste from his sites on completion.	
Ground and surface water contamination and alteration of water table	• Minimize removal of soil vegetative cover and should only be carried out with absolute necessity. • Development of the landscape and planting of trees and vegetative cover after construction work. • Sewage system, septic tanks or pit latrines should be located far away from ground water aquifers. • Re-use/disposal of used oil at approved sites. • Maintain constant monitoring of ground and surface water quality. • There should be no disposal of material in environmentally sensitive areas, e.g. wetlands, protected vegetation	The same as above
Health and safety issues	• Provide adequate training to supervising foremen on first aid issues and provide them with fully stocked First Aid kit. • Provide and set of emergency call numbers, at each work site. • It should be a requirement that the contractors supervising foremen will have basic First Aid training which should be available from hospitals and medical NGOs. There should also be plans for coping with emergencies. • Provide health and safety protection equipment (protective clothing and hard boots and hats, protection for eyes and ear mufflers) at all construction sites or when using pneumatic drills, grinders, etc. • Keep fire prevention measures in place, including the deployment of adequate functional extinguishers and simple dry sand buckets.	The same as above,
The spread and contamination of HIV-AIDS and other sexually transmitted diseases and unwanted pregnancies	Contact with an appropriate specialist to conduct basic training and awareness among workers, regarding the use of appropriate preventive measures such as abstinence and the use of condoms by workers.	The same as above
Land acquisition and restriction of access to natural resources	Proper community consultation. Compensation for restricted resources. Give priority to the affected persons in project benefits. If the magnitude is high, prepre LRP and implement accordingly. Training for the PAPs with regard to forage development and other livelihood enhancement measurtes.	The same as above

5.2.9. Potential risks on Gender Based Violence (GBV), sexual exploitation and abuse (SEA) and sexual harassment (SH)

The potential risks on GBV, sexual exploitation and abuse and sexual harassment, as assessed during the SA studies, include:

- Risks associated with sexual harassment (SH), sexual exploitation and abuse (SEA) and HIV/AIDS transmission have the probability to occur during the construction phase of AGP – II AF sub-projects..
- Gaining financial independence on their own can result in a shift in gender roles which results in the loss of "traditional male role" of husbands and a subsequent rise in domestic violence.
- Poor women often are exposed to GBV as a factor in their poverty and that even if the men are equally poor, women face additional vulnerability compared to men, i.e. being exposed to sexual abuse.
- Moreover, the insecurity of women's rights to land and property and economic dependence on male relatives makes them more vulnerable to socio-economic forms of violence, notably property grabbing. On the other hand, reclaiming their rights on the taken land and property may in itself be the factor leading to new forms of violence.
- Land is controlled by men, and lack of economic options are among the reasons why women continue to stay in abusive relationships.

In some areas men are allowed to have more than one wife, Polygamy increases the burden of the husband to provide for their households; this increases GBV in families where such a husband fails to fulfill his obligations. It is also results in conflicts among wives, between wife and husband and against children.

5.3. Management of Social Impacts

Potential social risks associated with the different components of the Project and mitigation measures are outlines in the Table below.

Table 16 Potential Social Risks and Challenges and Mitigation Measures

Components/issues	Potential impact	Potential mitigation measures
Component 1: Agricultural Public Support Services	The risk that the IAs will not respect the dignity, rights and cultures of the groups resulting in the loss of cultural and social identity.	Due attention will be given to ensure that officials, IAs and project staff are sensitized to cultural and social issues to ensure that the underserved groups do not lose control over the land traditionally utilized by them as source of livelihood and as basis for their cultural and social systems. Close monitoring will be included to ensure the proper application of the RPF.
	FTC serve as appropriate technology transfer hubs, but the prime beneficiaries are male farmers.	Technologies that best fit the needs of women farmers will be studied and included in the packages of FTC technology transfer services. Screening will be applied for all technologies in agricultural research (component 2) to promote those activities which meet women's needs. Women's groups particularly will be provided special support because of their responsibility in the household (as mothers, wives, care givers, etc.) and the bureaucracy's unresponsiveness to them.
	Focus is on training, while regular follow up and support is given very little attention.	Support and follow up are of paramount importance to CIGs as most of these groups do not have equal standing in the society. AGP2 would provide more in depth and longer capacity building trainings to CIGs (for women and youth), supported by CDSF. M&E system to be strengthened to allow regular feedback from groups.
Component II: Agricultural research	Research technologies tend not to take into consideration the needs and demands of women.	Under AGP2, all technologies researched will include gender screening, and a specific target will be established for the number of technologies released which will specifically address the needs of women.
	The establishing technology village for selected commodities may create wealth inequality, social isolation and weakening of social network.	Consultation with the village community, generating employment opportunity for farmers, provides training for the community on the introduced technologies equitably and establishing well-articulated agriculture market system, etc. The research extension program will be shared equally to all regardless of their socio-economic background.
	Strengthen the pre-extension demonstration of new technologies needs farmers land which lead to grievance, loss of asset and loss of crops	Extensive community consultation and appropriate compensation based on replacement cost principle will be paid for the PAPs who loss the asset. If the intervention disturbs the livelihoods, a site-specific livelihood restoration plan will be prepared and implemented to restore or improve the livelihood of affected households.
Component III: Small-Scale Irrigation	Weak implementation capacity (e.g., SSI and rural feeder road construction) are the major challenges being faced by the IAs.	A watershed approach to planning will be adopted under the AGP2, to be detailed in the PIM. This would take into account all users of water within the watershed and address cultural and social sensitivities. All affected communities would be consulted, participated and engaed in the implementation process.

Components/issues	Potential impact	Potential mitigation measures
	Irrigation schemes which use surface water might be a potential source of conflict among the watershed communities settled in different areas along the course of the river. Conflicts or tensions are likely to occur. Sustainability of the projects built might be at risk because of weak sense of ownership by the community.	In the event of conflict over the access to and use of water, there will be an intensive community consultation and awareness raising program and strengthen the use of indigenous local structures such as the jaarsummaa, shimgilina, yewuhaabat, etc., in conflict resolution processes. RPF will be fully applied where required in that all the suggested procedures to resolve conflicting situation will be implemented through the established GRM.
	Land acquisition and property losses from impounding dam site, construction of camp, canal, access road, night storage structures, and establishment of quarry site and borrow pits	Ensure that project IAs are culturally sensitive to the underserved communities and provide adequate cultural sensitive trainings to the officers, and more importantly, involve the beneficiary communities in the implementation of the project from the outset and use approved RPF on issues of land take and restriction of access to natural resources. Alternative rout alignment to decrease loses; Timely compensation in replacement value for the properties and land lost with proper socio-economic survey and documentation of it and Consultation of the PAPs
	Loss of property (eg. Cattle) and life (eg. children) entering into water harvesting structures/ponds	Fencing the structures; awareness creation for the community about the hazard; alternative site that reduce the hazard; report and respond properly to accidents, if occurred.
	Area ex-closures for degraded and upland rehabilitation through natural regeneration and reforestation causes: Restriction of access to humans and livestock; Risk of involuntary land acquisition and causing relocation of households; Risk of conflict over diverse interests; Loss of economic or livelihood benefits	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; Compensation for loss of land or economic benefits to affected persons; Prepare RAP/ARAP, Process Framework or LRP, as appropriate.
Component IV: Agricultural Marketing and Value Chain	CIGs are not effectively connected to the market. No credit linkage was reported from the AGP1 woredas, consequently CIGs could encounter shortage of finance to start businesses and expand their small-scale businesses. One major challenge AGP encountered during implementation was limited land availability for CIGs to become operational. The informants anticipate AGP2 will face the same problem. Rural youth unemployment and underemployment need to be supported under the project.	Under AGP2, the approach to support farmer groups is based on lessons learned from the on-going AGP1. The changes are as follows: i) support is restricted to women and youth groups, with no further support to mixed CIGs which tend to be dominated by men and exclude women; ii) all CIGs would be eligible for support from TA, capacity development and matching grants and Innovation Groups would be discontinued as this caused tensions; iii) fewer groups would be supported but with enhanced support to increase sustainability; iv) guidelines for the establishment and support to groups have been revised and disseminated, including clarity on eligible members and transparent processes for selection; v) enhanced support will be provided for identifying viable economic activities and preparing good quality business plans, which match resource availability, including access to land so as to avoid situations where lack of land availability inhibits the groups from achieving their objectives; vi) specific support will be made to link CIGs to markets (e.g., through the support of value chain (VCs) and seed

Components/issues	Potential impact	Potential mitigation measures
		multiplication); vii) under Capacity Development Support Facility CDSF, support would be targeted at CIGs and to those agencies (including the Cooperative Agency), to provide support to CIGs; and viii) Close monitoring of CIGs would be conducted to determine their performance and take corrective measures if required.
Component V: Program management, Monitoring, Evaluation and Learning	Mismatch between expectation and capacity to deliver by the AGP2.	A communication strategy would be prepared under AGP-II to clearly define the processes, content and mechanisms for informing all project stakeholders (including direct and indirect beneficiaries) on the objectives, scope and implementation modalities of the project. The project would provide clear information in local language and make realistic promises to the underserved groups on project benefits. Plans would be based on the CLPP with community participation.
	The tendency to consider AGP as an external project could jeopardise the implementation of AGP2.	Through persistent awareness raising program, it should be ensured that implementing structures at all levels know about AGP2 and commit themselves for proper implementation of the project in a culturally appropriate manner. This will be reflected in the AGP2 communication strategy.
	SCs need to meet regularly as per the PIM provision. If not, there is a risk of insufficient oversight and lack of ownership.	As principal owners of the project, SCs should commit themselves to ensure there are proper planning, implementation and M&E of AGP2 activities; and that members of the underserved groups are also included in the various leadership positions of the project
	Weak project technical support and follow up in almost all AGP1 woredas affects the effectiveness of the project components in which various CIGs are organized.	Project will provide technical support, including TA, training, and capacity building during the implementation of AGP2 and more information and analyses on the types of special needs and gendered inequalities within the population of underserved groups. In particular, AGP2 will establish CDSF to provide a holistic approach to capacity building at all levels, including capacity related to cultural and social sensitivities.
	Low capacity at woreda and kebele levels to implement the project.	It is vital that consistent and culturally appropriate capacity building trainings be conducted for members of the various AGP2 related grassroots committees.
	AGP2's grievance redress mechanism stipulated in the ESMF is not uniformly used during the implementation.	To ensure transparency and make people build confidence in the system, it is important that AGP2 uses its own in-built grievance redress mechanism, in which PAPs have reasonable number of representations. Further strengthening of the capacity of the individuals will be involved in grievance handling processes, particularly at grassroots levels through appropriate trainings. In the interest of ensuring a more effective and fairer grievance redress system, it is deemed beneficial to strengthen the traditional dispute settlement institutions through trainings to those involved in the process on the basic elements of the law and gender sensitive issues, particularly women rights.

Components/issues	Potential impact	Potential mitigation measures
	Weaknesses in M&E.	Introduce participatory M&E system and marry it with more traditional results-oriented approaches to project management. Further, social and environmental safeguard issues should constitute the core of M&E exercises and ESMF provides detail steps and templates for screening process.
Consultation	Direct consultation with the whole kebele residents was observed to be rare in most of the woredas covered in this study. The modus operandi is conveying the message through representatives selected from the sub-kebele (zone).	Ensure direct and all-inclusive community consultation about the project and the criteria for identifying the potential beneficiaries should take place in AGP2 woredas. This should be included in the project's communication strategy, and also in the manual for the CLPP. Sensitize the underserved on the risk of the project development process.
	Danger of making consultation a one-time event or campaign.	Community consultation would be a continuous process engaging different target population groups to secure not only their consent, but also their active involvement with the project ownership.
	Existing information gap on provision of adequate agricultural services that will improve productivity for disadvantaged and vulnerable groups.	The CLPP would be conducted annually with all communities as per the PIM. Develop evidence-based and culturally appropriate information on differential usages, needs and constraints of agricultural services with a particular emphasis on gender, income and place within vulnerable and disadvantaged population groups.
	Newly included national regional states lack clarity on AGP2's objectives and the basis of identifying potential beneficiaries.	Through persistent awareness raising program, the project should ensure that implementing structures at all levels are known and committed to proper implementation of the project.
Potential Conflict	Missing out any kebele or an ethnic group could be a potential source of ethnic conflict.	The project should fairly consider all ethnic groups during implementation. Consistent criteria will be applied for the selection of kebeles to be supported under the project. This includes agricultural potential and access to markets (consistent with the project's objective to increase productivity and commercialization). Project sites selection at woreda level would be done in a socially inclusive and transparent manner, with an agreed set of criteria linked to the targets and outcomes of the project.
	In different ethnic group male and female youths are socialized in different social and physical settings.	Conduct open and constructive discussion with the relevant stakeholders before engaging in organizing youth in CIGs and mobilizing people for the implementation of AGP2.
Social, health and safety requirements	Risks related to occupational and community health and safety, gender inequality, child protection, vulnerable people (including those with disabilities),	Provide and maintain a healthy and safe work environment and safe systems of work; protect the health and safety of local communities and users, with particular concern for those who are disabled, elderly, or otherwise vulnerable; ensure that terms of employment and working conditions of all workers engaged in the Works meet the requirements of the ILO labour conventions to which the host country is a signatory; be intolerant of, and enforce disciplinary measures for illegal activities. To be intolerant of, and enforce disciplinary measures for GBV, inhumane treatment, sexual

Components/issues	Potential impact	Potential mitigation measures
		activity with children,, and sexual harassment; incorporate a gender perspective and provide an enabling environment where women and men have equal opportunity to participate in, and benefit from, planning and development of the Works; work co-operatively, including with end users of the Works, relevant authorities, contractors and local communities; engage with and listen to affected persons and organisations and be responsive to their concerns, with special regard for vulnerable, disabled, and elderly people; provide an environment that fosters the exchange of information, views, and ideas that is free of any fear of retaliation and protects whistle-blowers; and minimise the risk of HIV/AIDS transmission and to mitigate the effects of HIV/AIDS and other STDs associated with the execution of the Works.
	Sexual harassment, gender-based violence (GBV), sexual exploitation and abuse (SEA)	Awareness raising campaign on GBV, SH, and SEA; Prepare a GBV action plan based on the risk assessment screening; Establish a system that addresses the issues of GBV, SH or SEA, as per the response mechanism proportional to the risks; Provide an integerated response services to survivors, which is safe and confidential; build a capacity of those parties who engage to address GBV risks; monitor, report and document the GBV issues, for further planning.

6. ESMF Process, Implementation and Monitoring Arrangements

This section outlines general AGP-II and including the AF environmental and social screening procedures, approval, implementation and reporting systems. To avoid or minimize the adverse environmental and social impacts of subprojects, in all the ESMF processes, the KDC including the DA, the Woreda and Regional implementing agencies are required to use the **environmental and social screening checklist and environmental *and social impact rating* are indicated in Annex 5 and ,6 respectively**. The community will participate in subproject identification through Community Level Participatory Planning (CLPP) approach. The KDC which the DA is member of it participate in the environmental and social screening process. The ESMF process is consistent with the applicable national ESIA procedure and CLPP process. The responsibilities of AGP-II implementing Agencies in doing so are also outlined in this section.

6.1 ESMF Processes and Procedures for Subproject Screening

The objective of screening is to assess any potential safeguard issues early in the design phase of sub projects. Screening of AGP-II subprojects will be conducted by completing the designated subproject screening checklist as indicated in **Table 17below and in Annex 5.**

Step (i): Eligibility Checking of Subprojects by DA and KDC at Kebele level

Once the local communities identified demand-driven AGP-II subprojects, DAs and KDCs screen these subprojects against the following environmental and social screening checklist to check their eligibility for AGP-II financing

Table 17 Checklist to check subprojects eligiblity for AGP-II financing

Will the sub-project or business plan:	Yes	No
Cause significant involuntary displacement of people or social disturbances, involuntary loss of assets? The Bank does not provide specific categorization criteria relating to OP 4.12, Involuntary Resettlement. Generally, projects with significant resettlement-related impacts should be classified as Category A. Application of judgment is necessary in assessing the potential significance of resettlement-related impacts, which vary in scope and scale from project to project. Projects that would require physical relocation of residents or businesses, as well as projects that would cause any individuals to lose more than 10 percent of their productive land area, often are classified as Category A. Scale may also be a factor, even when the significance of impacts is relatively minor. Projects affecting whole communities or relatively large numbers of persons (for example, more than 1,000 in total) may warrant classification as Category A, especially for projects in which implementation capacity is likely to be weak.		
Involve removal or conversion of forests and other natural resources? A project with the potential for significant conversion or degradation of natural forests is classified as Category A. Natural forests are forest lands and associated waterways where the ecosystem's biological communities are formed largely by native plant and animal species and where human activity has not essentially modified the area's primary ecological functions.		
disrupt the quality or quantity of water in a waterway shared with other nations		
Cause degradation of critical natural habitats cause any loss of biodiversity? Cause any large-scale physical disturbance of the site or the surroundings The project is classified as Category A if the screening indicates the potential for significant conversion or degradation of critical or other natural habitats. *Significant conversion* is the elimination or severe diminution of the integrity of critical or other natural habitats caused by a major, long-term change in land use or water use. Significant conversion may include, for example, land clearing; replacement of natural vegetation; permanent flooding; drainage, dredging, filling, or channelization of wetlands; or surface mining. Conversion can result directly from the action of a project or through an indirect mechanism (e.g., through induced settlement along a road). *Degradation* is modification of a critical or other natural habitat that substantially reduces the habitat's ability to maintain viable population of native species.		
affect important physical and cultural resources (historical, religious, archaeological sites and monuments) Physical Cultural Resources, as defined under OP 4.11, are movable or immovable objects, sites, structures, groups of structures, and		

natural features and landscapes that have archaeological, paleontological, historical, architectural, religious, aesthetic, or other cultural significance. A project that will likely have significant adverse impacts on PCR is classified as Category A.		
affect any vulnerable or underserved groups The Bank does not provide specific categorization criteria relating to OP 4.10, Indigenous Peoples. Though the policy applies whenever a group meeting the Bank's definition of Indigenous Peoples is present in the project area, categorization typically reflects the potential significance of any adverse impacts upon such groups. Projects that would require relocation of Indigenous Peoples, that would restrict their access to traditional lands or resources, or that would seek to impose changes to Indigenous Peoples' traditional institutions, are always likely to be classified as CategoryA.		
Implemented in or around non-viable commune centers (CCs)		
likely to use pesticides or other agro-chemicals Projects that include the manufacture, use, or disposal of environmentally significant quantities of pest control products are classified as Category A. Environmental significance takes into account the impacts, including benefits, on human health.		
cause any large-scale physical disturbance of the site or the surroundings		
involve construction of dams higherthan 15 meters		
cause any loss of biodiversity		

If the answer to any one of the questions indicated in table 17. above is 'Yes', then the subproject should be rejected unless the features can be avoided by change of design or location. If on the contrary the answer is 'No', then proceed to the next step. Once subprojects screened, the subproject will be sent to ***Woreda relevant ImplementingAgencies*** (IAs) such as Office of agriculture, office of road Development, office of water/Irrigation development, etc. for further screening.

Step (ii): Subproject screening and reviewing at Woreda level

Once the subprojects are designed and screened at Kebele level, they should further be screened at Woreda level by relevant to which the subproject refers to as indicated above in step (i). The screening of sub-projects by their implementing agency at the Wereda level should be done using the checklist provided in **Annex 5 and Annex 6.** The following sections explain the steps that should be followed in screening sub-projects.

First, the Wereda expert would check all the subprojects if they fall under each of the following categories.

Table 18 Checklist to check projects which need special attention

Feature of Concern	Yes	No
Subproject likely to use pesticides or other agro-chemicals		
Subproject involves land acquisition, or loss of assets, or access to assets on the land		
Sub-project incorporates dams higherthan 15 meters?		

If any of the AGP-II subprojects fall under the above category, the Woreda IA should include all the necessary measures before approval of the subproject. Environmental and Social Impact Assessment (e.g. for SSI subprojects) should be conducted prior to the commencement of the project. For example, if the subproject is likely to use pesticides, pest management plan (PMP) should be prepared separately and included as a component of the ESMP. Similarly, if the subproject involves land acquisition, or loss of assets, or access to assets on the land, the IA should prepare a resettlement action plan (RAP). As there may be capacity problem by Woreda IAs in carrying out environmental and social screening, Woreda EPLAUA would provide the Woreda IAs with technical support on these matters. However, it must be noted that at least the high-risk subprojects, like for ex. SSI, construction of market centers, acces road constructions, introduction of new species, etc. has to be screened by the regional environmental and social safeguards specialsits.

For subprojects which require PMP preparation, the main responsible IA is the Regional bureau of agriculture. The regional plant health clinics also have role on giving technical support in this regard. Integrated Pest Management (IPM) is an integral part of the PMP. Best practices related to IPM found in the country like farmer field schools and others can be explored during PMP preparation and implementation.

The regional and Woreda level safeguards experts should also check whether the subprojects fall under one of the following categories of environmental and social concerns.

Table 19 Checklist to screen subprojects of environmental and social concerns

Feature of Concern	Yes	No
Subproject located within National Park or other designated wildlife area or buffer zone.		
Subproject located in a Priority Forest Area		
Subproject involves draining of or disturbance to a wetland		
Sub-project that instigate soil erosion and flooding		
Sub-project cause disturbance to ecologically sensitive areas		
Subproject located within a recognised Cultural Heritage site or World Heritage site		
Sub-project that cause involuntary land acquisition and resettlement and/or involve area enclosure or restriction of access		
Subproject that incorporates a dam		
Subproject that involves use of hazardous laboratory chemicals		
Subproject involves abstraction of significant volume of water from international waterways		

If the answer to any one of the above environmental and social concerns is 'Yes', the design of the subprojects should be modified to overcome the said environmental and social concern. If it is not possible to avoid the environmental and social concern, the subprojects should be labeled as '***subprojects of environmental and social concern'***.

For those sub-projects of environmental and social concern, a checklist of potential impacts and impact significance for a feeder road shown in Table 20 below is provided as a sample. In addition, a checklist has been provided in **Annex 6** for more sub-projects.

Table 20 Sample environmental and social impact significance rating checklist

Subproject types	**Rate of Impacts**				
	None	**Low**	**Medium**	**High**	**Unknown**
Rural Feeder Road Construction Subprojects					
Soil erosion and initiation of flooding, gully erosion, farm land degradation					
Loss of biodiversity through cut and fill activities					
Destruction of natural habitats					
Sedimentation to water sources and reservoirs					
Disturbance to and loss of ecologically sensitive habitats					
Damage to cultural, religious and historical sites					
ıse opening of quarry/borrow sites and result in water lution and vector borne diseases					
Cause land acquisition and property losses					
Others (specify)					
Other subproject (specify)					

The checklist provides potential impacts for AGP-II subprojects with different rate of potential impacts. Go to the relevant section of the checklist and mark (✓) each potential impact listed as None, Low, Medium, High or Unknown. Once the checklist is filled, count the number of potential impacts marked as **None**, **Low**, **Medium**, **High** and **Unknown**. The table below (table 21) helps you to determine whether the subprojects should be labeled as 'subprojects of environmental concern' and further actions need to be taken at this stage before proceeding to the next level.

Table 21 Rating of potential impacts of AGP-II subprojects

Rating of potential impacts of AGP-II subprojects	Action needed
Subprojects are marked from ***low*** to ***medium*** for potential impacts	Prepare an ESMP with appropriate mitigation measures and incorporate into the design of the subprojects. During preparation of ESMP, refer to the potential mitigation measures listed for each potential impact in section 5 of this ESMF.
Subprojects cause only one ***high*** potential impact	Refer to the potential mitigation measures listed for each potential impact in this ESMF, to prepare the ESMP and then incorporate the potential mitigation measures into the design of the subprojects.
Subprojects cause more than one ***high*** potential impacts	These type of subprojects will be labeled as '***subprojects of environmental and social concern'*** because changing the design may not avoid the anticipated adverse impacts.
Subprojects where it is difficult to predict the potential impacts, i.e., subprojects which have two or more ***unknown*** potential impacts.	These subprojects should also be labeled as '***subprojects of environmental and social concern'*** because of the many unpredictable potential impacts.

For subprojects which are not labeled as '**subprojects of environmental concern'**, environmental clearance may be issued by woreda EPLAUA. For those subprojects which are not labeled as subprojects of environmental concerns but requiring preparation of environmental and social management plan (ESMP), the ESMP should be prepared and sent to the regional or woreda EPLAUA for review and approval.

6.2 Subproject Review and Approval at Woreda level

The ESMP prepared by the woreda relevant AGP-II implementing agencies for those subprojects which are not labeled as subprojects of environmental and social concern could be reviewed by the woreda EPLAUA. In doing so, the woreda EPLAUA follows two appraisal steps to appraise/review subprojects of which are not labeled as subprojects of environmental concern.

Step (i):Desk appraisal of subprojects

The Woreda EPLAUA check the environmental and social screening checklist and impact rating checklist filled by the Woreda implementing agency to see whether or not it is done correctly and as per the requirement of the ESMF guideline. Woreda EPLAUA also review the ESMP including PMP and RAP/ prepared to check whether all the necessary information are included; and is done according to the ToR presented in **Annex 2** for PMP and**Annex 3** for ESMP of this ESMF and the RPF prepared for AGP-II.

Step (ii): Field Appraisal

If the desk appraisal indicates that the proposed subproject may have environmental or social concerns that are not adequately addressed in the application, or if the application meets certain criteria but the review authority requires field appraisal before the application can be considered further. For the field appraisal, the Woreda EPLAUA use the field appraisal form indicated in **Annex 7** of this ESMF. It should be noted that the woreda EPLAUA should support woreda implementing agencies when screening subprojects, impact rating and during the preparation of ESMP including RAP/ and PMP.

After carrying out desk review and field appraisal, the woreda EPLAUA issues environmental and social clearance (ESC) to the woreda relevant IAs to which the subproject is to be financed by AGP-II. The subprojects should not be financed and implemented by the woreda IAs before ESC is obtained from the woreda EPLAUA. The finance section/unit of the woreda IAs should not process any payment without the ESC letter, attached with the request for payment. For subprojects labeled as ***'subprojects of environmental and social concern'*** proceed to the next step.

Step (iii): Notification of environmental and social concern subprojects

AGP-II subprojects which are labeled as 'subprojects of environmental and social concern' should be communicated to regional line bureaus which the subproject refers. The regional line bureau communicates the subprojects with environmental and social concerns to the regional EPLAUA.

Step (iv): Review of notified subprojects by regional EPLAUA

The regional EPLAUA should make note of the following points when reviewing/appraising subprojects of environmental concern.

- AGP-II subprojects which involve the use of pesticides, land acquisition or loss of land assets or access to assets do likely require submission of full ESIA, which includes Pest Management Plan (i.e. PMP) and RAP/. Under this situation, the regional EPLAUA reviews and gives approval to the ESIA report and makes sure that full ESIA study is conducted together with detailed environmental and social management plan and PMP. For AGP-II subprojects, which do not involve the use of pesticides, land acquisition or loss of land assets or access to assets, and which do not require full ESIA, the regional EPLAUA ensures that environmental and social management plan (ESMP) is prepared by woreda/regional concerned AGP-II IAs. In this case, for all subprojects which do not have any environmental or social concerns, all the possible environmental and social impacts as a result of the subprojects will be managed by the mitigation measures included in section 5 of the ESMF.

- For AGP II subprojects which may extract a large volume of water from international waterways, check for all legal requirements and agreements entered into with all riparian countries.

The regional EPLAUA should advice the concerned regional implementing agency on the following points:

1. Communicate the decisions for each of these subprojects of environmental and social concern with regard to the need or not of a full ESIA.
2. If a full ESIA is required, the regional EPLAUA advice the concerned regional implementing agency to prepare TOR. The regional EPLAUA incorporating its comment, return the TOR without delay to the implementing agency to hire an ESIA consultant, to carry out the ESIA. The ESIA consultant prepare ESIA report and submit to regional EPLAUA for review and approval
3. In this regard, the regional and federal AGP-II environmental and social safeguards specialists provide technical support in the preparation of the TOR.
4. If a full ESIA is not required, the regional EPLAUA provide the concerned implementing agency with guidelines in connection to technical matters, related to the preparation of environmental and social management plan (ESMP). The concerned implementing agency should prepare and submit the ESMP to regional EPLAUA for review. The regional EPLAUA review and issue environmental and social clearance as soon as possible to avoid implementation delay.

Similar to the Woreda level review and appraisal, the regional EPLAUA may follow both the desk and field appraisal procedure to appraise subprojects of environmental and social concern and which do not require full ESIA. For this, similar field appraisal form (**Annex 7)** can be used.

As discussed earlier in section 2.3 above, when the potential environmental impacts on humans and sensitive areas (wetlands, forests, natural habitats, etc.) are less adverse, site specific, few if any are irreversible, ESIA is not always required, some environmental analysis is necessary and some form of Environmental and Social Management Plan (ESMP) needs to be prepared with recommended measures to prevent, minimize, mitigate or compensate for adverse impacts.

The focus of this section is to suggest appropriate measures in order to avoid and/or minimize negative and enhance positive impacts of the proposed actions. An Environmental and Social Management Plan (ESMP), also referred to as an impact management plan, is usually prepared independently or as part of ESIA report. Depending upon particular requirements, the plan may be included in. On the other hand, if the activity has the potential to cause significant adverse impacts considered irreversible or unprecedented, and which extend beyond the physical footprint of the activity, comprehensive environmental and social impact assessment or full ESIA report, covering the full range of environment and/or social impacts, and environmental and social impact management plan is required. This has been practiced during the implementation of some AGP-II sub projects.

As a principal entity for implementation of the AGP II AF, MoA will also be responsible for the implementation of the ESMF including ES screening and preparation of other site specific safeguards instruments, and their implementation.The relevant woreda, regional and federal MoA units will be responsible for the safegaurds compliance of AGP-II subprojectsincluding the preparation of required ESMPs or ESIAs and the implementation of the tools. The Woreda and regional EPLAUA, and the regional AGP-CU Environmental and Social Safeguard Specialist at their respective level are responsible to review the ESMPs prepared by the implementing agencies. Woreda implementing agencies and EPLAUA may consult respective regional bureaus if there is a need for more technical advice than is available at the Woreda level.

When the screening report indicated that full ESIA is required, Regional AGP-II PCU and IA**Prepare** TOR and hire ESIA consultant. The ToR has to be reviewed both by the relevant competent agencies and the World Bank. Then the consultant prepares and submits full ESIA to the respective Regional Environmental Protection Authorities (REPA). REPA reviews the full ESIA (desk review and field Appraisal) and gives approval and issues environmental and social clearance (ESC) of subprojects for financing. In parallel, the client will also send the draft ESIA for the World Bank for further review and no objection.

When preparing the ESMP, the community participation is crucial since local knowledge is important in identifying, designing and planning the implementation of practical mitigation measures. It is especially important where the success of an ESMP depends on community support and action, both in implementing mitigation measures and monitoring their success.The content of the ESMPs will follow the requirements under the Ethiopian EFCCC's ESIA guideline documents and the World Bank OP 4.01 requirements.

An ESMP should be a short and concise document, perhaps only a few pages, and must contain the necessary sections as outlined below.

The main components of an ESMP are:

- summary of potential impacts of the proposal
- description of recommended mitigation measures
- statement of their compliance with relevant standards
- allocation of resources and responsibilities for plan implementation
- schedule of the actions to be taken
- programme for surveillance, monitoring and auditing,
- contingency plan when impacts are greater than expected and
- Decommissioning plan

In addition, the ESMP should contain commitments that are binding on the IAs. It can be translated into project documentation and provide the basis for a legal contract that sets out the responsibilities of the IAs. **The template for environmental and social management plan is provided in Annex 3.**

The ESIA report or also called environmental and social impact assessment (ESIA) should contain sufficient information to enable the authorizing agency to determine whether and under what conditions a proposed action should proceed.A full yet concise account should be given of the likely impacts of a proposal, the recommended measures for mitigating and managing them and the significance of any residual effects. The information contained in the report should meet the terms of reference established at the scoping stage of the ESIA process. The terms of reference set out the information that is to be submitted to the responsible environmental agency.

The format/ contents of an ESIS/ESIA report are provided in Annex 4.

Step (v): Conducting ESIA study

If the screening report for a project indicated that full ESIA is required, all concerned regional implementing agencies of AGP-II subprojects are responsible for ESIA. ESIA should be done by licensed ESIA consulting firm, as stipulated in the directive of EFCC. The responsibility of EPLAUA at regional level is to review the terms of reference for conducting ESIA, and later the ESIA reports, and give Environmental and Social Clearance. In both cases, the cost of the ESIA study is part of the budget of

AGP-II subprojects. The draft ToR and ESIA are also subject to the World Bank's review and no-objection.

Step (vi): Reviewing ESIA report by regional EPLAUA

The final step in this ESMF process is the review of the ESIA reports produced for AGP-II subprojects of environmental concern. This review should be conducted by the regional EPLAUA in the shortest possible time to avoid delaying AGP-II subprojects from implementation. The environmental and social management plan (ESMP) including RAP/ARAP and PMP prepared by the regional IAs should be reviewed by the regional EPLAUA. Both field appraisal and desk review shall be done by the regional EPLAUA. Use the field appraisal form (**Annex 7)** for the field appraisal.

Criteria for Safeguard approval

Two decisions can be made based on the ESIA of the AGP-II subprojects

1. If the ESIA is in conformity with the applicable Operational Policies of the World Bank and the environmental and social guidelines of Ethiopia, the subprojects will be granted an environmental clearance.
2. On the other hand, if the ESIA does not fulfill the Bank's Environmental and social requirements and the country's environmental laws and guidelines, the decision will be one of the following:
    - Request for supplementary or new ESIA report; or
    - Approval of the implementation of the subproject with condition; or
    - Rejection.

The regional EPLAUA should communicate the decision of the review of the ESIA report to concerned regional implementing agencies and regional AGP-CU as soon as possible. The regional AGP-II IAs should not implement the subprojects unless they get environmental and social clearance from the regional EPLAUA. The finance unit of each AGP-II implementing agencies which their subprojects have environmental and social concern and are required to prepare ESMP/ESIA report should not issue any payment unless the environmental and social clearance is attached with the request of payment.

The WB E-S Safeguard team will review project's ESIS/ESMP for guidance to confirm that the WB policies and standards at sub-projects are aligned. And if the sub-projects are involving land acquisition and relocation, the Bank team will review and clear the required instruments: Abbreviated resettlement action plan or resettlement action plan (RAP) or livelihood restoration plan (LRP), as appropriate. Whereas, for sub projects which are identified as '***subprojects of environmental and social concern'***, the WB team conducts implementation support monitoring and due-diligence supervision on the implementation of AGP-II sub-projects.

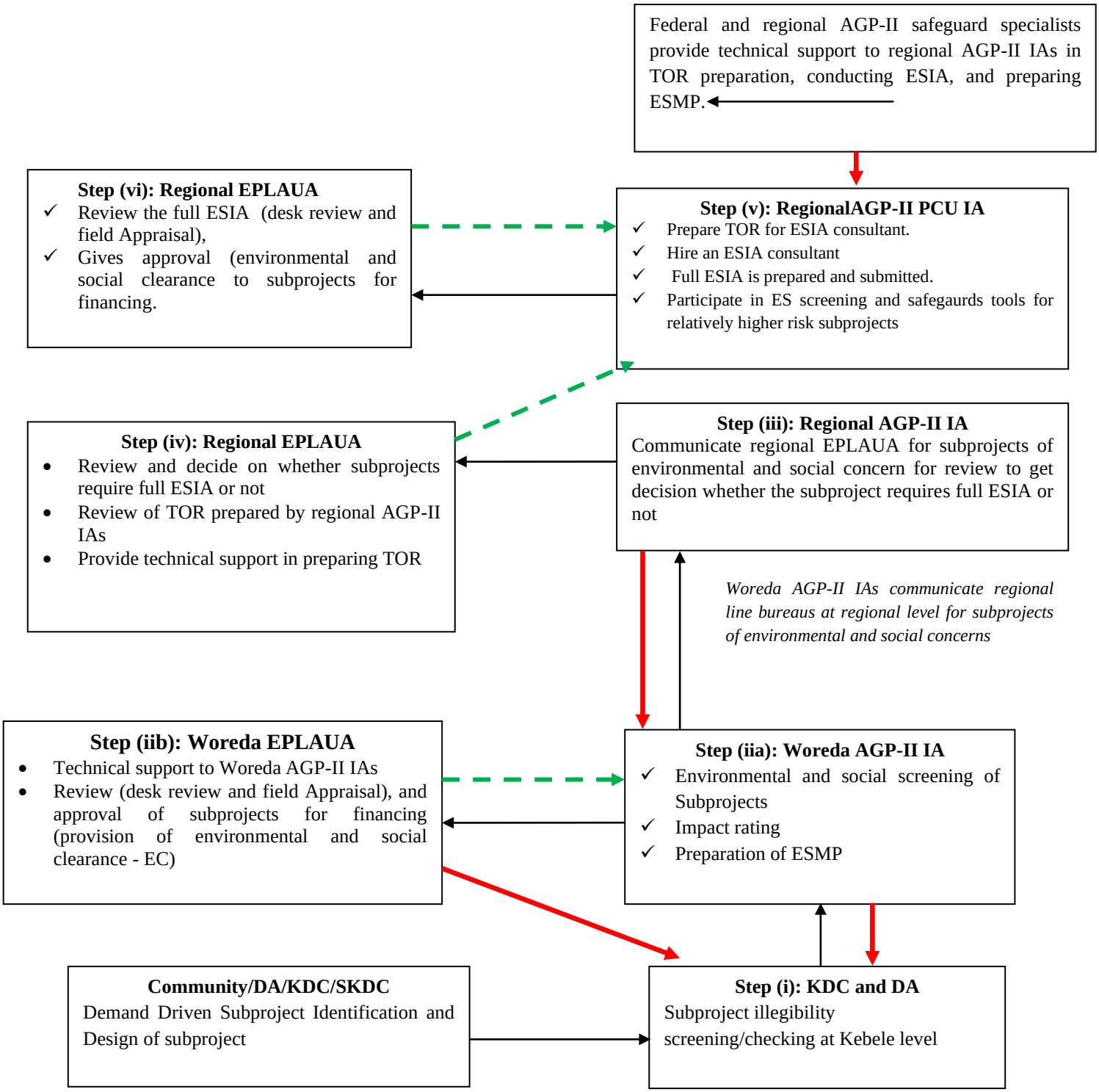

Fig. 2: Flow chart for the ESMF Processes and Procedures

Flow of Technical Support

Flow of review and Approval decisions

Flow of activity

6.3 Disclosure of ESMP/ESIA (Sub project Information)

Before the approval of AGP-II and additional financing subprojects, the relevant AGP-II I as at all level should implement all the correct screening, and impact rating procedures by involving the PAPs and other relevant stake holders. Depending on the results of screening, if preparation of Environmental and Social Management Plans (ESMP) is required, and full ESIA is required, these documents should be available for public review at a place accessible to local people and in a form, manner and language they can understand. In addition, the public will be invited for a meeting to comment on these reports, and their views and concerns will be incorporated into the ESIA and ESMP documents prior to their approval.

6.4. ESMF Implementation Arrangement

The implementation of the Additional financing of subprojects and the ESMF will take place through the existing government structures from the federal to the local or community level institutions. This will follow suit of the AGP-II parent program implementation structure (Figure 3 below).

Federal level implementation

The main organization responsible for implementation of this ESMF at federal level is the Ministry of Agriculture (MoA). The MoA, through the AGP-CU, will play a leading role in ensuring the proper implementation of the ESMF. It will ensure that the applicable GoE rules and regulations as well as World Bank Safeguard Policies and Procedures are enforced. Under the MoA, Agricultural Growth Program Coordination Unit (AGP-CU) is established to follow up the management as well as day-to-day implementation of the program. The Environmental and Social safeguard specialists within the coordination unit are responsible for following up the implementation of the ESMF.

Similar to the federal level, AGP Regional steering committee (AGP RSC) and technical committee (AGP RTC) have been established at regional level with the same function as that of the federal level indicated above but for matters pertaining to the regions.

Regional level implementation

At regional level, AGP Regional coordination Unit (AGP-RCU) under the Bureau of Agriculture (BoA) is established to follow up the management as well as day-to-day implementation of the program for matters pertaining to the regions. The BoA, through the AGP-RCU, plays a leading role in ensuring the proper implementation of the ESMF at regional level. It ensures that the applicable GoE rules and regulations as well as World Bank Safeguard Policies and Procedures are enforced. At regional level, Environmental Protection Authority (REPA) is responsible for ensuring the implementation of ESMF through review and approval of safeguard instruments, (especially ESIA), and to conduct environmental and social audit to ensure effective implementationof the ESMF. To this end, theAGP Regional coordination Unit (AGP-RCU) will allocate budget for REPA's activities.Similarly, the Environmental and Social safeguard specialists within the regional AGP coordination units are responsible for conducting environmental and social screening, preparation of ESMPs, or ESIA providing training, technical support, organizing experience sharing programs, for conducting supervision and monitoring of the implementation of the ESMF. For high risk subprojects, ex. SSI, construction of market centers, animal laboratories, pest

management, introduction of new species, road construction,) to the regional safeguard specialists will actively participate in ES Screening and preparation of ESMPs or ESIA as capacity at the Woreda level may not be enough to undertake the assignment. Similarly, the site-specific safeguards instruments for high risk subprojects will be also reviewed and cleared by the respective regional EPAs, unless and otherwise, they have officially delegated their respective Zonal or Woreda level structural counterparts.

Woreda level implementation

At woreda level, AGP woreda Steering Committee (AGP WSC) comprising of relevant offices is established to review and approve annual work plans and budgets, review implementation reports and ensure multi-sectoral coordination. AGP Woreda Technical Committee (AGP WTC) is also formed to give technical backstopping and supervision of the implementation of the program activities. The overall responsibility for supervision of the implementation of the ESMF will be that of office of agriculture, and IA.To this end, theAGP Regional coordination Unit (AGP-RCU) will allocate budget for beneficiary Woreda so that they could carry out ESMF implementation and compliance monitoring.Woreda level Compensation and Resettlement Committee (CRC) ensures the implementation of the RPF which is separate document updated to address resettlement related issues when implementing AGP-II subprojects. The detail roles and responsibilities of the CRC, and its membership composition is described in the same RPF document. The woreda EPLAUs, are responsible for review and approval of screening reports for subprojects which are not classified as high risk and ESMP documents within their mandate. Each beneficiary woreda will assign /delegate qualified safeguards specialists who will be oversee the impmenmetation of the ESMF. They are also responsible for monitoring and follow up, during ESMF implementation.

Kebele level implementation

Kebele Development Committees (KDCs) at Kebele and sub-Kebele levels are responsible to follow up and supervise implementation of the ESMF. The safeguards specialists to be delegated or assigned by each beneficiary Woreda will assist in ES screening subprojects as well as in preparation of safegaurds tools for subprojects whose riks are not high. The Kebele level Natural Resources Management Development Agent (DA) has the responsibility to ensure the implementation of the ESMF. Similarly, Kebele level CRC ensure the implementation of the RPF.

An indicative organogram of the implementation arrangement is shown in figure below.

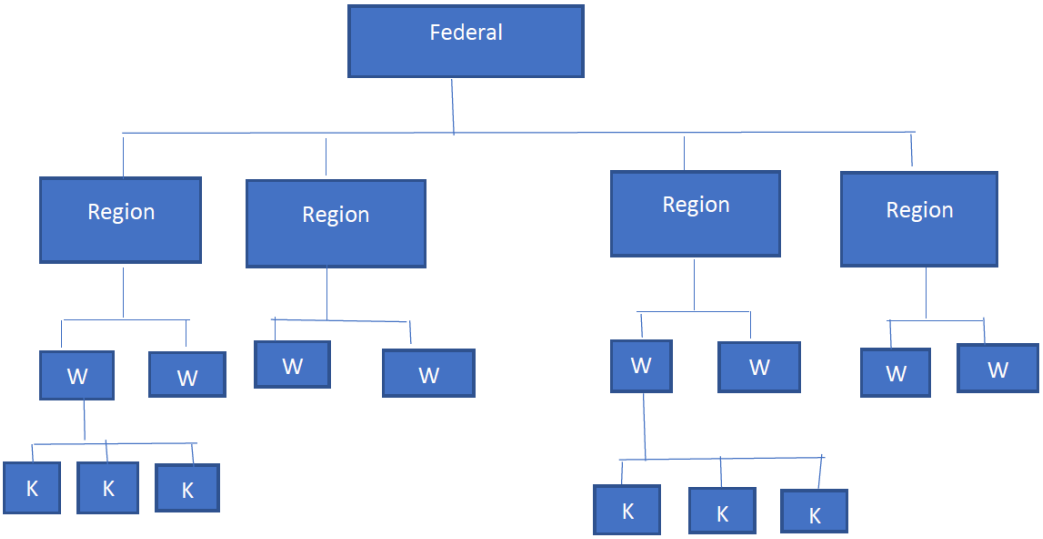

Figure 2: An indicative organogram. 'W' stands for Woreda and 'K' stands for Kebele. Note that not all intervention regions, woredas and kebeles are included in figure because of space limilations.

6.5. ESMF ComplianceMonitoring and Follow Up

The purpose of environmental and social process monitoring is to check whether the different safeguard instruments (ESMP, ESIA, RAP/, and PMP) are prepared, reviewed, and approved; the quality of the safeguard instruments prepared; the implementation of the mitigation measures identified and planned in the safeguard instruments; the participation of the community and other stakeholders in all these process; capacity building processes; reporting; and others. The monitoring is done by AGP-II implementing agencies at Woreda and regional level implementing the ESMP, RAP/, and PMP; woreda and regional EPLAUA; regional and federal AGP-II environmental and social safeguards specialists; and the community. Monitoring will be carried out in accordance with the ESMP and other safeguard instruments prepared for each subproject.

The data collected during monitoring is critical in ensuring that the mitigation measures, priorities listed in the ESMP, are implemented as approved and that they are effective in addressing the impacts. It also ensures that the project complies with the existing environmental standards and limits and mitigation measures recommended in the ESMP are implemented and maintained throughout the operational life of the project. Monitor indicators that measure the impacts on the environment and communities in the context of mitigation measures are critical to ensure fulfillment of all the commitments made in the approved ESIA. Monitoring is also important to keep track of changes that may happen in the environment and communities because of other global and local changes, such as changes in water availability due to droughts, economic crisis and or in a migration. After the project is completed, basic monitoring efforts will continue during project remediation. After the required safeguard instruments (ESIA, and/or ESMP,and/or PMP, and/or RAP/ARAP prepared, reviewed and approved, and environmental and social clearance received from EPLAUA, the relevant implementing agencies (either

at woreda or regional or both level) which the subproject refers to are the main responsible bodies to implement and ensure the implementation of the mitigation measures identified and planned in the ESMPs and/or ESIAs RAPs, and PMP. The community has also contribution in the implementation of mitigation measures especially watershed management subprojects and others are implemented either in cash, or labor or both.

Local authorities are normally required to submit quarterly and annual reports, regarding the implementation of activities proposed in the ESMP/ESIA and PMP. These quarter and annual reports should capture the experience with implementation of the ESMF procedures. The purpose of these reports is to provide:

- A record of experience and issues running from quarter-to-quarter/year-to-year throughout the subproject that can be used for identifying difficulties and improving performance, with regard to implementation of ESMF; and
- Practical information for undertaking an annual review.

In view of the significant nature of the impacts of some of the activities of AGP-II, a robust system of compliance monitoring and reporting should be in place. Quarter and annual reports should be prepared at Woreda, regional and federal levels. At *Woreda level*, quarter and annual report will be prepared by the Woreda IAs. The objective of the report is to provide a feedback on the activities of and observations on the implemented AGP subprojects over the review period in the Woredas. This report will be submitted to regional EPLAUA and Regional AGP-CU. Similarly, at regional level, the regional AGP-II CU. Then, the Federal AGPCU, compiles the reports from the RAGPCU, to provide a feedback on the activities of and observations on the implemented AGP-II subprojects over the review period in the region.

The regional AGP-CU Environmental and Social Safeguard Specialist will compile the reports submitted from the wereda PCU, prepares quarterly and annual regional ESMF performance reports and submit it to the federal AGP-CU.At the federal level, the quarterly and annual reports will be compiled and prepared by Environmental and Social Safeguard Specialists of Federal AGP-CU and will be submitted to the World Bank country office.Besides, the World Bank, as necessary, will periodically conduct reviews of the implementation of the ESMF, RPF, and other safeguard instruments under AGP-II. The woreda and regional EPLAUA also conduct environmental and social audit periodically.

Moreover, final evaluation will be done by independent consultant in order to determine whether the mitigation measures designed into the sub-projects and household interventions have been successful in such a way that the mitigation measures are properly in place and environmental and social condition positively maintained. **See annex 9** for the detail description of monitoring and evaluation of ESMF implementation, and **the contents of a monitoring report are provided inAnnex 9.**

6.5.1. Annual Review

The objectives of conducting annual reviews of ESMF implementation are two-fold:

- to assess project performance in complying with ESMF procedures, learn lessons, and improve future performance; and

- to assess the occurrence of, and potential for, cumulative impacts due to project-funded and other development activities. There may be potential cumulative environmental and social impacts that would arise as a result of implementing AGP-II subprojects and other development interventions. Unless the issue is addressed at the earliest stage, it may cause a serious problem in terms of environmental and social sustainability of the projects. Therefore, during the process of conducting environmental and social impact assessment and preparation of safeguard tools (Screening, ESMP, ESIA, PMP etc), reference should be made to the '**IFC's Good Practice Hand Book: Cumulative Impact Assessment and Management'.**

The annual reviews are intended to be used by project management to improve procedures and capacity for integrating natural resources and environmental/social management into project operations. They will also be a principal source of information to Bank supervision missions. Annual reviews should be undertaken after the annual ESMF report has been prepared and before Bank supervision of the Project, at the closing of each year of the project. It is expected that each review would require **3-4** weeks of field work (interviews, examination of subprojects), and that the review report would be completed within 2 weeks of completing the field work. The principal output is an **annual review (audit) report** that documents the review methodology, summarizes the results, and provides practical recommendations. Distinct sections should address a) ESMF performance and b) cumulative impacts.

It is expected that these reviews will be carried out by an independent local consultant, NGO or other service provider that is not otherwise involved in the project. Copies of the annual review report should be delivered to project management, to each district office responsible for appraisal, approval and implementation of subprojects, and to the Bank. Project management (federal, regional or Woreda) may also host federal, regional or woreda workshops to review and discuss the review findings and recommendations.
The objectives of ESMF monitoring and follow up are:

- To alert project managers by providing timely information about the success or otherwise of the environmental and social management process outlined in this ESMF in such a manner that changes can be made as required ensuring continuous improvement to AGP-II environmental and social management process.

- To make a final evaluation in order to determine whether the mitigation measures incorporated in the ESMPs have been successful in such a way that the pre-project environmental and social condition has been restored, improved upon or is worse than before and to determine what further mitigation measures may be required. Two kinds of monitoring:

6.5.2 Environmental and Social Auditing

Environmental auditing can be defined as "a systematic, periodic, documented and objective review of project activities related to meeting environmental requirements". An audit should assess the actual environmental impact, the accuracy of prediction, the effectiveness of mitigation and enhancement measures, and the functioning of monitoring mechanism. Further, the review should be systematic and objective. The objectives of environmental and social audits are to:

- Verify compliance with environmental and social requirements;
- Evaluate the effectiveness of environmental and social management plan prepared; and
- Assess risk from regulated and unregulated practices.

Environmental and social auditing has been universally accepted as one of the components of Environmental and Social Management Plan (ESMP) and should be undertaken during construction, operation, and upon the completion of the project decommissioning as well in the entire life of the project.The responsible institution to undertake environmental and social audit is the regulatory body which is the environmental protection authority/agency at various level or an indeppendant consulting firm hired by the IAs. For AGP-II subprojects, regional and Woreda level EPLAUA are responsible to undertake environmental audit for subprojects which are reviewed, approved and implemented at regional and Woreda level respectively. Environmental and Social audit can be done once in a year or every two years. The audit report should be communicated to the implementing agencies which the subproject refers to and to the regional AGP-CU. The regional AGP-CU should submit the audit report to the federal AGP-CU. **The contents of an audit report are provided in Annex 10.**

7. Capacity Building, Training and Technical Assistance

Effective implementation of ESMF requires technical capacity in the human resource base of implementing institutions and logistics. Implementers need to understand inherent environmental and social issues and values and be able to clearly identify their indicators.

7.1. Institutional Capacity Assessment and Analysis

In collaboration with CDSF, Trainings of Trainers (ToT) on topics related to implementation of environmental and social safeguard issues (ESIA, SIA, RAP, LRP etc) is given every year to federal and regional environmental and social safeguard specialists working in the AGP-CUs, Environmental focal persons represented from REPAs and IAs (Irrigation/ water and trade bureaus). Then the training is further cascaded to zonal, woreda TC, AGP focal persons from woreda EPLAUA and KDCs. However, since there is high trained staff turnover, the capacity building training must be given continuously.

As indicated in the institutional arrangement part of section 6 of this ESMF, all the institutions at national, regional, Woreda and local (Kebele) level are responsible for the implementation of the ESMF. However, lessons learnt from the implementation of ESMF so far indicated that there are significant shortcomings in the abilities of local, woreda and kebele level implementers to effectively implement this ESMF. Ministry of Agriculture, regional and Woreda EPLAUA have an overall key responsibility of ensuring that the project complies with Ethiopian environmental and social laws, and that the project adheres to this ESMF. During the previous implementation of AGP-II, a number of training were conducted in collaboration with CDSF: Trainings of Trainers (ToT) on topics related to implementation of environmental and social safeguard issues (ESIA, SIA, RAP, LRP, IPMp etc) given every year to federal and regional environmental and social safeguard specialists working in the AGP-CUs, Environmental focal persons represented from REPAs and IAs (Irrigation/ water and trade bureaus). Then the training is further cascaded to zonal, woreda SC, and TC, AGP focal persons from woreda EPLAUA and KDCs.
However, since there is high turnover of trained staff, for the successful implementation of the ESMF during the period of AGP-II AF implementation, continuous capacity building training awareness creation program regarding the mechanisms for implementing the ESMF need to be provided to the various stakeholders operating at different levels (especially at woreda and kebele level) implementing AGP-II subprojects.

7.2. Proposed Awareness and Training Programs

Awareness creation (A), training (T) and sensitization (S) will be required at different levels of implementation. These levels are federal implementing agencies' experts, regional decision-making bodies, regional TC members, regional implementing agencies' experts, regional AGP-II coordination units' specialists, Woreda SC & TC, Woreda sector experts, Kebele development agents and stakeholders at grass root level. The training, awareness creation and sensitization will be customized according to the levels of each of these groups to ensure adequacy in implementation of the ESMF.

Focus of the training

- National environmental and social legal, policy and administrative requirements;
- The World Bank environmental and social safeguard policies and how to comply with them;
- ESMF process, procedures, and institutional arrangement to implement the ESMF,
- Environmental and social screening of subprojects and ESMP preparation;
- Environmental and social impact assessment methodologies;
- Reporting, monitoring and follow-up of ESMF
- Pest Management Plan including IPM concept, principle, approaches and applications;
- RPF and RAP/ preparation, implementation and monitoring.

Proposed approaches to training and Capacity building

To reduce cost and duplication of effort, trainers will be trained to train others. The federal AGP-II coordination unit will organize a TOT on ESMF tools such as ESMP, ESIA, RPF, RAP/ARAP, LRP, PMP and IPM to federal environmental and social safeguard specialists and to regional AGP- II environmental and social safe guard specialists, focal persons from REPA. Regional participants of the training will cascade the training to regionalIAs, zone and woreda EPLAUA experts and IAs. Then woreda and zone trainees provide the training to Development Agents (DAs). The DAs provide the ESMF and other related trainings, awareness creation and sensitization to Kebele Development Committees (KDCs). Independent consultants also participate in providing specific skill training like environmental and social impact assessment processes and methodologies for ESIA. Resources persons from FAO Ethiopia country offices, MoA, and others can be used in providing PMP and IPM trainings. Training on PCR assessment and management will be provided by resources persons from Authority for Research and Conservation of Cultural Heritages (ARCCH).

Table 22 Type of training and target groups for the effective implementation of ESMF

Trining Topic	**Target groups**	Estimated budget for training (in Birr)
ESMF of the Project, Environmental and Social Assessment (ESIA); ESMP, IPMP preparation, implementation, monitoring and reporting	• Federal and Regional Environmental and Social Safegaurds Specialists • The Woreda Safegaurds focal persons • Development agents at Kebele Level • Other relevevant staff • AGP-RSC & TC, Regional AGP-CU • Regional, Zonal and Woreda EPLAUA • Community (KDCs • NGOs, CSOs • Woreda and Zone IAs experts, WSC and TC	600,000
RPF and RAP/ preparation, implementation,	• Federal and Regional	200,000

monitoring and reporting; community participation and consultation methods	Environmental and Social Safegaurds Specialists • The Woreda Safegaurds focal persons • Development agents at Kebele levels • Other relevevant staff • AGP-RSC & TC, Regional AGP-CU • Regional, Zonal and Woreda EPLAUA • Community (KDCs • NGOs, CSOs • Woreda and Zone IAs experts, WSC and TC,	
Total		800,000

7.3. Technical Assistance

For effective implementation of the ESMF, technical assistance is required at region, woreda and local (Kebele) level. To ensure that local communities, DAs, Woreda and regional government authorities and experts carry out their responsibilities as set out in **section 5** of this ESMF to implement the ESMF at all level, a general technical assistance will be given by federal and regional AGP environmental and Social safeguard specialists, Woreda and regional EPLAUA. Regional AGP-II IAs provides technical assistance to Woreda line offices. Similarly, Woreda AGP-II IAs, SC and TC provide technical assistance to local level AGP-II implementation. This assistance includes assessment of training effectiveness; monitoring of the implementation and effectiveness of the mitigation measures identified and planned in the ESMP, RAP and IPMP; assessment of using the ESMF checklist; monitoring and supervision of the ESMF implementation. This will be done in quarterly bases and when it is required. Besides the general technical assistance, a specific technical assistance will be given for local communities&DAs, Woreda and regional government authorities and experts if specific technical knowledge is required when preparing, studying, designing and approving more challenging subprojects; preparing ESMP, PMP, and RAP/; and other assistance as required.

The budget for specific technical assistance is part of the subproject whereas the budget for general technical assistance and for training is planned and included in this updated version of ESMF implementation budget in **table 23.**

7.4 ESMF Implementation Budget

The ESMF implementation budget for training and workshops, general technical assistance, and environmental and social review for activities brought in due to the AF is estimated and presented in table 23 below. The budget for preparation of safeguard tools and implementation of mitigation measures, is part of the subproject cost and is not included here.

The total amount of budget required from the AF resources, for the implementation of the AGP IIAF ESMF related with capacity building, monitoring and conducting review workshops is estimated to be **Birr 5,194, 756** (**Five million one hundred ninety four seven hundred fifty six birr). which is equivalent to 159,572 USD**. This amount is on top of the ETB **52.540** million allocated for AGPII ESMF parent program implementation and is under utilization.

Table 23 Estimated Budget for ESMF Implementation from the AF resource (Capacity Building and monitoring and technical support)

S.No	Activities	**Budget in BIRR**		
		2021	2022	Total
1	Capacity Building Training (CD) on Environment and Social Management			
1.1.	Training of trainers (ToT) on Environment and Social Management CD at Federal level.	338,024	338,024	676,048
1.2.	Training of relevant experts at Regional, woreda and kebele level	1,604,817	1,604,817	3,209,634
2	Monitoring, Supervision and technical support on ESMF implementation			
2.1.	Federal level	46,833	46,833	93,666
2.2.	Regional and Woreda level	212,664	212,664	425,328
3	Conduct bi-annual review workshops on Environmental and Social Management at federal level.	395,040	395,040	790,080
Total		2,597,378	2,597,378	5,194, 756

8. Consulation with Stakeholdersand Information Disclosure

The keyfindings of the consultations with key stakeholders and the informatin disclosure approaches are briefly outlined in this chapter.

8.1. Federal Level Consultation

Pesticide Product Management

In Ethiopia plant protection and pest management has a long history. In the MoA pest management activities started in 1940 to control Desert Locust. Further, the service of pest management included other pests. Currently, the department responsible for pest and pesticide management is the Plant Protection Directorate which is found within the Plant Heath Regulatory Directorate General of the MoA.
Open ended questions regarding the status of pest and pesticide management were distributed to experts working within the Directorate General, and to the Director of Plant Protection Directorate, the responses given to the questionnaires are summarized below.

Capacity building trainings: Several trainings given to plant protection experts at different levels of government structures in the country. Agricultural Universities have also been giving specialized graduate level program in crop protection related disciplines.
Pesticide registration and regulation is administered properly by the team established in the ministry within the Plant Health Regulatory Directorate General, in cooperation with agricultural Research Center. There are no official standard or guideline with regard to pest threshold level in the country. There are no WHO class IA and IB pesticides currently registered for agricultural use in Ethiopia but there are many classes II pesticides that are currently registered to be used in Ethiopia.

Pesticide storage and handling: The MoA has pesticide storage place at national level, and there are pesticide storages at regional level. But the standard is not uniform at all levels. Standard pesticide storages are very few in the country. Pesticide handling is poor because of lack of facility and knowledge gap of store keepers.
Pesticide transportation is carried out separately**.** However, still not uniformly held at all levels. It requires refreshment training to the relevant personnel.
Pesticide disposal: due to the lack of special equipments and shortage of skilled human power, disposal is a problem in the country. With regard to **pesticide licensing system for traders (importers, local dealers, retailers):** License is issued to importers by the federal MoA, and local dealers and retailers get license from regional bureau of Agriculture, and these licensing systems is clearly stated in the Proclamation No. 674/2010.
Challenges and gaps in implementing IPM and pesticide and pesticide product management:

- Limited number of trained human power.
- Absence of a person specialized in IPM.
- High staff turnover.
- Weak organizational structure in regional bureaus (few plant protection experts).
- The lack of awareness of the different stake holders (farmers, experts, justice, police and others.
- Poor facilities (storage, transportation trucks, packaging and disposal equipments).
- Lack of budget to dispose obsolete pesticides.

To strengthen the implementation of safe use of pesticides in the country the following measures are recommended:

- formulation of strong IPM policy and clear implementation action plan is required.
- replacing conventional old generation pesticides by new generation pesticides, which are relatively environmentally friendly.
- Conduct continuous trainings to plant protection experts working at all levels, regarding safe handling, storage, and transporting of pesticides.
- Establish standard storage facilities at National and Regional level.
- Finalize the pesticide regulation and guideline to implement the proclamation.
- In addition, federal level consultation with Archaeology and Cultural Heritage Researcher from Authority for Research and Conservation of Cultural Heritages (ARCCH), Cultural Heritage Research Directorate on the matter related to the Physical Cultural Resources. The summary of these consultations is presented below.

Consultation with EIAR team on Agricultural Research

Regarding Procedures and Safety guidelines: It is mentioned that the EIAR has already established a code of practice that the researchers have to follow to meet safety standards required under the workplace of laboratories, chemical store and experimental fields, etc.

Physical Cultural Resources Management

Discussion was conducted with Director of Heritage Research Directorate in the the Authority for Research and Conservation of Cultural Heritage indicated that, during the implementation of AGP-II sub projects, there is no coordination / integration between the AGP-II IAs and the cultural and tourism offices. In the future, to protect the heritages of the country, active participation of local communities during the planning stage of the projects and the participation of cultural and tourism offices found at zone and woreda level in the technical committees would be essential to protect our physical cultural resources

8.2 Regional Level Consultation

The participants from BoAs and regional plant health clinics mentioned that the environmental and health risks and impacts due to the pesticide use are becoming critical. Although training is given with regard to pest management, at regional level, practically there is unsafe use of the pesticide by the farmers as there is limited awareness among the framers in using IPM and safe management of pesticides. Farmers get pesticide supply from the cooperatives, private sectors and some non-licensed traders, which is of low quality. To control this issue regulatory authorities are established in regions. Enough protective measures are not used by the framers.

The participants recommended the following action points to be considered for the future especially during AGP-II AF period: Effective Implementation of IPM, for example if all farmers do their ploughing at the same time in an integrated manner, there will not be any chance for the spread of pests. If

the issue of pest is out of control, training must be given to farmers, and spraying of pesticides should be done with precaution by using safety clothes and other safety measures Farmers get access to buy the necessary safety clothes and equipments, from farmers' service centers. Establishment of farmer field schools (FFSs); strengthening the institution working on pest and pesticide product management like BoA, quarantine and regional plant health clinics; establishing regional forum among sectors/institutions working on pest and pesticide management.

8.3. Woreda Level Consultation

According to the response from Woreda TCs, farmers use both cultural, mechanical and other IPM practices, and pesticide to manage pests including weeds. However, most of the time, they use pesticides. They purchase pesticide from cooperative unions and other non-licensed pesticide traders. The main challenges related to pesticide use are the cost of chemicals is becoming high and farmers buy from non-licensed and unsafe pesticide, farmers have limitation in using IPM; most of the time farmers do not use the proper rate of pesticides; and farmers practices unsafe pesticide and pesticide product management resulting in environmental and human health risk due to limitation in extension service in this regard.

The participants of the consultation recommended the following solution for the coming period of AGP-II AF implementation : strengthening the crop protection extension services on the use of IPM approaches and safe use of pesticide; conduct continuous capacity building training and awareness creation activities on IPM and the safe use of pesticide for woreda experts, DAs, and farmers; strengthening the mechanism for the control of the non-licensed pesticide traders.

During AGP-II implementation period, the impacts of subprojects on physical cultural resources were captured during the public consultation period. For example, in Welmera Woreda, of Oromia region, the community has given the information that the proposed location of SSI is an area where Epiphany is celebrated annually, and the location of the SSI was changed to other places. During consultation at woreda level, it is recommended that, the regional, zonal, and woreda level cultural and tourism bureau offices shall be consulted during ESA and review of the ESA reports. Focal person from the bureaus and offices shall be represented being a Technical Committee member.8.4. Subproject screening and ESMP preparation.

Woreda TCs indicated thatmain challenges in implementing the ESMF at Woreda level are: limitation in awareness on responsibilities in implementing the ESMF as required by implementing agencies considering ESMF is the responsibility of EPLAUA; high turnover of trained staffs on ESMF.The participants forwarded the following recommendations for AGP-II-AF: conduct continuous training on safeguard instruments to IAs, woreda,**KDC and DAs. SC members,** strengthening the environmental and social monitoring system (monitoring and support of ESMF implementation), allocating enough amount of budget for the implementation of ESMP including RAP/RPF.

8.4. Implementation of Mitigation Measures and Monitoring its Implementation

The implementation of the mitigation measures identified and planned in the ESMP has improved during the implementation of AGP-II sub projects. There is a progress in implementing the mitigation measures in SSI, Market centers, ponds etc. However, the following limitations were raised with regard to successful implementation of mitigation measures:

- Implementing agencies focus mainly on the physical implementation of subprojects with limited attention to the implementation of the ESMP;
- No specification for the mitigation measures on the Bill of Quantities (BoQ) and not assigning cost for the mitigation measures to be implemented. Though the mitigation measures costs are estimated like in road subprojects, these costs are not specified in the bill of quantity (BoQ) and are not entered in to the contract agreement with contractors. Environmental clauses are absent for the implementation of the mitigation measures when entering contract agreement with contractors. This leads some mitigation measures that need to be implemented by the contractor during the construction time not implemented;
- Contractors also have limited attention to and awareness about the environmental and social safeguard issues. Though there are agreement in some cases between the contractor and the client on the implementation of environmental and social mitigation measures, the construction supervision engineer may not strictly monitor the implementation of these, and left not implemented;
- Due to low sector integration: some mitigation measures like implementation of watershed management activities (which could have been implemented by office/bureau of agriculture) are not implemented in integration with the small-scale irrigation and rural road subprojects;
- Some implementing agencies like water bureau fear that mitigation measures cost (environmental and social costs) may increase the cost of the irrigation subprojects that may lead to the subprojects are not financially feasible;
- Some ESMP reports lack quality and the mitigation measures may not be implementable at the ground.

To reverse this situation, the following action points are recommended by the participants:

- ✓ Continuous training on ESA tools (ESIA, ESMP, RAP, LRP, IPMP etc) should be given to experts (water/ irrigation, trade bureaus, EPLAUs, DAs, KDCs, etc)
- ✓ The mitigation measures indicated in the ESMP should be specific and implementable.
- ✓ Similar to other subproject costs, the cost of each mitigation measures should be specified and be included in the contract agreement through environmental clauses;
- ✓ Mitigation measures that may be implemented by the community contribution like soil and water conservation activities and other sectors, need to be identified and communicated to the relevant sectors found at Woreda and regional level, and they have to consider them as part of their action plan;

- ✓ Sectors (BoAs, EPLAUA, AGP CUs, water/irrigation bureaus and road authorities) operating at different levels need to be integrated each other, for effective implementation of the mitigation measures. Formal communication system among implementing sectors should be established in implementing the ESMF;
- ✓ Implementing agencies should implement monitoring activities integrating with regular subproject implementation monitoring. The implementing agencies need to establish systemic environmental and social monitoring;
- ✓ If it is possible, it is better to recruit an environmentalist for regional implementing agencies that have environmental and social concerns like road bureaus;
- ✓ EPLAUAs at regional and woreda level shall work to enforce the environmental and social laws for those resistant to the implementation of the ESMF. They should also work fully to monitor and audit the ESMF performance;
- ✓ Financing institutions should not do any payment for construction activities unless the implementing agencies received environmental and social clearance certificate from the woreda EPLAUAs for ESMP, and from regional Environmental Protection Authorities for ESIA.
- ✓ Continuous awareness creation program should be given for decision makers;
- ✓ Continuous monitoring and providing of technical support at all levels should be conducted for the effective implementation of the ESMF.

8.5. Management of Social Safeguard Issues

There is limitation in managing the social safeguard issues like land acquisition and property losses, and water user conflicts between the upstream and downstream communities when implementing small-scale irrigation subprojects. Some respondents especially from the regional water resources development bureau reflected that it is difficult to identify the exact location of irrigation infrastructures like main and secondary canals during the feasibility study time in which the ESA is one so that it is not possible at this time the exact PAPs and quantify the amount of losses and the amount of compensation to be paid. In case of rural feeder road construction and market center development infrastructure subprojects, the social safeguard issues related to land acquisition and property losses were are managed but there is limitation especially in carrying out the socio-economic survey and preparing RAP/, and documenting it as stipulated in the ESMF.

Regarding the social safeguard issues related to water user conflict between the upstream and downstream communities; there is also limitation in managing this because the ESA did not address these issues as required which is caused by mainly capacity problem in defining the scope of the ESA and consulting the communities and incorporating their ideas in the subproject design. Most of the time, water balance is not done during the feasibility and design stage. For those subprojects which water balance is done, there is limitation in implementing it.

To reverse the situation, the participants recommended that proper scoping should be done and the areas of concern/influence should be explicitly articulated in the TOR for the ESA; the socio-economic survey should be properly done and RAP/ should be done, and documented in whatever cases; for river diversion subprojects, the potential PAPs, the upstream & downstream communities including the communities in the command areas has to be consulted and the subprojects should address the interest of all of these

parties. For this, it is better to follow basin approach rather than subproject approach when implementing SSI subprojects. .

8.6. Benefits and Gaps/ Challenges of ESMF Implementation during AGP-II Implementation

For the preparation of the ESMF for AGP-II AF, consultation of AGP-II stakeholders were held in the three AGP-II intervention regions(Oromia, Amhara and SNNP) with experts and process owners of AGP-II implementing agencies including bureau water resources development, bureau of road, bureau of Agriculture, bureau of marketing and trade, Bureau of EPLAUA, and regional plant health clinics. The regional level AGP coordinators have also participated on the stakeholder consultation.

The consultation focused on the implementation the ESMF with respect to experience of the ESMF implementation during AGP-II implementation period; the challenges/gaps encountered in implementing the ESMF in this same period of implementation; and solution/action points to be taken for the coming AGP-II implementation. Based on this, the following points/issues were raised by the participants of the consultation, and their views were captured:

Benefits that the ESMF implementation has brought during the AGP-II implementation

Participants of the regional level stakeholder consultations have commented the following benefits that the ESMF has brought during AGP-II implementation time.

- ✓ The process, procedures and institutional arrangement set in the ESMF to address the environmental and social safeguards issues are clear and helped us to consider the same though there are some limitations. The capacity building activities at different level on the ESMF also enabled us to consider the environmental and social issues when implementing subprojects. This helped us to consider environmental and social safeguards issues more deeply in all sectors that are implementing AGP than before due to the increased awareness on the ESMF;
- ✓ In the earlier time, the environmental analysis was done by the environmentalist only, but at this time, it is becoming a multidisciplinary work though there is limitation;
- ✓ The social safeguards issues are also getting attention for public subprojects which was not before;
- ✓ For those subprojects for which proper environmental and social safeguards issues are addressed, the ESMF has avoided unfeasible subprojects, avoid social conflicts (brought social sustainability), and the ESMF considered as a project management tool has improved project design to address sustainable development;
- ✓ Due to the implementation of the ESMF to sub projects, social conflicts avoided, land loss by community reduced, forest area protected, water and soil conservation activities improved …etc .The infrastructure sub projects are designed in a sustainable way.

Gaps / challenges Identified during the Implementation Of AGP-II Safeguard Implementation

The participants identified the following general gaps during the implementation of the ESMF;

- Limitation in awareness, and misconception by implementing agencies that environmental and social consideration delay subproject implementation;

- In Oromia region, the woreda BoA (AGP coordination office) and the Woreda EPLAUA focal persons are not participating. Because, the review and approval of ESMPs is conducted at zonal level, and this created a gap in identifying the correct mitigation measures and in preparing quality ESMPs.
- Due to the lack of consistent monitoring and evaluation in construction of roads, the quarry sites are not returned to their original state and resulted in loss of life of humans and livestock **and** Problem of bulk excavation and dumping it on the canals.
- Long and complicated procurement process delayed implementation of project activities.
- Limitations in implementing the mitigation measures identified in the ESIAs/ESMPs. B/se it is not included in the agreement document, issued to the contractor.
- The lack of field appraisal during the review of safeguard instruments, at woreda level.
- Lack of proper community consultation.
- Limitations in properly completing and documenting of social safeguard documents.
- After the safeguard instruments are reviewed and commented by the respective environmental protection authorities, a delay in re-submitting the corrected documents occurs and this has resulted in the delay of the commencement of project activities.
- The mismatching/contradiction between ESMF procedures and the Ethiopian EIA laws.
- Lack of integration between IAs, regulatory bodies and AGP- coordination units.
- Lack of continuous monitoring and support about effective implementation of mitigation measures.

Other generic recommendations made by the stakeholders are listed below:

- ESA should be conducted during the planning/ design phase of the project in order to predict the potential adverse impacts and to propose their associated applicable mitigation measures at the earliest stage.
- The concerns and views collected during consultation held with the local community and other relevant stake holders should be used as an input to the design of projects.
- The Screening, review and approval of ESMPs has to be conducted at woreda level and the review and approval process of full ESIA documents should be done by the respective regional EPAs.
- Desk review and field appraisal of safeguard instruments should be conducted both at Woreda and regional level, before environmental clearance is issued.
- The budget for implementing mitigation measures indicated in the ESMP should be allocated from the AGP-II AF sub projects implementation funds and this has to be planned as part of project implementation budget.
- Sector AGP-II implementing agencies like trade, Bureaus, and water bureau/Irrigation agencies need to have basic training on Safeguard tools (ESIA, ESMP, RAP, LRP) and implement the environmental and social management of their sub projects according to the updated ESMF, RPF and SA documents.
- Training regarding IPMP, and proper handling of pesticides should be given at all levels (Region, woreda, community (kebele level). A copy of the ESA study (ESIA/ESMP) should be sent to the IAs and conducting of continuous monitoring and technical support is required to ensure the implementation of the mitigation measures indicated in the ESMPs.

8.7. Public Disclosure of the ESMF

The World Bank policy procedure (OP 4.01) requires that for "all Category A and B projects, the borrower consults project-affected groups, local non-governmental organizations (NGOs), Civic Society Organizations (CSOs) and other stakeholders about the project's environmental aspects and takes their views into account. As Category B project, the updated version of this ESMF for AGP-II Additional Financing sub projects will be publicly disclosed prior to project appraisal.

Similarly, the Ethiopian legislations and guidelines also address public consultation and disclosure. The Constitution itself specifies that "People have the right to full consultation and to the expression of their views in the planning and implementation of environmental policies and projects that affect them directly." However, these legislations and guidelines include neither clear requirements nor arrangements for consultation and disclosure, but rather recommendations. Moreover, Ethiopian legislations tend to be less stringent than Bank policies as regard to consultation and disclosure. However, there is no limitation in the Ethiopian legislation as to the extent and scope of consultation and disclosure, nor as to who should be consulted.

As a result of this procedure, the community, the Kebele Development Committee (KDC), the Woreda AGP-II SC and TC; regional AGP-II TC, and other interested parties are consulted during the preparations of this ESMF for AGP-II parent program. This updated version of the ESMF will also be disclosed to all of these stakeholders at their level and at the national level disclosure workshop; and at the MoA website. It will also be disclosed at the Bank's external website prior to project appraisal.

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Technical Annexes

Annex 1: Safety of Dams

The Borrower will engage experienced and competent professionals for the supervision of the design and construction of new dams,7 and require the owner of the dam to adopt and implement dam safety measures during the design, bid tendering, construction, operation, and maintenance of the dam and associated works.

2. The dam safety requirements set out in this Annex apply to:

(a) "Large dams" which are defined as in OP4.3 of the Bank;

(b) All other dams regardless of size or retention capacity (referred to as "small dams") that (i) could cause safety risks, such as an unusually large flood-handling requirement, location in a zone of high seismicity, foundations that are complex and difficult to prepare, retention of toxic materials, or potential for significant downstream impacts or (ii) are expected to become large dams during their operating life.

3. The dams referred to in paragraph 2 require:

(a) Reviews by an independent panel of experts (the Panel) of the investigation, design, and construction of the dam and the start of operations;

(b) Preparation and implementation of the following detailed plans: a plan for construction supervision and quality assurance, an instrumentation plan, an operation and maintenance plan, and an emergency preparedness plan;

(c) Prequalification of bidders during procurement and bid tendering; and

(d) Periodic safety inspections of the dam after completion, and implementation of measures required to address safety deficiencies.

4. The risks associated with a dam are design and situation specific, and will vary depending on structural components, socioeconomic factors and the environment within which the dam is being constructed and will operate. Application of the requirements set out in paragraph 3 will reflect these considerations, and be proportionate to the size, complexity and potential risk of the dam.

5. Where a dam does not fall into the categories set out in paragraph 2, dam safety measures designed by qualified engineers in accordance with GIIP will be adopted and implemented.

6. The Panel referred to in paragraph 3 above consists of three or more experts, appointed by the Borrower and acceptable to the Bank, with expertise in the various technical fields relevant to the safety aspects of the dam. The Panel will review and advise the Borrower on matters relative to dam safety and other critical aspects of the dam, its appurtenant structures, the catchment area, the area surrounding the reservoir, and downstream areas. The Borrower will normally extend the Panel's composition and terms of reference beyond dam safety, to cover such areas as project formulation; technical design; construction procedures

7. The Borrower will contract the services of the Panel and will provide administrative support for its activities. Beginning as early in project preparation as possible, the Borrower will arrange for periodic Panel meetings and reviews, which will continue through the investigation, design, construction, and initial filling and start-up phases of the dam. The Borrower will inform the Bank in advance of the Panel meetings. After each meeting, the Panel will provide the Borrower with a written report of its conclusions and recommendations signed by each participating member; the Borrower will provide a copy of the

Panel's report to the Bank. Following the filling of the reservoir and start-up of the dam, the Bank will review the Panel's findings and recommendations. If no significant difficulties are encountered in the filling and start-up of the dam, the Borrower may disband the Panel.

Annex 2: Guideline for Pest Management Plan

Elements of a Pest Management Plan

1. **Pest Management Approach**

i. Current and anticipated pest problems relevant to the project

Common pest problems and estimated economic impact

ii. Current and proposed pest management practices

Describe current and proposed practices, including non-chemical preventative techniques, biological and chemical control. Is optimum use being made of agro-ecosystem management techniques to reduce pest pressure and of available non-chemical methods to control pests? Do farmers and extension staffs get enough information about IPM approaches that reduce reliance on chemical control?

iii. Relevant IPM experience within the project area, Woreda, region or country

Describe existing IPM practices, projects/programs, research

iv. Assessment of proposed or current pest management approach and recommendations for adjustment where necessary

Where the current or proposed practices are not consistent with the principles of an IPM approach, the discrepancies should be discussed and a strategy should be proposed to bring pest management activities into line with IPM.

2. **Pesticide Management Plan**

i. Describe present, proposed and/or envisaged pesticide use and assess whether such use is in line with IPM principles.

Provide purpose of pesticide use, type of products used, frequency of applications, and application methods. Is pesticide use part of an IPM approach and is it justified? Justification of pesticide use under the project should (a) explain the IPM approach and the reason why pesticide use is considered, (b) provide an economic assessment demonstrating that the proposed pesticide use would increase farmers' net profits, or for public health projects, provide evidence that the proposed pesticide use is justified from the best available (probably WHO supported evidence) public health evidence.

ii. Indication of type and quantity of pesticides envisaged to be financed by the project (in volume and ETB value) and/or assessment of increase in pesticide use resulting from the project.

iii. Circumstances of pesticide use and the capability and competence of end-users to handle products within acceptable risk margins (e.g. user access to, and use of, protective gears and appropriate application equipment; users' product knowledge and understanding of hazards and risks; appropriateness of on-farm storage facilities for pesticide).

iv. Assessment of environmental, occupational and public health risks associated with the transport, storage, handling and use of the proposed products under local circumstances, and the disposal of empty containers.

v. Pre-requisites and/or measures required to reduce specific risks associated with envisaged pesticide use under the project *(e.g.: protective gear, training, upgrading of storage facilities, etc.).*

vi. Selection of pesticides authorized for use, taking into consideration: (a) criteria set at national (if there is any) or international, (b) the hazards and risks and; (c) the availability of newer or less hazardous products and techniques (e.g. bio-pesticides, traps).

3. **Reduce exposure time or the degree of exposure, before using** *(transporting, packaging and storing pesticides)*

Transporting

- Separate pesticides from other materials being transported
- avoid private distribution—it's dangerous
- Never transport leaking or badly deteriorated containers
- Do not transport food, beverages or animal feed together with pesticides. Load and unload pesticides very carefully to minimize the chance of dropping containers.

Packaging

- follow international and national norms and guidelines
- use packaging adapted to needs
- eliminate re-use of packaging materials (even when cleaned, pesticide containers are too dangerous to re-use
- The container for the product shall be of sufficient strength and shall provide all the necessary protection against compaction, atmospheric moisture, oxidation, loss by evaporation and contamination to ensure that the product suffers no deterioration under normal conditions of transit and storage, etc.

Storing

- develop strict guidelines for village-level storage
- ensure permanent, well-marked labeling
- follow and respect national norms
- follow and respect FAO norms
- use appropriate language and approved pictograms
- use and respect appropriate toxicology color
- should be located far from human dwellings, and personal use items
- should be sited far from rivers and bodies of water, to prevent chemical contamination from entering and poisoning the water
- should not be sited in an area subject to flooding, especially during seasonal rains
- be secured from public access
- have a warning sign affixed to the exterior door, entrance or gate of the storage facility
- have a floor or base that is protected from pesticide absorption

Labeling

The purpose of a labeling is to convey a message about what the product is, who makes it and how it may be used safely and effectively. Label should specifically indicate:

- hazard symbol
- Trade and chemical name
- Ingredient statement
- Type of formulation
- Net content of the package
- purpose for which it is to be used
- Name and address of manufacturer, distributor
- Registration or license number
- directions for use
- safety precautions
- warnings and statements of good practice
- Hazards to humans and domestic animals
- Environmental hazards
- Physical and chemical hazards
- first-aid instructions and advice to health personnel
- Storage and disposal directions
- Warranty statement

During use (training should be continuous for farmers, application, protective equipment and clothing, mixing of chemicals, and others)

Pre-application

- Read and understand labeled instructions and any other information provided with either the agrochemical, the application equipment or the protective clothing
- Assess the risks of application to people, animals and the environment and decide what action is necessary to reduce or eliminate them
- Ensure that the user is competent and that he or she has received effective training in application techniques and the precautions to be observed.
- Arrange health monitoring as may be necessary for certain hazardous agrochemicals based on their frequency of use.
- Check application equipment to ensure that it operates satisfactorily without leaking or spilling and is calibrated for the necessary application rates
- Check that protective clothing and other safety equipment including breathing apparatus, if required, is complete, is of the correct quality and is in good condition. Replace any items that are worn or missing. And is in good condition.
- Decide how the work is going to be done and set up an action plan to cover its implementation, together with any emergencies that may arise.

4. <u>Monitoring and Supervision</u>

i. Description of activities that require local monitoring during implementation,

ii. Description of activities that require monitoring during supervision visits (e.g. regarding effectiveness of measures to mitigate risks; progress in strengthening regulatory framework and institutional capacity; identification of new issues or risks arising during implementation)

iii. Monitoring and supervision plan, implementation responsibilities, required expertise and budget

Annex 3 Guideline for ESMP Preparation

During the preparation of ESMP/ESIA references should be made to the General and specific, WB's Environmental, Health and Safety Guidelines (http://www.ifc.org/wps/wcm/connct/topics ext content/ifc external corporate site/sustainability-at ifc/policies-standards/ehs-guidelines.

The ESMP should be formulated in such a way that it is easy to use. References within the plan should be clearly and readily identifiable. Also, the main text of the ESMP needs to be kept as clear and concise as possible, with detailed information relegated to annexes. The ESMP should identify linkages to other relevant plans relating to the project, such as plans dealing with resettlement or indigenous peoples issues. The following aspects should typically be addressed within ESMPs.

i. Summary of the potential impacts of the proposed project: The predicted adverse environmental and social impacts for which mitigation is required should be identified and briefly summarized. Cross-referencing to the ESIA report or other documentation is recommended.

II. **Description of the recommended mitigation measures:** Each mitigation measure should be briefly described with reference to the impact to which it relates and the conditions under which it is required (for example, continuously or in the event of contingencies). These should be accompanied by, or referenced to, project design and operating procedures that elaborate on the technical aspects of implementing the various measures.

III. **Description of monitoring and auditing program:** The monitoring and auditing programs should clearly indicate the linkages between impacts identified in the ESIA report, measurement indicators, detection limits (where appropriate), and definition of thresholds that will signal the need for corrective actions.

IV. **Institutional arrangements**: Responsibilities for mitigation and monitoring should be clearly defined, including arrangements for co-ordination between the various actors responsible for mitigation.

V. **Capacity Building and Training Programmes:** To support timely and effective implementation of the project components and mitigation measures, an assessment and evaluation of the capability of environmental units and other institutions responsible for environmental management is necessary.

VI. **Implementation schedule and reporting procedures:** The timing, frequency and duration of mitigation measure should be specified in an implementation schedule, showing links with overall project implementation. Procedures to provide information on the progress and results of mitigation and monitoring measures should also be clearly specified.

VII. **Cost estimates and sources of funds and allocation of responsibilities**: These should be specified for both the initial investment and recurring expenses for implementing all measures contained in the ESMP, integrated into the total project costs, and factored into loan negotiations, etc.

Template for Environmental and social Management Plan ESMP Preparation

Potentiel environ-mental &social	Proposedmitigation measures	Responsiblefor implementing the mitigation measures	Responsiblefor monitoring the implementation ofmitigation	Time Horizon		Cost Estimate	
				Mitigation	Monitorin	Mitigation	Monitoring

Annex 4. Format/ contents of an ESIS/ESIA report

1. Executive Summary

This is the first part of the report that most people will read. The summary should provide a brief and accurate overview of the report in non-technical and simple language, in particular highlighting the main findings and recommendations.

2. Introduction

This section gives overview of the projection conception and the necessity of carrying-out an ESIA.

3. Project Background, Description and Alternatives

This is a more detailed description of the proposal including any reasonable alternatives. A do nothing alternative should also be considered with a view of foregone loss of the expected benefits and future of the environment.

.4. Administrative, Legal and Policy requirements

Under this section applicable international, national and regional environmental legal and policy framework should be described in the context of the proposed action. Furthermore, administrative and institutional arrangement that will be required for implementation of the environmental management aspects of the proposed activities needs to be elaborated.

7. Baseline Conditions

This elaborates the existing:

- Spatial, institutional and temporal boundaries
- Baseline conditions: biophysical, social, cultural, economic and land use
- Key trends and anticipated conditions, including prediction about the likely future environmental conditions in the absence of the proposed action.

8. Public concerns and views

A concise and complete statement of the nature, scope and results of public consultation is an important section of the report.

9. Potential impacts identification and analysis

This section details the actual impacts identification, prediction, and analysis. It includes description of how beneficial/adverse impacts and direct/indirect are expected to occur.

10. Project Analysis

10. Mitigation and enhancement measures

The focus of this section is to suggest appropriate measures in order to avoid and/or minimize negative and enhance positive impacts of the proposed actions. Mitigation and enhancement measures should be project specific and take in to account various issues such as cost, views of stakeholders involved in the ESIA process.

11. Environmental and social Management Plan (ESMP)

This is an action-oriented part of ESIA. The effective implementation of ESIA findings and recommendations hinges largely on the preparation and implementation of appropriate ESMP.

12. Environmental and Social Monitoring and Auditing

This section outlines the mechanisms for checking environmental performance during the operational life of the project; so it ensures effective implementation of ESMP.

13. Conclusions and Recommendations

This section should clearly and concisely indicates the critical justification, which is relevant to the decision-making. It should also highlight the key conditions of implementation.

14. Appendices

These are separate documents to be used as references for the reviewers. They enable reviewers to reach at appropriate decision making.

Annex 5. Subproject Eligibility Screening Checklist for KDC members at Kebele Level

Subproject Name: _____

Region; _____; Zone: _____; Woreda: _____; Kebele: _____

Will the sub-project or business plan:	yes	No
Cause significant involuntary displacement of people or social disturbances, involuntary loss of assets? The Bank does not provide specific categorization criteria relating to OP 4.12, Involuntary Resettlement. Generally, projects with significant resettlement-related impacts should be classified as Category A. Application of judgment is necessary in assessing the potential significance of resettlement-related impacts, which vary in scope and scale from project to project. Projects that would require physical relocation of residents or businesses, as well as projects that would cause any individuals to lose more than 10 percent of their productive land area often are classified as Category A. Scale may also be a factor, even when the significance of impacts is relatively minor. Projects affecting whole communities or relatively large numbers of persons (for example, more than 1,000 in total) may warrant classification as Category A, especially for projects in which implementation capacity is likely to be weak.		
disrupt the quality or quantity of water in a waterway shared with other nations		
Cause degradation of critical natural habitats cause any loss of biodiversity? Cause any large-scale physical disturbance of the site or the surroundings The project is classified as Category A if the screening indicates the potential for significant conversion or degradation of critical or other natural habitats. *Significant conversion* is the elimination or severe diminution of the integrity of critical or other natural habitats caused by a major, long-term change in land use or water use. Significant conversion may include, for example, land clearing; replacement of natural vegetation; permanent flooding; drainage, dredging, filling, or channelization of wetlands; or surface mining. Conversion can result directly from the action of a project or through an indirect mechanism (e.g., through induced settlement along a road). *Degradation* is modification of a critical or other natural habitat that substantially reduces the habitat's ability to maintain viable population of native species.		
affect important physical and cultural resources (historical, religious, archaeological sites and monuments) Physical Cultural Resources, as defined under OP 4.11, are movable or immovable objects, sites, structures, groups of structures, and natural features and landscapes that have archaeological, paleontological, historical, architectural, religious, aesthetic, or other cultural significance. A project that will likely have significant adverse impacts on PCR is classified as Category A.		

affect any vulnerable or underserved groups The Bank does not provide specific categorization criteria relating to OP 4.10, Indigenous Peoples. Though the policy applies whenever a group meeting the Bank's definition of Indigenous Peoples is present in the project area, categorization typically reflects the potential significance of any adverse impacts upon such groups. Projects that would require relocation of Indigenous Peoples, that would restrict their access to traditional lands or resources, or that would seek to impose changes to Indigenous Peoples' traditional institutions, are always likely to be classified as Category A.		
Implemented in or around non-viable community centers (CCs)		
likely to use pesticides or other agro-chemicals Projects that include the manufacture, use, or disposal of environmentally significant quantities of pest control products are classified as Category A. Environmental significance takes into account the impacts, including benefits, on human health.		

Recommendations:

Sub-project is not eligible and rejected: ☐

Sub-project is eligible and approved: ☐

Name and signature of KDC members who did the eligibility check:

1.
2.
3.
4.
5.
6.

Annex 6: Subproject Screening Checklist for Woreda AGP-II Implementing Agencies

6.1.For sub-projects needing special attention

Feature of Concern	Yes	No
Subproject likely to use pesticides or other agro-chemicals		
Subproject involves land acquisition, or loss of assets, or access to assets on the land		

Recommendations

Sub-project needs special attention: ☐

Sub-project does not need special attention: ☐

6.2. For subprojects of environmental and social concern

Will the sub-project:	Yes	No
Located within National and or regional Park or other designated wildlife area or buffer zone		
Located in forest priority areas and cause destruction of habitats		
Involves draining of or disturbance to a wetland and other ecologically sensitive areas		
Located close to cultural heritage, historical and religious sites		
Subproject that incorporates a dam construction		
Subproject that involves use of hazardous laboratory chemicals		
Subproject involves abstraction of significant volume of water from international waterways		

Annex 7: Checklist for Environmental and Social Impact Rating

Subproject types	**Rate of Impacts**				
	None	**Low**	**Medium**	**High**	**Unknown**
Rural Feeder Road Construction Subprojects					
Soil erosion and initiation of flooding, gully erosion, farm land degradation					
Loss of biodiversity through cut and fill activities					
Destruction of natural habitats					
Sedimentation to water sources and reservoirs					
Disturbance to and loss of ecologically sensitive habitats					
Damage to cultural, religious and historical sites					
Cause opening of quarry/borrow sites and result in water pollution and vector born diseases					
Cause land acquisition and property losses					
Others (specify)					
Small Scale & micro-irrigation subprojects					
Significant deforestation					
competing claims for water and social tension between the upstream and downstream community					
Disturbance to wildlife habitats or populations					
Disrupt ecologically sensitive areas					
Land clearing and biodiversity loss					
Disturbance to cultural or religious sites					
Cause land acquisition and property losses					
Water logging and increased soil salinity due to inefficient water application, saline irrigation water, and soil salinity					
Risk of vector born diseases due to standing water at quarry site, water storage structures, and canals					
Soil acidity due to increased and improper application of inorganic fertilizer					
Increased used of pesticide and other agrochemicals					
Deterioration of river water quality below irrigation project and contamination of local ground water (higher salinity, nutrients, agrochemicals) affecting fisheries and downstream users					
Poor land use practices in catchment areas above the reservoir resulting in increased siltation and loss of storage capacity					
Others (specify)					

Subproject types	Rate of Impacts				
	None	Low	Medium	High	Unknown
Market center development subprojects					
Soil erosion and initiation of flooding					
Sedimentation to water sources and reservoirs					
Cause flooding and erosion					
Disturbance to and loss of ecologically sensitive habitats					
Damage to cultural, religious and historical sites					
Cause opening of quarry/borrow sites and result in water pollution and vector born diseases					
Cause land acquisition and property losses					
Contamination of soil and water from sewage/toilet and solid waste					
Improper site selection, design and construction of toilet which later on cause for health problem					
Generation of solid and liquid waste from the market center that contaminate the environment and cause the health problem					
Absence or poor management of appropriate waste (both solid and liquid) management facilities					
Others (specify)					
Watershed management subprojects including Gully Rehabilitation					
Restriction of human and livestock mobility					
Restriction of access to communal lands					
Risk of introduction of invasive exotic species					
Compromise to local biodiversity					
Cause land acquisition and property losses					
Flooding and erosion due to breach of the physical structures					
Others (specify)					
Pest management					
Destruction of crop pollinators leading to poor crop yield					
Elimination of natural enemies of crop pests and consequent loss of natural pest control that keeps the populations of crop pest low					
Development of pest resistance to pesticides, encouraging further increases in the use of chemical pesticides					
Contamination of the soil and water bodies which results toxicity to fishes and birds					
Pesticide poisoning of farmers and deleterious effects on human health:					
• During storage					

Subproject types	Rate of Impacts				
	None	Low	Medium	High	Unknown
• During use					
• Due to obsolete pesticide and management of pesticide containers					
Unacceptable levels pesticide residues in harvested produce and in the food chain					
Loss of biodiversity in the environment, particularly of the aquatic non-target species					
Other (specify):					
Laboratory chemicals/Reagents (for soil testing laboratories, and animal health clinics/posts and laboratories)					
Water and soil contamination due to poor management of laboratory chemicals and contaminated wastes (solid and liquid wastes)					
Health hazards to the laboratory community during handling, storage, use of chemicals, and disposal					
Other (specify):					
Health risk to the surrounding community due unsafe disposal of the chemicals					
Lime production subprojects					
Produce areas of bare soil which cause erosion, siltation,					
Health problem from quarry sites					
Health problem due to blasting of quarry site					
Wash-off from the limestone dumps will lead to the adjoining surface water body which increase water alkalinity, and increase in suspended solids					
Spread of vector-borne diseases when stagnant water accumulates in active or abandoned quarries or borrow pits and breeds insect vectors					
Contamination of soil and water from sewage and solid waste, and health impact from the sanitary problem at the quarry site					
Health problem during production (high noise, dust, safety problem for the problem)					
Disturbance to and loss of ecologically sensitive habitats					
Damage to cultural, religious and historical sites					
Others (specify)					
Livestock Bread Improvement					
Introduction of exotic breed which result loss of livestock biodiversity					

Subproject types	Rate of Impacts				
	None	Low	Medium	High	Unknown
Introduction of new pathology					
Others (specify)					

Note on Impact identification and classification

When considering the location of a subproject, rate the sensitivity of the proposed site in the following table according to the given criteria. Higher ratings do not necessarily mean that a site is unsuitable. They do indicate a real risk of causing undesirable adverse environmental and social effects, and that more substantial environmental and/or social planning may be required to adequately avoid, mitigate or manage potential effects. The following table should be used as a reference.

Issues	Site Sensitivity		
	Low	Medium	High
Natural habitats	No natural habitats present of any kind	No critical natural habitats; other natural habitats occur	Critical natural habitats present
Water quality and water resource availability and use	Water flows exceed any existing demand; low intensity of water use; potential water use conflicts expected to be low; no potential water quality issues	Medium intensity of water use; multiple water users; water quality issues are important	Intensive water use; multiple water users; potential for conflicts is high; water quality issues are important
Natural hazards vulnerability, floods, soil stability/ erosion	Flat terrain; no potential stability/erosion problems; no known volcanic/seismic/ flood risks	Medium slopes; some erosion potential; medium risks from volcanic/seismic/ flood/ hurricanes	Mountainous terrain; steep slopes; unstable soils; high erosion potential; volcanic, seismic or flood risks
Physical Cultural Resources	No known or suspected cultural heritage sites	Suspected cultural heritage sites; known heritage sites in broader area of influence	Known heritage sites in project area
Involuntary resettlement	Low population density; dispersed population; legal tenure is well-defined; well-defined water rights	Medium population density; mixed ownership and land tenure; well-defined water rights	High population density; major towns and villages; low-income families and/or illegal ownership of land; communal properties; unclear water rights
Indigenous peoples	No indigenous population	Dispersed and mixed indigenous populations; highly acculturated indigenous populations	Indigenous territories, reserves and/or lands; vulnerable indigenous populations

Recommendation

☐ Approved without condition ☐ Full ESIA required

☐ Special plans should be prepared independently – mark [√] in the box below

☐ ESMP ☐ RAP ☐ MP ☐ thers (specify):

If the recommendation is to prepare ESMP or RAP or PMP or others, environmental and social assessment (initial environmental and social examination) is required by the implementing agency/proponent, and reviewed by the regulatory body (EPLAUA).

☐ Rejected

Reason for rejection

[type here]

Completed by: [Name – type here]
Position:[type here]
Date: [type here]
Reviewed by: [Name – type here]
Position: [type here]
Date: [type here]

Annex 8: Environmental and Social Field Appraisal Form

Part: Identification

1. Project Name:
2. Project Location:
3. Reason for Field Appraisal:
4. Date(s) of Field Appraisal:
5. Field Appraisal Officer and Address:
6. DA Representative and Address:
7. KDC Representative and Address:

Part 2: Description of the Project

8. Project detail: Provide details that are not adequately presented in subproject application.

Part 3: Environmental and Social Issues

9. Will the project:

Need to acquire land?	Yes	No
Affect an individual or the community's access to land or available resources?		
Displace or result in the involuntary resettlement of an individual or family?		

If "Yes", tick one of the following boxes:

- ☐ The RAP/ included in the subproject application is adequate. No further action required.
- ☐ The RAP/ included in the subproject application must be improved before the application can be considered further.
- ☐ A RAP/ must be prepared and approved before the application can be considered further.

10. Will the project:

Encroach onto an important natural habitat, forest?	Yes	No
Negatively affect ecologically sensitive ecosystems?		

If "Yes", tick one of the following boxes:

- ☐ The Environmental Management Plan (EMP) included in the subproject application is adequate. No further action required.
- ☐ The ESMP included in the subproject application must be improved before the application can be considered further.
- ☐ An ESMP must be prepared and approved before the application can be considered further.

11. Are there vulnerable groups living in the subproject area that could benefit from, or be adversely affected by, the subproject?

Yes	No

If 'Yes", tick one of the following boxes:

- ☐ A plan for the vulnerable group included in the subproject application is adequate. No further action required.

- A plan for the vulnerable group included in the subproject application must be improved before the application can be considered further.
- A plan for the vulnerable group must be prepared and approved before the application can be considered further.

12. Will this project involve or introduce pesticides?

Yes	No

If "Yes", tick one of the following boxes:

- The Pest Management Plan (PMP) included in the subproject application is adequate. No further action is required.
- The PMP included in the subproject application must be improved before the application can be considered further.
- A PMP must be prepared and approved before the application can be considered further.

13. Will the project involve?

Provision of laboratory chemicals/reagents	Yes	No
Construction and/or rehabilitation of latrines, septic or sewage systems?		
Production of waste (e.g. slaughterhouse waste, medical waste, etc.)?		
Application of fertilizer?		

If 'Yes", tick one of the following boxes:

- The application describes suitable measures for managing the potential adverse environmental effects of these activities. No further action required.
- The measures described in the application for managing the potential adverse environmental effects of these activities are not adequate. The application need to be prepared and improved before the application is considered further.
- The application does not describe suitable measures for managing the potential adverse environmental effects of these activities. An Environmental Management Plan must be prepared and approved before the application is considered further.

14. Will the project involve or result in:

Diversion or use of surface waters?	Yes	No
New or rebuilt irrigation or drainage systems?		
Construction of water harvesting structures?		
Construction of shallow wells/hand dug well?		
Construction of rural road, foot bridge?		
Construction of market center?		
Production of lime?		
Others (specify)		

If 'Yes", tick one of the following boxes:

- The application describes suitable measures for managing the potential adverse environmental effects of these activities. No further action required.

- ☐ The measures described in the application for managing the potential adverse environmental effects of these activities are not adequate. The application need to be prepared and improved before the application is considered further.
- ☐ The application does not describe suitable measures for managing the potential adverse environmental effects of these activities. An Environmental Management Plan must be prepared and approved before the application is considered further.

15. Will the project involve

Construction of biophysical soil and water conservation measures?	Yes	No
Construction of gully rehabilitation structures?		
Constructions of ground water recharge structures?		
Introduction of new plant species?		
Removal of native plant/tree species?		

If 'Yes", tick one of the following boxes:

- ☐ The application describes suitable measures for managing the potential adverse environmental effects of these activities. No further action required.
- ☐ The measures described in the application for managing the potential adverse environmental effects of these activities are not adequate. The application need to be prepared and improved before the application is considered further.
- ☐ The application does not describe suitable measures for managing the potential adverse environmental effects of these activities. An Environmental Management Plan must be prepared and approved before the application is considered further.

16. Will this project require the construction of a small dam, pond, water tank, or weir?

Yes	No

If "Yes", tick one of the following boxes:

- ☐ The application demonstrates that the structure(s) will be designed by qualified engineers, and will be built by qualified and adequately supervised contractors. No further actions are required.
- ☐ The application does not demonstrate that the structure(s) will be designed by qualified engineers, and will be built by qualified and adequately supervised contractors. The application needs to be amended before it can be considered further.

17. Will this project rely on water supplied from an existing dam or weir?

Yes	No

If "Yes", tick one of the following boxes:

- ☐ The application demonstrates that a dam safety report has been prepared, the dam is safe, and no remedial work is required. No further action is required.
- ☐ The application does not demonstrate that a dam safety report has been prepared, the dam is safe, and no remedial work is required. A dam safety report must be prepared and approved before the application is considered further.

18. Will the project involve

Construction of biophysical soil and water conservation measures?	Yes	No

Construction of gully rehabilitation structures?		
Constructions of ground water recharge structures?		
Introduction of new plant species		
Removal of native plant/tree species		

If 'Yes", tick one of the following boxes:

- ☐ The application describes suitable measures for managing the potential adverse environmental effects of these activities. No further action required.
- ☐ The measures described in the application for managing the potential adverse environmental effects of these activities are not adequate. The application need to be prepared and improved before the application is considered further.
- ☐ The application does not describe suitable measures for managing the potential adverse environmental effects of these activities. An Environmental Management Plan must be prepared and approved before the application is considered further.

19. Will the project involve

Animal fattening?	Yes	No
Poultry production?		
Dairy farm?		
Dairy processing		
Apiculture?		
Others (specify)		

If 'Yes", tick one of the following boxes:

- ☐ The application describes suitable measures for managing the potential adverse environmental effects of these activities. No further action required.
- ☐ The measures described in the application for managing the potential adverse environmental effects of these activities are not adequate. The application need to be prepared and improved before the application is considered further.
- ☐ The application does not describe suitable measures for managing the potential adverse environmental effects of these activities. An Environmental Management Plan must be prepared and approved before the application is considered further.

20. Are there any other environmental or social issues that have not been adequately addressed?

Yes	No

If "Yes", summarize them……
……
……

and tick one of the following boxes:

- Before it is considered further, the application needs to be amended to include suitable measures for addressing these environmental or social issues.
- An Environmental and Social Management Plan needs to be prepared and approved before the application is considered further.

Part 4: Field Appraisal Decision

- **The subproject can be considered for approval.**

Based on a site visit and consultations with both interested and affected parties, the field appraisal determined that the community and its proposed project adequately addresses

Environmental and/or social issues as required by the Project's ESMF.

- **Further subproject preparation work is required before the application can be considered further.**

The field appraisal has identified environmental and/or social issues that have not been adequately addressed. The following work needs to be undertaken before further consideration of the application:……
……

All required documentation such as an amended application, ESMP, RAP/, or PMP will be added to the subproject file before the subproject is considered further.

Name of field appraisal safeguard specialist (print): ……

Signature: ..... Date: .....

Annex 9 : Monitoring and Evaluation of the Implementation of ESMF

For the effective implementation of the ESMF a regular and period follow up is required. The objective of this is to:

1. Alert project authorities (i.e. primarily) by providing timely information about the success or otherwise of the environmental management process outlined in this ESMF. This will ensure continuous improvement to AGP-II environmental and social management process (even beyond the project's life).
2. Make a final evaluation in order to determine whether the mitigation measures incorporated in the technical designs and the ESMP have been successful.

2. Monitoring of Environmental and Social Indicators

The goals of monitoring are to:

- measure the success rate of the project
- verify the accuracy of the environmental and social impact predictions
  determine the effectiveness of measures to mitigate adverse effects of projects on the environment.

 determine whether interventions have resulted in dealing with negative impacts
 determine whether further interventions are needed or monitoring is to be extended in some areas.

Monitoring indicators will be very much dependent on specific project contexts.

Two opportunities will be taken to build a simple system for the monitoring and evaluation of environmental and social impacts:

A. Initial proposals

Initially it is expected to collect baseline data regarding (water quality, vegetation cover, soil content (acid or saline), income of the project beneficiaries etc) at the start of the project .The baseline indicators may vary depending on the characteristics of the sub project. Thus, during monitoring you can keep track on the changes observed during the AGP-II subprojects ' implementation such as: monitoring of water quality, soil erosion, land degradation, vegetation removal, soil acidification and salinization, wetland drainage, occupational health & safety for those working in animal health clinic/post and soil testing laboratory, health problem, agricultural production, pest management, land acquisition, income generation and livestock health care and population influx.

Monitoring and surveillance of subprojects will take place on a *spot check* basis. The *spot checks* consist of controlling the establishment of mitigation measures. It is not recommended to collect large amounts of data, but rather to base monitoring on the changes occurred as aresult of AGP-II implementation in comparision with the above mentioned baseline indicators. .

B. Monitoring of participation process

The following are indicators for monitoring of the participation process involved in the project activities.

 Number and percentage of affected households consulted during the planning stage
 Levels of decision-making of affected people
 Level of understanding of project impacts and mitigation
 Effectiveness of local authorities to make decisions
 Frequency and quality of public meetings

 Degree of involvement of women and youth or disadvantaged groups in discussions
 Monitoring of implementation of mitigation plans lists the recommended indicators for monitoring the implementation of mitigation plans.

3. Evaluation of Results

The evaluation of results of environmental and social mitigation can be carried out by comparing baseline data collected in the planning phases with targets and post-project situations. A number of indicators would be used in order to determine the status of affected people and their environment (land being used compared to before, how many irrigation subprojects than before, etc).

In order to assess whether these goals are met, the implementing agencies at Woreda and regional level will indicate the following in the ESMP. The Woreda and regional EPLAUA, and the regional safeguard specialist will review/check these issues based on the institutional arrangement indicated in this ESMF.

The regional and federal AGP safeguard specialist will give technical assistance for IAs in doing so. The following are some pertinent parameters and verifiable indicators/questions to be used to measure the ESMF process, mitigation plans and performance.

 Have the AGP-CU at federal and regional level in collaboration with the regional and Woreda EPLAUA trained a local social and environmental specialist, and IAs focal person in charge of AGP-II activities in considering the social and environmental issues?
 Have the ESMP's and final subproject designs been cleared by the EPLAUA at Woreda and regional level as indicated in the institutional arrangement indicated in this ESMF?
 At what rate are the IAs monitor ESMF implementations?
 How many RAPs/s have been fully executed before physical displacement of people?
 How many recorded grievance cases have been settled within one year?

4. Monitoring of ESMF implementation

In addition to the Project Reports and ESA studies required under the Ethiopian Environmental legislation, an Annual Audit on ESMF Implementation will be done and report prepared by the Woreda EPLAUA for those projects executed by the Woreda IAs and delivered to BOEPLAUA. Again the regional EPLAUA will conduct for those AGP-II subprojects executed by the regional IAs. The audits conducted both at regional and Woreda level should be sent to the federal AGPCU. All implementing agencies should conduct their own regular internal ESMF implementation audit and submit to EPLAUA at their respective level. The regional and federal AGP-CU safeguard specialists facilitate and supervise the execution of the audit, and also provide technical support in doing so.

5. Monitoring Roles and Responsibilities

Implementing agencies at Woreda and regional level have the lead responsibility to monitor the implementation of the ESMP including the PMP and the RAP/ that they prepare. EPLAUA at Woreda and regional level have also the responsibility to verify the monitoring report prepared by the implementing agencies at their respective level. Woreda EPLAUA will be required to prepare periodic monitoring reports and submit it to EPLAUA, and EPLAUA will prepare periodic monitoring report and submit to regional AGP-CU to be compiled and submitted to federal AGPCU. Environment and Social safeguard specialists at Regional and federal AGP-CU will facilitate and provide technical supports for the monitoring activities to be done by the regional and Woreda IAs and EPLAUs. They also carry out their monitoring activity to track the progress of the

implementation of the mitigation measures prepared Woreda and regional IAs. Development agents (DAs), KDCs and local community have also the responsibility to follow up the implementation of the ESMF at their locality. Donor representatives, independent consultants, Woreda TC, Zone TC and IAs have a role of giving support for the monitoring program.

6. Supervision

Supervising the implementation of ESMPs, which include ESMP, PMP and RAP/, will be the responsibility of EPLAUA at Woreda and regional level. Environment and Social safeguard specialists at Regional and federal AGP-CU will provide technical supports, and facilitate the process. Supervision of the ESMPs covers monitoring, evaluative review and reporting.

Generally, it is designed to: determine whether the subproject is being carried out in conformity with environmental safeguards and legal agreements,

 identify problems as they arise during implementation and recommend means to resolve them,

 recommend changes in project concept/design, as appropriate, as the project evolves or circumstances change and

 Identify the key risks to project sustainability and recommend appropriate risk management strategies.

It is vital that an appropriate environmental and social supervision

Annex 10. Grievance Redress Mechanism (GRM)

According to Article 17 of Proclamation on EIA (proclamation no., 299/2000); any person dissatisfied with the authorization or monitoring or any decision of the Authority or the relevant regional environmental agency regarding the project may submit a grievance notice to the head of the Authority or the relevant regional environmental agency, as may be appropriate. The decision of the head of the Authority or relevant regional environmental agency shall, as provided above, be issued within 30 days following the receipt of the grievance. The World Bank will also require the Borrower to provide a grievance mechanism, process, or procedure to receive and facilitate resolution of stakeholders' concerns and grievances arising in connection with the project, in particular about the environmental and social performance of the client.

Grievance redress mechanisms provide a way to provide an effective avenue for expressing concerns and achieving remedies for communities, promote a mutually constructive relationship and enhance the achievement of project development objectives. GRMs are increasingly important for development projects where ongoing risks or adverse impacts are anticipated. They serve as a way to prevent and address community concerns, reduce risk, and assist larger processes that create positive social change. GRMs provide a formal avenue for affected people or stakeholders to engage with the project implementers or owners on issues of concern or unaddressed environmental and social impacts. People adversely affected (or about to be affected) by a development project will raise their grievances and dissatisfactions about actual or perceived environmental and social impacts in order to find a satisfactory solution. Not only should affected persons (APs) be able to raise their grievances and be given an adequate hearing, but also satisfactory solutions should be found that mutually benefit both the APs and the project. It is equally important that APs have access to legitimate, reliable, transparent, and efficient institutional mechanisms that are responsive to their complaints.

Objectives of Grievance Redress Mechanism

The objective of the GRM is to ensure that the views and concerns of those affected by the project activities are heard and acted upon in a timely, effective and transparent manner.

Principles of GRM:

- Protect beneficiaries'/partners rights to comment and complain;
- Neutrality and equity while handling complaints;
- Timing: short cycle, quick response to the critical complaints;
- Transparency: Partners will be aware of the procedures; understand its purpose, have sufficient information on how to access it and understand how it works;
- Confidentiality: Create an environment in which people are more likely to raise concerns, complain or stand in witness. Confidentiality assures that any information given is restricted to a limited number of people and that it is not disseminated wider, therefore offering an element of protection and security to the complainant;
- Accessibility: The GRM will be easily accessed by as many people as possible within any stakeholder in the place where projects/subprojects are being implemented;

- Mutual responsibility between the project and complainants to insure fair, accurate, and responsible behavior.

Grievance Handling Procedure

Woreda Level

If the community/project affected people or other interested parties have compliant on the unaddressed environmental and social impacts/damage/injuries as a result of AGP II AF subprojects implemented at Woreda level/capacity, they submit their issues to the Woreda Environmental protection office or equivalent. The Woreda Environmental protection office, having filed checking/verification of complaints will provide response effectively and in transparent manner. If the compliant are not satisfied with the response from the Woreda office, they go to regional Environmental protection offices. Woreda EPA also refers the cases if the issues are beyond its capacity to resolve.

Regional Level

If there are compliant from the community/project affected people or other interested parties due to AGP II AF subprojects which are implemented by regional project implementing offices/agencies; or if the cases are referred from Woreda Environmental protection office, the Regional equivalent will give response to the community and other interested parties within 15 days after conducting field investigation.

Federal level

Since most of AGP II AF sub-projects are implemented mainly at regional and Woreda levels, the grievance cases will also be handled at these levels. If there are cases, for example cross regional subprojects which may cause grievance, they will be handled by the federal AGP II AF PCU. The federal AGP II AF PCU will give response to the compliant within 30 days after conducting field investigation. Complainants may also pursue their cases through the court system, if they are not satisfied with the Grievance Redress System.

Potential grievances/disputes

Grievance procedures are required to ensure that peoples are able to present their complaint or concerns, without cost, and with the assurance of a timely and satisfactory resolution of the issue. Grievances will be actively managed and tracked to ensure that appropriate resolution and actions are taken. A clear time schedule will be defined for resolving grievances, ensuring that they are addressed in an appropriate and timely manner, with corrective actions being implemented, and the complainant will be informed of the outcome. The grievance redress procedure of the Project does not replace existing legal processes. Based on consensus, the procedures will seek to resolve issues quickly in order to expedite the receipt of entitlements, without resorting to expensive and time-consuming legal actions.

Registration of Grievances

Any grievance that may arise due to the implementation of the Project will be filed at the GR office established for the project. The committee will assess the nature of the grievance and provide solution with in the timeframe indicated in the RPF. The overall process of grievance is as follows:

- The process of grievance redress will start with registration of the grievances to be addressed

- The Project will use a local mechanism which in most case called Grievance Redress Committee (GRC) as detailed below and the committee members which includes local leaders of the affected people, and 2 representatives from the PAPs, and
- The response time will depend on the issue to be addressed but it should be addressed with efficiency.

First Instance-Amicable Settlement and Appeal Court

The grievance redress procedure of the Project does not replace existing legal processes. However, the international experience of resettlement shows that such grievance redress mechanism helps to solve most of the complaints without formal procedures. So as it enable both speeds up implementation of the Project as well as timely satisfaction of complaints. In addition, courts of law may be viewed as slow and involving somewhat complicated procedures. People may prefer such matters to be first handled by a "first instance" mechanism, on the model of traditional dispute-resolution mechanisms. It usually appears that many grievances have roots in misunderstandings, or result from neighbor conflicts, which usually can be solved through adequate mediation using customary rules. Most grievances can be settled with additional explanation efforts and some mediation at regional, federal or Woreda levels. However, GRCs will also be established at the community level at each participating regions/zones/Woredas/cities/towns and kebeles with technical support from MoP if needed.

Grievance Redress Committee

The grievance Redress committee will be formed through the client at each participating /zones/Woredas/ /towns/kebele level and shall be comprised of the following:

a. Zonal/Woreda/Municipality/kebele representative Chair person
b. Zonal/woreda/keble Agricultural office representative
c. Community representative Member
d. Representatives of PAPs Member
e. Women affairs office Member
f. Representative of Implementing Secretary and Member Agency at each level

It is essential to include representative of Implementing Agency in the grievance redress committee so that essential information on inventories, entitlements, and compensation rates, etc. can be provided to the committee members for review of complaint.

Grievance Redress Procedure: Grievance redress procedure will comprise of the following steps.

1. As a first step, all complaints and grievances relating to any aspect of the Project should be properly documented by implementing committee and address through consultations with the PAPs in a transparent manner and effective manner.
2. If the PAPs do not get any response from the implementing committee within 5 days of filling the complaint, or if the matter is not resolved to the satisfaction of the PAPs, the person will submit the complaint to the grievance redress committee count having jurisdiction.
3. If the matter remains unresolved within 15 days of filling compliant to the grievance redress committee, the person will forward the complaint to the regular court having jurisdiction. Or a party dissatisfied with a decision made by the grievance redress committee may appeal to the next

GRM level. A party dissatisfied with the decision made at any of the GRM level, may appeal to as may be appropriate, to the regular court within 30 days from the date of the decision. The decision of the court shall be final. All the types of grievance should be recorded. Sample Grievance Form depicted in Annex 9 of the RPF of this project. This grievance format is subject for revision by the grievance resolution

committee before the start of their duties. The format will be distributed to the compensation implementation committee, the grievance resolution committee as well as to the other stakeholder's implementers of the resettlement action plan. The format should contain relevant information such as the name of the complaint and address, the types and details of grievances, the decision made, the date and the signature of the parties. The complaint, the receiver of the complaint, implementers should get the copy of the grievances.

Appeal to Court

If the grievance procedure which will be established at local level fails to provide a result, they can pursue further action by submitting their case to the appropriate court of law. Courts of law shall be considered as a "last resort" option, which in principle should only be triggered where first instance amicable mechanisms have failed to settle the grievance/dispute. However, the constitution allows any aggrieved person the right of access to court of law.

World Bank Grievance Redress Services

Communities and individuals who believe that they are adversely affected by the 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/GRS. For information on how to submit complaints to the World Bank Inspection Panel, please visit www.inspectionpanel.org. Grievance/Dispute Management Mechanism works as indicated in the figure below.

Annex 11. Contents of an Environmental and Social Monitoring Report

The following items should appear in a monitoring report:

- Brief description of the project
- Purpose for monitoring
- Phase of the project
- Parameter/indicator (measurement and units)
- Frequency
- Standard level or norm
- Name and capacity of the person doing/reporting the monitoring
- Costs for monitoring
- Interpretation of the data
- Comment on the data

For monitoring to be effective, simple observations and reporting particularly from local people should be valued and taken into consideration. Verification of such observations by the developer should follow.
The Monitoring Plan should be prepared as part of the Environmental and Social Management Plan (ESMP) to mitigate and monitor the impacts of the proposed project. A budget for the monitoring plan needs to be drawn up and the resources and personnel necessary to carry them out should be specified in the ESMP.

Annex 12: Environmental and Social Guidelines for Contractors

General

In addition to these general conditions, the Contractor shall comply with any specific ESMP for the works he is responsible for. The Contractor shall inform himself about such an ESMP, and prepare his work strategy and plan to fully take into account relevant provisions of that ESMP. If the Contractor fails to implement the approved ESMP after written instruction by the Supervising expert to fulfill his obligation within the requested time, the Owner reserves the Right to arrange through the Supervising expert for execution of the missing action by a third party on account of the Contractor. Notwithstanding the Contractor's obligation under the above clause, the Contractor shall implement all measures necessary to avoid undesirable adverse environmental and social impacts wherever possible, restore work sites to acceptable standards, and abide by any environmental performance requirements specified in an ESMP. In general, these measures shall include but not be limited to:

- Minimize the effect of dust on the surrounding environment resulting from earth mixing sites, vibrating equipment, temporary access roads, etc., to ensure safety, health and the protection of workers and communities living in the vicinity dust producing activities.
- Ensure that noise levels emanating from machinery, vehicles and noisy construction activities (e.g. excavation, blasting) are kept at a minimum for the safety, health and protection of workers within the vicinity of high noise levels and nearby communities.
- Ensure that existing water flow regimes in rivers, streams and other natural or irrigation channels is maintained and/or re-established where they are disrupted due to works being carried out.
- Prevent bitumen, oils, lubricants and waste water used or produced during the execution of works from entering rivers, streams, irrigation channels and other natural water bodies/reservoirs, and also ensure that stagnant water in uncovered borrow pits is treated in the best way to avoid creating possible breeding grounds for mosquitoes.
- Prevent and minimize the impacts of quarrying, earth borrowing, piling and building of temporary construction camps and access roads on the biophysical environment including protected areas and arable lands; local communities and their settlements. In as much as possible restore/rehabilitate all sites to acceptable standards.

Upon discovery of ancient heritage, relics or anything that might or believed to be of archeological or historical importance during the execution of works, immediately report such findings to the Supervising expert so that the appropriate authorities may be expeditiously contacted for fulfillment of the measures aimed at protecting such historical or archaeological resources.

- Discourage construction workers from engaging in the exploitation of natural resources such as hunting, fishing, and collection of forest products or any other activity that might have a negative impact on the social and economic welfare of the local communities.
- Implement soil erosion control measures in order to avoid surface run off and prevents siltation, etc.
- Ensure that garbage, sanitation and drinking water facilities are provided in construction workers camps.
- Ensure that, in as much as possible, local materials are used to avoid importation of foreign material and long-distance transportation.

- Ensure public safety and meet traffic safety requirements for the operation of work to avoid accidents.
- The Contractor shall indicate the period within which he/she shall maintain status on site after completions of civil works to ensure that significant adverse impacts arising from such works have been appropriately addressed.

The Contractor shall adhere to the proposed activity implementation schedule and the monitoring plan / Strategy to ensure effective feedback of monitoring information to project management so that Impact management can be implemented properly, and if necessary, adapt to changing and unforeseen conditions. Besides the regular inspection of the sites by the Supervising expert for adherence to the Contract conditions and specifications, the owner may appoint an Inspector to oversee the compliance with these environmental conditions and any proposed mitigation measures. State environmental authorities may carry out similar inspection duties. In all cases, as directed by the Supervising expert, the Contractor shall comply with directives from such inspectors to implement measures required to ensure the adequacy rehabilitation measures carried out on the bio-physical environment and compensation for socio-economic disruption resulting from implementation of any works.

Work site/Campsite Waste Management

All vessels (drums, containers, bags, etc.) containing oil/fuel/surfacing materials and other hazardous Chemicals shall be bonded in order to contain spillage. All waste containers, litter and any other waste Generated during the construction shall be collected and disposed of at designated disposal sites in line with applicable government waste management regulations. All drainage and effluent from storage areas, workshops and camp sites shall be captured and treated before being discharged into the drainage system in line with applicable government water pollution control regulations.

- Used oil from maintenance shall be collected and disposed of appropriately at designated sites or be re-used or sold for re-use locally.
- Entry of runoff to the site shall be restricted by constructing diversion channels or holding structures: Such as banks, drains, dams, etc., to reduce the potential of soil erosion and water pollution.
- Construction waste shall not be left in stockpiles along the road, but removed and reused or disposed of on a daily basis.

If disposal sites for clean spoil are necessary, they shall be located in areas, approved by the Supervising Expert, of low land use value and where they will not result in material being easily washed into drainage channels. Whenever possible, spoil materials should be placed in low-lying areas and should be compacted and planted with species indigenous to the locality.

Material Excavation and Deposit

The Contractor shall obtain appropriate licenses/permits from relevant authorities to operate quarries or borrow areas.

The location of quarries and borrow areas shall be subject to approval by relevant local and national authorities, including traditional authorities if the land on which the quarry or borrow areas fall in traditional land.

New extraction sites:

- Shall not be located in the vicinity of settlement areas, cultural sites, wetlands or any other valued ecosystem component, or on high or steep ground or in areas of high scenic value, and shall not be located less than 1km from such areas.
- Shall not be located adjacent to stream channels wherever possible to avoid siltation of river channels. Where they are located near water sources, borrow pits and perimeter drains shall surround quarry sites
- Shall not be located in archaeological areas. Excavations in the vicinity of such areas shall proceed with great care and shall be done in the presence of government authorities having a mandate for their protection.
- Shall not be located in forest reserves. However, where there are no other alternatives, permission shall be obtained from the appropriate authorities and an environmental impact study shall be conducted.
- Shall be easily rehabilitated. Areas with minimal vegetation cover such as flat and bare ground, or areas covered with grass only or covered with shrubs less than 1.5 m in height, are preferred.
- Shall have clearly demarcated and marked boundaries to minimize vegetation clearing.
- Vegetation clearing shall be restricted to the area required for safe operation of construction work. Vegetation clearing shall not be done more than two months in advance of operations.
- Stockpile areas shall be located in areas where trees can act as buffers to prevent dust pollution.
- Perimeter drains shall be built around stockpile areas. Sediment and other pollutant traps shall be located at drainage exits from workings.
- The Contractor shall deposit any excess material in accordance with the principles of these general conditions, and any applicable EMP, in areas approved by local authorities and/or the Supervising expert.
- Areas for depositing hazardous materials such as contaminated liquid and solid materials shall be approved by the Supervising expert and appropriate local and/or national authorities before the commencement of work. Use of existing, approved sites shall be preferred over the establishment of new sites.

Rehabilitation and Soil Erosion Prevention

- To the extent practicable, the Contractor shall rehabilitate the site progressively so that the rate of rehabilitation is similar to the rate of construction.
- Always remove and retain topsoil for subsequent rehabilitation. Soils shall not be stripped when they are wet as this can lead to soil compaction and loss of structure.
- Topsoil shall not be stored in large heaps. Low mounds of no more than 1 to 2m high are recommended.

- Re-vegetate stockpiles to protect the soil from erosion, discourage weeds and maintain an active population of beneficial soil microbes.
- Locate stockpiles where they will not be disturbed by future construction activities.
- To the extent practicable, reinstate natural drainage patterns where they have been altered or impaired.
- Remove toxic materials and dispose of them in designated sites. Backfill excavated areas with soils or overburden that is free of foreign material that could pollute groundwater and soil.
- Identify potentially toxic overburden and screen with suitable material to prevent mobilization of toxins.
- Compacted surfaces shall be deep ripped to relieve compaction unless subsurface conditions dictate otherwise. Re-vegetate with plant species that will control erosion, provide vegetative diversity and, through succession, contributes to a resilient ecosystem. The choice of plant species for rehabilitation shall be done in consultation with local research institutions, forest department and the local people. Water Resources Management
- The Contractor shall at all costs avoid conflicting with water demands of local communities.
- Abstraction of both surface and underground water shall only be done with the consultation of the local community and after obtaining a permit from the relevant Water Authority.
- Abstraction of water from wetlands shall be avoided. Where necessary, authority has to be obtained from relevant authorities.
- Temporary damming of streams and rivers shall be done in such a way avoids disrupting water supplies to communities downstream and maintains the ecological balance of the river system.
- No construction water containing spoils or site effluent, especially cement and oil, shall be allowed to flow into natural water drainage courses.
- Wash water from washing out of equipment shall not be discharged into watercourses or roads drain.
- Site spoils and temporary stockpiles shall be located away from the drainage system and surface runoff shall be directed away from stockpiles to prevent erosion.
- Chance finds procedure for culturally significant artifacts'
- The Contractor is responsible for familiarizing themselves with the following "Chance Finds Procedures", in case culturally valuable materials are uncovered during excavation, including:
- Stop work immediately following the discovery of any materials with possible archaeological, historical, paleontological, or other cultural value, announce findings to project manager and notify relevant authorities;
- Protect artifacts' as well as possible using plastic covers, and implement measures to stabilize the area, if necessary, to properly protect artifacts'
- Prevent and penalize any unauthorized access to the artifact
- Restart construction works only upon the authorization of the relevant authorities.
- Requirements for chance finds are also outlined in the Act. Article 41 which states that: "Any person who discovers any cultural heritage in the course of excavation connected with mining, explorations, building works, road construction or other similar activities shall report to the Authority and protect and keep same intact until the Authority takes delivery thereof". The Authority shall take all appropriate measures to examine, take delivery and register the Cultural heritage so discovered. Where the Authority fails to take appropriate measures within 6 months,

the person that discovered the cultural heritage may be released from the responsibility by submitting a written notification with a full description of the situation to the Regional Government official.

- Cost of Compliance: It is expected that compliance with these conditions is already part of standard good workmanship and state of art as generally required under this Contract. The item "Compliance with Environmental Management Conditions" in the Bill of Quantities covers these costs. No other payments will be made to the Contractor for compliance with any request to avoid and/or mitigate an avoidable Environmental and social impact. Water Resources Management
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Annex 13: " Chance Of Finds Procedure For Cultural Heritage "

Introduction

Chance Finds are defined as potential cultural heritage objects that are identified outside a formal site reconnaissance by competent Authorities - and encountered unexpectedly during project implementation. Chance Finds may be made by any member of the Project. For the construction phase the Contractor is required to prepare its own specific Environmental and Social Management and Monitoring Plan (ESMMP) and especially the topic specific Management Plan for Chance Finds for cultural heritage setting out how it intends to meet and comply with specific project commitments and mitigation measures and in line to Energean's HSE Management System which will be continuously updated. The contractor shall use the following to prepare a Chance Finds for Cultural Heritage Management Plan for the construction plan. For the operation phase Energean will apply mitigation measures as outlined in this Management Plan. This Management Plan shall act as a reference from which Energean shall prepare a Chance Finds for cultural heritage Management Plan for the operation plan. The ESMS Framework Document

1. ROLES AND RESPONSIBILITIES

1.1. **CONSTRUCTION PHASE**

All actions identified in the Management Plan will be examined and agreed with the competent authorities. The competent authorities are: The competent authorities are: Authority for Research and Conservation of Cultural Heritage (ARCCH) at Federal and Tourism and Cultural Bureaus found at regional, zonal and woreda level. They will provide all information from discussions with competent authorities to the Contractor. The responsible person from Energean will be the Project Manager. The Contractor will be responsible for any adverse cultural heritage impacts arising from the onshore and offshore activities and for putting in place any necessary measures to avoid or, if not possible, mitigate them. The Contractor will be responsible for: Elaborate and implement a Chance Finds procedure for Cultural Heritage; Assign a responsible person; Communicate the Management Plan to workers; Ensure compliance; Establish a communication line with the competent Authorities; Implement effective monitoring; and Reporting.

This Management Plan has been prepared to outline the mitigation measures necessary to ensure that negative impacts to cultural heritage, focused in Chance Finds, as a result of Project activities (construction and operation) are prevented or, if this is not possible, as low as reasonably practicable (ALARP) during all project phases. The objectives of the Management Plan are to ensure that any cultural heritage management work undertaken complies with the Energean's HSE Policy, national legislations, best international practice and all relevant EBRD PRs, in order to avoid all potential damages to cultural resources

1.2. **OPERATION PHASE**

All actions identified in the Management Plan will be examined and agreed with the competent authorities. The competent authorities are: Authority for Research and Conservation of Cultural Heritage (ARCCH) at Federal and Tourism and Cultural Bureaus found at regional, zonal and woreda level. The responsible person from Energean will be the Operation Manager. Energean will be responsible for:

Communicating the Management Plan to workers; Ensure compliance; Establish a communication line with the competent Authorities; Implement effective monitoring; and Reporting.

2. PROJECT STANDARDS

The management of any finds will be handled in accordance with national legislation and EBRD requirements. More specifically: National legislation: Proclamation No. 209/2000 for protection of cultural heritage; and EBRD requirements: PR8 for Cultural Heritage and especially par.16 (Chance Find procedure)

3. IMPLEMENTATION SCHEDULE

3.1. **CONSTRUCTION PHASE**

During the construction phase, the implementation schedule for the Management Plan is

Activity Timeline / mileston	**Activity Timeline / milestone**
Assignment of Contractor's and Energean's responsible person Prior to contract	Prior to contract
Coordination and arrangement with Archaeological Entities in case this is required by the Environment Permit and in accordance with the provisions of Article 4 of proclamation No. 209/2000.	Prior to contract
Contractor prepare a Chance Finds procedure for Cultural Heritage	Two months prior to construction
Competent Authorities elaborate an official site survey	Prior to construction
Establishment of communication line between the Contractor and competent Authorities	Prior to construction
Communicate the Management Plan to employees	Prior to construction
Monitoring of construction activities by an archaeologist (on-call basis) of the Contractor	During construction
Reporting to Energean and competent Authorities	During construction, in case of Chance Finds.

3.2. **OPERATION PHASE**

During the operation phase, the implementation schedule for the Management Plan is:

Activity Timeline / milestone	**Activity Timeline / milestone**

Assignment of Energean's responsible person	Prior to commissioning
Energen prepare the final Chance Finds procedure for Cultural Heritage.	One month prior to commissioning
Reporting to competent Authorities	During operation, in case of Chance Finds.

4. MITIGATION and MANAGEMENT CONTROLS

4.1. CONSRUCTION PHASE

During the construction phase, the following management controls will be applied:

Measure/ commitment	Responsible body	Means of verification
Monitoring of construction activities by an archaeologist in case it is deemed required in the Environmental Permit and pertinent legislation	Contractor's responsible person	Reporting
Alerting the personnel	Contractor's Construction Manager	Chance Finds verification by archaeologist
Cessation of work in the vicinity of any Chance Finds	Contractor's Construction Manager	Chance Finds verification by archaeologist
Notification to Authorities	Contractor's responsible person	Official correspondence
Specification of temporary storage and protection means of finds	Contractor's responsible person	Defined in Contractor's Management Plan

4.2. OPERATION PHASE

During the operation phase, the following management controls will be applied:

Measure / commitment	Responsible	Means of verification
Cessation of work in the vicinity of any Chance Finds	Energean's responsible person	Verification according to final Management Plan
Notification to Authorities	Energean's responsible person	Official correspondence
Move the finding to the temporary storage	Energean's responsible person	Defined in final Chance Finds procedure

5. MONITORING APPROACH AND LIST OF MONITORING PROCEDURES

5.1. CONSTRUCTION PHASE

During the construction phase and in case of archaeological findings, the following monitoring procedures will be applied.

Measure / commitment	Responsible	Periodicity
Log of archaeological monitoring in case of findings	Contractor's archaeologists	Monthly

5.2. OPERATION PHASE

During the operation phase and in case of archaeological findings, the following monitoring procedures will be applied:

Measure / commitment	Responsible	Means of verification
Log of Chance Finds	Energean's responsible person	When occur

6. TRAINING REQUIREMENTS

6.1. CONSTRUCTION PHASE

It is very crucial to ensure the triggering of the correct application of this process, as employees are not familiar to cultural heritage objects and finds. Contractor's archaeologist will inform the construction managers and supervisors of ENERGEAN and of the Contractor for the identification of cultural heritage objects.

6.2. OPERATION PHASE

A leaflet should be produced and be available to all facilities, for Chance Find procedures.

6. AUDITING & REPORTING

6.1. CONSTRUCTION REPORTING

During the construction phase in case of archaeological findings, the following auditing and reporting will take place.

Audit / report	Parameter / indicator	Periodicity
Satisfactory implementation of current	100% implementation	Monthly

management controls for Chance Finds		
Non-compliance report	Non-compliance	When occur

6.2. **OPERATION PHASE**

During the operation phase and in case of archaeological findings, the following auditing and reporting will take place:

Audit / report	**Parameter / indicator**	**Periodicity**
Satisfactory implementation of management controls for Chance Finds	100% implementation	When occur
Non-compliance report	Non-compliance	When occur

Annex 14. Contents of an Environmental and Social Audit Report

An audit report must be prepared and submitted to the competent agency for review. The audit report should at least have the following suggested contents:

- Executive summary;
- Project's current status information;
- Audit objectives and scope;
- Audit protocol, criteria and methodology used;
- Findings and Observations;
- Description of key issues including the discovered project strengths and weaknesses;
- Recommended actions;
- Conclusions; List of documents used/cited as references;
- Appendices (photographs, future Plan of Action, consultancy, list of stakeholders consulted, etc.)

Reviews and Verification of Audit Report

Competent Agency or delegated specialist review team shall conduct an environmental audit review in relation to accuracy and coverage of key issues. The reviewer shall ensure that in the report:

- Comparison between the existing and the predicted impacts in the ESIS is made;
- Evaluation of the implementation and effectiveness of the mitigation measures recommended in the ESMP is done;
- Appropriate recommendations for remedial measures are made.

The review team may make physical inspection and stakeholders' consultations in order to verify the contents of the audit review. Beside physical inspection, the proponent shall be invited for clarification and discussion.

After the review, it is the responsibility of competent agency to provide a feedback to Proponent on the environmental and social performances of the project in relation to ESMP. The developer should take to address issues raised in the audit report.

Annex 15: List of stakeholders consulted

List of Respondents from Plant Health Regulatory Directorate General

No	Name	Position/Title	Tel No	Remark
1	Zebdewos Salato	Director	0911922499	
2	Beyene Nigatu(PhD)	Toxicologist	0911170183	
3	Alemayehu Refera	Weed Expert	0910789110	
4	Wubante Girma	Entomologist	0942526251	
5	Melese Haile	Pathologist	0911318064	
6	Tsehay EShete	Director, Heritage Research Directorate, Authority for Research and Conservation of Cultural Heritage	0911421505	

No	Name	Position	Sex	Tel No	Remark
1	Tesfa Binalfew		M	0912688864	
2	Jemal Kemal	Climate and geospacial researcher at EIAR	M	0911791978	
3	Meseret Abebe	Mechanization Researcher at EIAR	M	0910943580	
4	Alemu worku	Potato Researcher at Adet Research Center	M	0918730476	
5	Belesti Kebede	Inorganic Soil Fertility Management Research Researcher at EIAR	M	0910829930	
6	Yenesaw Assaye	Integrated Watershed Management Researcher at EIAR	M	+2519672367	
7	Ermiyas Teshome	Barley Researcher Oromia Agricultural Research Institute	M	912174666	
8	Teferi Demelash	Coffee Researcher	M	+ 251 - 917833063	

Lists of persons consulted at Regional Level

S/ No	Name	sex	Region	Organization	Responsibilities	Mobile number
1	Ahmed Alkader	M	Amhara	Livestock Agency	Expert	0922554349
2	Landuber Wondale	M	Amhara	ARARI	Coordinator	0918707284
3	Habtamu Sogahu	M	Amhara	BOA	AGP Coordinator	0918177377
4	Masresha Bezabeh	M	Amhara	BOA	Expert	0918701254
5	Abebaw Kebede	M	Amhara	BOA AGPCU	Infrastructure Expert	0918056080
6	Estifanos Tamirat	M	Amhara	ARARI	M & E	0918706773
7	Worku Awdie	M	Amhara	BOA	Senior Expert	0918780186

8	Beruneh Maru	M	Amhara	BORLAU	Focal Person	0918188789
9	Yoseph G/Tsadik	M	Amhara	BOA(SSIPO)	Focal person	0930525160
10	Girma Bekele	M	Amhara	BOA	Expert	0918744829
11	Ejigu Muluken	M	Amhara	BOA	Expert	0964611180
12	Welelaw Demissie	M	Amhara	BOWLED	AGP Expert	0913387497
13	Adamu Maru	M	Amhara	BOA	AGP FMS	0918782238
14	Lawayew Agal	M	Amhara	BSA/AGPLU	M & E	0918701658
15	Solomon Abie	M	Amhara	BOA/AGP	CD	0918702114
16	Chalachew Kassa	M	Amhara			0918085617
17	Dr. Desalegn Jarso	M	Oromia		Agp Expert	
18	Senait Dinka	F	Oromia		Enviromental Expert	
19	Kifle Jegore	M	Oromia		M & E	
20	Daniel Geleta	M	Oromia		ORA	
21	Dagnachew Delessa	M	Oromia		BOANR	
22	Abdella Mohammed	M	Oromia		AGPIC	
23	Geremew Germons	M	Oromia		Environmentalist	
24	Dechasa	M	Oromia		R(AGP CW)	
25	Geremew	M	Oromia			
26	Abeje Abiy	M	SNNP		Expert	0911976896
27	Tamirat Adamu	M	SNNP		Expert	0922130403
28	Esubalew Assefa	M	SNNP		Expert	0926431676
29	Desalegn Assefa	M	SNNP		Expert	0926904832
30	Mikyas Eframe	M	SNNP		Expert	0916023266
31	Zewge Lema	M	SNNP		Capacity Development	0916831556
32	Fikru Birela	F	SNNP			0913027255
33	Otoro Alke	M	SNNP		Research Coordinator	0916833916
34	Shitaye Chebula	M	SNNP		Research Mana.	0962267297

Lists of persons consulted at woreda level

S.No	Name	sex	Woreda	Organization	Responsibilities	Mobile Number
AMHARA REGION						
1	Tilahun Fetene	M	Yilmana Densa	Adminstration	Head of Adminstration	0934588062
2	Shibeshi Abebaw	M	Yilmana Densa	AGPCU	Coordinator	0941249532
3	Kassa Nega	M	Yilmana Densa	AGPCU	Accountant	0918214220
4	Miherete Gobeze	M	Yilmana Densa	Cooperative	Head of Coop	0918800794
5	Getnet Arega(Dr.)	M	Yilmana Densa	Livestock Office	Head of livestock	0921344692
6	Gizachew Bire	M	Yilmana Densa	Cooperative	Group leader	0948015441
7	Zeleke Kassa	M	Yilmana	Finance	Coordinator	0918019691

S.No	Name	sex	Woreda	Organization	Responsibilities	Mobile Number
			Densa			
8	Agegnehu Ayichile	M	Yilmana Densa	Agriculture	Post harvest tech.	0918819305
9	Temesgen Yayu	M	Yilmana Densa	Land adm. & use Office	EIA expert	0918706435
10	Habtamu Belachew	M	Yilmana Densa	Youth	Youth expert	0986003529
11	Gashaw Akele	M	Yilmana Densa	Agri. Office	SWC expert	0918801168
12	Biazen Ayele	M	Yilmana Densa	Livestock	Expert	0943507755
13	Eyob Belay	M	Yilmana Densa	Agri. Office	Irrigation exp.	0921128117
14	Getanch Nadew	M	Yilmana Densa	Agri. Office	Vegetable &	0918253863
15	Getenit Assefa	M	Yilmana Densa	Agri. Office	Agri. Extn. Commun.	0977297503
16	Ejigu Muluken	M	Yilmana Densa		EIA expert	0964611150
17	Getnet Misganaw	M	Yilmana Densa	Water Office	Team leader	0918017809
18	Ethun Tadess	M	Yilmana Densa	W.C. & A Office	Head	0918310896
19	Mengistu Alemayehu	M	Ayehu Guagusa	Agriculture	AGP. Coo	0918135702
20	Simachew Amsal	M	Ayehu Guagusa	Agriculture	V/Head	0921791585
21	Bantiqesh Shitu	M	Ayehu Guagusa	Agriculture	Finance	0904951004
22	Amare Niberet	M	Ayehu Guagusa	Agriculture	Plan & program	0918199021
23	Temesgen Dessie	M	Ayehu Guagusa	Livestock	AGP focal	0918293747
24	Temesgen Yimenu	M	Ayehu Guagusa	Agriculture	Extension & communication team leader	0918497691
25	Kassahun Ayele	M	Ayehu Guagusa	ESMF/land adm.	Environmental exp.	0920771283
26	Belete Wale	M	Ayehu Guagusa	Water & Energy	AGP Focal	0918429176
27	Assefa Workineh	M	Ayehu Guagusa	Agriculture	AGP Focal	0926098729
28	Dessalew Welelti	M	Ayehu Guagusa	AGP eng.	AGP. Engineer	0921413972
29	Teshaye Misganaw	M	Ayehu Guagusa	Coop. Off.		0920502196
30	Tsegaye Milargih	M	Ayehu Guagusa	Trade & Marketing	Marketing expert	0910275341
31	Abyot Yeshaneh	M	Ayehu Guagusa	Agriculture	Vegetable & fruit Leadership	0910435543
32	Eyerus Bitew	F	Ayehu Guagusa	Agriculture		0932876575

S.No	Name	sex	Woreda	Organization	Responsibilities	Mobile Number
33	Ejigu Muluken	M	Guna Begemdir	BOA AGPCU	E/S/ Safe	0964611180
34	Fikadu Aklilu	M	Guna Begemdir	Agriculture	Horticulture	0918639191
35	Biykie Kassie	M	Guna Begemdir	AGP Engineer	Infrastructure Eng.	0918295674
36	Samuel Yirga	M	Guna Begemdir	Livestock	Ver disease survilance	0940217456
37	Temesgen Assaye	M	Guna Begemdir	SEIA office	Environmental exp.	0918322003
38	Mekonen Abaje	M	Guna Begemdir	Agriculture	Expert	0918163940
39	Mulat Sendek	M	Guna Begemdir	Plant science	Agron. Expert	0918219161
40	Abera Tesfaw	M	Guna Begemdir	Enterprise	Expert	0918703949
41	Berhanu Abate	M	Guna Begemdir	Female & youth	FOP group leader	0918382090
42	Birhan Getie	M	Guna Begemdir	Water	Team leader	09180824360
43	Asmamaw Engedaw	M	Guna Begemdir	Cooperative	Focal	0953637171
44	Alemnew Fentie	M	Guna Begemdir	Finance	Focal	0918379893
45	Temesgen Yalew	M	Guna Begemdir	Agriculture	Extension	0910916419
46	Sisay Kassie	M	Guna Begemdir	Agriculture	AGP Focal person	0918786400
47	Fikrie Muhabaw	M	Guna Begemdir	Agriculture	Crop production representative	0918194187
48	Tsegaye Chanie	F	Guna Begemdir	Livestock	Animal production	0918641577
49	Solomon Ashagrie	M	Guna Begemdir	Agriculture	Head	0962264790
50	Ebabeyew Teklae	M	Guna Begemdir	Finance	Accountant	0918713737
51	Ejigayehu Mulugeta	F	Guna Begemdir	Agriculture	Focal	0924260672
52	Biru Teferie	M	Guna Begemdir	‘’	Ext.Expert	0943062476
OROMIA REGION						
53	Teshome Kebede	M	Ejersa Lefo	BOA	Agri. officer	0912147933
54	Tariku Megersa	M	Ejersa Lefo	BOA	Vice of head Agri.	0910182763
55	Motuma File	M	Ejersa Lefo	BOA	DA	0934026606
56	Bekele Teresa	M	Ejersa Lefo	Kebele	Kebele Manager	0923629707
57	Ananiz Tesme	M	Ejersa Lefo		FP	0911469038
58	Nasir Assefa	M	Kersa Malima		Agri. Head	0912209204
59	Workineh Tefera	M	Kersa Malima		Municipality Head	0920977183
60	Guta Abera	M	Kersa Malima		Land Manager	0910168341
61	Mesfin Eddessa	M	Kersa		Market Head	0922844404

S.No	Name	sex	Woreda	Organization	Responsibilities	Mobile Number
			Malima			
62	Alamishet Tesfayee	F	Kersa Malima			0910922960
63	Ciimdii Lata	M	Kersa Malima		E/Na	0913783025
64	Tona Mazengia	M	Kersa Malima		K/	0913362061
65	Tashima Badesa	M	Kersa Malima		K/	0919425001
66	Tesfaye Kuur	M	Kersa Malima		Expert	0913290803
67	Tefera Hunde	M	Dugda	EPA		0939776437
68	Tamuu Ogatoo	M	Dugda	Agr. & NR office		0913100171
69	Abu Tufa	M	Dugda	Youth		0921701207
70	Mitiku Negash	M	Dugda	Agri& NR		0913797221
71	Wakuma Angasu	M	Ejere		TC	0913953844
72	Mulugeta Belete	M	Ejere		TC	0917679130
73	Bonsa Dafersha	M	Ejere		TC	0913918199
74	Dereje Geleta	M	Ejere		Finance Focal	0912198292
75	Worku Gemechu	M	Ejere			0901199334
76	Gurmessa Bitima	M	Ejere		TC	0912047341
77	Sheleme Megersa	M	Ejere		TC	0910930021
78	Bantii Dandana	M	Ejere		TC	0913080799
79	Xahaa Mokonnen	M	Ejere		TC	0921173858
80	Aweke Bekele	M	Ejere		V/head agriculture office	0910067992
SNNP REGION						
81	Andamlaku Nimani	M	Gumer			0921875115
82	Sisay Sifir	M	Gumer			0923049480
83	Jadu Kibret	M	Gumer			0913934776
84	Zewdu Yayeh	M	Gumer			0943428238
85	Mohammed Nasir	M	Gumer			0913024837
86	Nure Merhye	M	Gumer			0913185599
87	Abdulmalik Seman	M	Gumer			0913303375
88	Gudma Soressir	M	Gumer			0913557935
89	Teni Tenker	M	Gumer			0961139540
90	Mekamudin Kedir	M	Gumer			0910283382
91	Bilal Negash	M	Gumer			0910241565
92	Bheru Nursega	M	Gumer			0921623258
93	Birhanu Gebre	M	Wondo Genet		Vice Head	0916056108
94	Tadege Tesfaye	M	Wondo Genet		Land adm & use expert	0913541619
95	Abdi Aman	M	Wondo Genet		Ex/p/head	0916066998
96	Girma Hankana	M	Wondo Genet		N/R/coordinator	0937269397
97	Fikre Haile	M	Wondo Genet		Rural women expert	0909726771
98	Netsanet Dukamo	F	Wondo Genet		Gender Expert	0926179784
99	Petros Batiso	M	Wondo		Agronomist	0916826229

S.No	Name	sex	Woreda	Organization	Responsibilities	Mobile Number
			Genet		expert	
100	Ashenafi Dukamo	M	Wondo Genet		Irrigation expert	0916865319
101	Zenebework Gezahegn	F	Wondo Genet		w/cha/aff	0913025937
102	Geleto Yutura	M	Wondo Genet		Vice head	0916858645
103	Million Mikias	M	Wondo Genet		Environmental protection	0913340522
104	Ayele Minanno	M	Wondo Genet		Youth co.	0913876461
105	Eneho Birhanu	M	Wondo Genet		AGP coordinator	0916130606
106	Fikru Bireda	F	Wondo Genet		E/S safeguard	0913027255
107	Tsgereda Meskelu	F	Wondo Genet		‘’	0912370247
108	Abdulhadi Nesru	M	W/Azernet			0912312595
109	Abdilkadir Hussen	M	W/Azernet			0910097920
110	Shamil Hulala	M	W/Azernet			0921400416
111	Sherefa Negash	M	W/Azernet			0910108826
112	Hansar Nuri	M	W/Azernet			0913198225
113	Shemima Kamil	F	W/Azernet			0913985796
114	Adinew Demisse	M	W/Azernet			0916105761
115	Sesina Jemal	F	W/Azernet			0913942629
116	Zubayedu Surase	F	W/Azernet			0922742719
117	Harredin Mohammed	M	W/Azernet			0913694849
118	Abdulaziz Kelilo	M	W/Azernet			0913282747
119	Nesre Anian	M	W/Azernet			0913261738
120	Zulfa Akmel	F	W/Azernet			0911935774
121	Meseret Bekele	F	W/Azernet			0913550518
122	Musema Nasir	M	W/Azernet			0913373001
123	Tofik Seid	M	W/Azernet			0913613359
124	Kedir Nuri	M	W/Azernet			0912387440
125	Nesredin Aliye	M	W/Azernet			0928894376
126	Mosa Zeyne	M	W/Azernet			0920007932
127	Dr.Ashagre Degesu	M	W/Azernet			0916292733
128	Abdurazak Shifa	M	W/Azernet			0912245462

Lists of Persons Consulted at Kebele level (KDC members)

AMHARA REGION					
Sr/no	Name	Sex	Woreda	Kebele	Responsibilities
1	Belayneh Anteneh	M	Kersa malima	Konch	KDC Member

2	Getenet Adamu	M	Kersa malima	Konch	KDC Member
3	Telaye Yebru	M	Kersa malima	Konch	KDC Member
4	Addisu Gashaw	M	Kersa malima	Konch	KDC Member
5	Amegn Ferede	M	Kersa malima	Konch	KDC Member
6	Dagnachew Abere	M	Kersa malima	Konch	KDC Member
7	Menyebel Mulu	M	Kersa malima	Konch	KDC Member
8	Tadele Bayeh	M	Kersa malima	Konch	KDC Member
9	Metin Assefa	F	Kersa malima	Konch	KDC Member
10	Yayesh Alameraw	F	Kersa malima	Konch	KDC Member
11	Tsegaw Adam	M	Kersa malima	Konch	KDC Member
12	Girmaw Mulu	M	Kersa malima	Konch	KDC Member
13	Yetayesh Tebekew	F	Kersa malima	Konch	KDC Member
14	Ayenew Alem	M	Yilmana Densa	Mosebo	KDC Member
15	E shete Tsega	M	Yilmana Densa	Mosebo	KDC Member
16	Wase Wondemeneh	M	Yilmana Densa	Mosebo	KDC Member
17	Antegegn Kassa	M	Yilmana Densa	Mosebo	KDC Member
18	Eshetu Ketema	M	Yilmana Densa	Mosebo	KDC Member
19	Sisay Kindu	M	Yilmana Densa	Mosebo	KDC Member
20	Mengaw Simachew	M	Yilmana Densa	Mosebo	KDC Member
21	Meselu Brihun	M	Yilmana Densa	Mosebo	KDC Member
22	Admas Mulugeta	M	Yilmana Densa	Mosebo	KDC Member
23	Tanegagregn Alemu	F	Yilmana Densa	Mosebo	KDC Member
24	Yetayesh Amire	F	Yilmana Densa	Mosebo	KDC Member
25	Dagnanesh Melak	F	Yilmana Densa	Mosebo	KDC Member
26	Terengo Alameraw	F	Yilmana Densa	Mosebo	KDC Member
27	Demeke Tirusew	M	Yilmana Densa	Mosebo	KDC Member
28	Negu Admase	M	Yilmana Densa	Mosebo	KDC Member
29	Belayneh Tegagne	M	Yilmana Densa	Mosebo	KDC Member
30	Bacha Nemsa	M	Kersa malima	Lemon	KDC Member
31	Abera Bacha	M	Kersa malima	Lemon	KDC Member
32	Bayissa Kebede	M	Kersa malima	Lemon	KDC Member
33	Bekele Dejene	M	Kersa malima	Lemon	KDC Member
34	Diriba Bayissa	M	Kersa malima	Lemon	KDC Member
35	Fikadu Lemi	M	Kersa malima	Lemon	KDC Member
36	Kinfu Chala	M	Kersa malima	Lemon	KDC Member
37	Ugusie Mollam	M	Kersa malima	Lemon	KDC Member
38	Ashebir Tare	M	Kersa malima	Lemon	KDC Member
39	Tamirat Gobu	M	Kersa malima	Lemon	KDC Member
40	Tigist Yibas	F	Kersa malima	Lemon	KDC Member
41	Medhanit Alemu	F	Kersa malima	Lemon	KDC Member
42	Fekana Badnsa	M	Kersa malima	Lemon	KDC Member
43	Nasir Assefa	M	Kersa malima	Lemon	KDC Member
44	Ayinalem legesse	F	Kersa malima	Lemon	KDC Member
45	Tesfaye Kun	M	Kersa malima	Lemon	KDC Member
46	Huruma Dabia	M	Kersa malima	Lemon	KDC Member
47	Alemshet Tesfaye	F	Kersa malima	Lemon	KDC Member
48	Chemde Leta	M	Kersa malima	Lemon	KDC Member
49	Borena Asnake	M	Kersa malima	Lemon	KDC Member
50	Genene Adugna	M	Kersa malima	Lemon	KDC Member
51	Tesfanesh Feleke	F	Kersa malima	Lemon	KDC Member
52	Dejene Assefa	M	Dhugda	Bole	KDC Member
53	Dejene Lemi	M	Dhugda	Bole	KDC Member
54	Nego Bogale	M	Dhugda	Bole	KDC Member

55	Bogela Adena	M	Dhugda	Bole	KDC Member
56	Yaloao Gefano	M	Dhugda	Bole	KDC Member
57	Ashe Debalek	M	Dhugda	Bole	KDC Member
58	Gemechu Kedir	M	Dhugda	Dodota-Dembel	KDC Member
59	Marta Hamda	F	Dhugda	Dodota-Dembel	KDC Member
60	Mohammed Haji	M	Dhugda	Dodota-Dembel	KDC Member
61	Beriso Bulcha	M	Dhugda	Dodota-Dembel	KDC Member
62	Ido Gebu	M	Dhugda	Dodota-Dembel	KDC Member
63	Ketema Tona	M	Dhugda	Dodota-Dembel	KDC Member
64	Gure Bedede	F	Dhugda	Dodota-Dembel	KDC Member
65	Benya Godana	M	Dhugda	Dodota-Dembel	KDC Member
66	Demis Bizani	M	Gumer	Arekit Sheleko	KDC Member
67	Mulunesh Niga	F	Gumer	Arekit Sheleko	KDC Member
68	Wubishet Wegu	M	Gumer	Arekit Sheleko	KDC Member
69	Ahmed Mohamed	M	Gumer	Arekit Sheleko	KDC Member
70	Assefa Asrat	M	Gumer	Arekit Sheleko	KDC Member
71	Munir Jilgeg	M	Gumer	Arekit Sheleko	KDC Member
72	Andamlak Nimani	M	Gumer	Arekit Sheleko	KDC Member
73	Tsion Samuel	F	Gumer	Jenboro	KDC Member
74	Yohanes Assefa	M	Gumer	Jenboro	KDC Member
75	Almaz Bahiru	F	Gumer	Jenboro	KDC Member
76	Tigistu W/georgis	M	Gumer	Jenboro	KDC Member
77	Sisay Denbu	M	Gumer	Jenboro	KDC Member
78	Mohamed Nasir	M	Gumer	Jenboro	KDC Member
79	Keyru Dilena	M	W/Azernet	Karamo Semboy	KDC Member
80	Seifu Bergetcho	M	W/Azernet	Karamo Semboy	KDC Member
81	Shikur Sime	M	W/Azernet	Karamo Semboy	KDC Member
82	Birhanu Abade	M	W/Azernet	Karamo Semboy	KDC Member
83	Siltan Yasin	M	W/Azernet	Karamo Semboy	KDC Member
84	Afnano Wabale	M	W/Azernet	Karamo Semboy	KDC Member
85	Shamsadin Nuradis	M	W/Azernet	Karamo Semboy	KDC Member
86	Shikroto Negi	M	W/Azernet	Bilalo	KDC Member
87	Hamyina Molla	M	W/Azernet	Bilalo	KDC Member
88	Shemsu Nasir	M	W/Azernet	Bilalo	KDC Member
89	Kedir Shikur	M	W/Azernet	Bilalo	KDC Member
90	Edlela Jasir	M	W/Azernet	Bilalo	KDC Member
91	Zeki Mohamed	M	W/Azernet	Bilalo	KDC Member
92	Mohamed Sirmolo	M	W/Azernet	Bilalo	KDC Member
93	H/Iyasus Seifu	M	W/Azernet	Bilalo	KDC Member
94	Mebruk Tekoye	M	W/Azernet	Bilalo	KDC Member
95	Bedru Tekeyo	M	W/Azernet	Bilalo	KDC Member
96	A/had Dima	M	W/Azernet	Bilalo	KDC Member
97	Adisu Kassa	M	Wondogenet	Aruma	KDC Member
98	Teshome Tamirat	M	Wondogenet	Aruma	KDC Member
99	Tarekegn Deraye	M	Wondogenet	Aruma	KDC Member
100	Balegun Barara	M	Wondogenet	Aruma	KDC Member
101	Barasa Sakuma	M	Wondogenet	Aruma	KDC Member
102	Bum Bushura	M	Wondogenet	Aruma	KDC Member
103	Tamiru Etana	M	Wondogenet	Aruma	KDC Member
104	Henok Sanbacho	M	Wondogenet	Aruma	KDC Member
105	Shira Sidemo	M	Wondogenet	Aruma	KDC Member

106	Kesho Wise	M	Wondogenet	Aruma	KDC Member	
107	Getachew Taye	M	Wondogenet	Woshasoyam	KDC Member	
108	Sermisa Washe	M	Wondogenet	Woshasoyam	KDC Member	
109	Kefyalew Dediso	F	Wondogenet	Woshasoyam	KDC Member	
110	Abebe Anjelo	M	Wondogenet	Woshasoyam	KDC Member	
111	Haroye Hanka	M	Wondogenet	Woshasoyam	KDC Member	
112	Desta Diam	M	Wondogenet	Woshasoyam	KDC Member	
113	Mateyos Karesa	M	Wondogenet	Woshasoyam	KDC Member	
	Lists of Communities/Beneficieries -Consulted					
	AMHARA REGION					
1	Mengist Tizazu	M	Guna Begemidir	Arega		
2	Melak Mandefro	M	Guna Begemidir	Arega		
3	Abebe Alemayehu	M	Guna Begemidir	Arega		
4	Misib Tesfe	F	Guna Begemidir	Arega		
5	Zewdu Tizazu	M	Guna Begemidir	Arega		
6	Mare Kasse	F	Guna Begemidir	Arega		
7	Guade Meles	M	Guna Begemidir	Arega		
8	Mekurya Melaku	M	Guna Begemidir	Arega		
9	Yeniguse Belay	F	Guna Begemidir	Arega		
10	Mulu Addise	F	Guna Begemidir	Arega		
11	Hilme Molla	F	Guna Begemidir	Arega		
12	Kindalem Feleke	M	Guna Begemidir	Arega		
13	Tadesse Belete	M	Guna Begemidir	Arega		
14	Fentaw Mebrat	M	Guna Begemidir	Arega		
15	Mebrat Waga	M	Guna Begemidir	Arega		
16	Gete Tiruneh	M	Guna Begemidir	Arega		
17	Beyene Melaku	M	Guna Begemidir	Arega		
18	Mulu Demisse	F	Guna Begemidir	Arega		
19	Yhudar Molla	F	Guna Begemidir	Arega		
20	Getalem Gebeyehu	M	Guna Begemidir	Arega		
21	Kinde Gululat	M	Guna Begemidir	Ata		
22	Admas Akalu	M	Guna Begemidir	Ata		
23	Turiye Jember	F	Guna Begemidir	Ata		
24	Birke Alemu	F	Guna Begemidir	Ata		
25	Zerihun Assefa	M	Guna Begemidir	Ata		
26	Teshager Mekonen	M	Guna Begemidir	Ata		
27	Jember Gebeyehu	M	Guna Begemidir	Ata		
28	Abebaw Derebew	M	Guna Begemidir	Ata		
29	Dagnaw Feleke	M	Guna Begemidir	Ata		
30	Mestawat Assefa	F	Guna Begemidir	Ata		
31	Jember Gebeyehu	M	Guna Begemidir	Ata		
32	Achenef Tiruneh	M	Guna Begemidir	Ata		
33	Banch Gebeyehu	F	Guna Begemidir	Ata		
34	Gezachew Zemene	M	Guna Begemidir	Ata		
35	Keleb Mekonen	F	Guna Begemidir	Ata		
36	Kinde Gedamu	M	Guna Begemidir	Ata		
37	Bayech Fikadu	F	Guna Begemidir	Ata		
38	Tsehay Kasse	F	Guna Begemidir	Ata		
39	Gedfaw Kinde	M	Guna Begemidir	Ata		
40	Abebaw Andarge	M	Guna Begemidir	Ata		
41	Meles Haile	M	Ayehu Gugsa	Sostu Segno		
42	Anjet Eshete	M	Ayehu Gugsa	Sostu Segno		
43	Aderaw Tsehay	M	Ayehu Gugsa	Sostu Segno		

44	Nega Hayle	M	Ayehu Gugsa	Sostu Segno	
45	Demelash Welala	M	Ayehu Gugsa	Sostu Segno	
46	Meheret Yenet	M	Ayehu Gugsa	Sostu Segno	
47	Ayenew Hailu	M	Ayehu Gugsa	Sostu Segno	
48	Kassahun Yenet	M	Ayehu Gugsa	Sostu Segno	
49	Mekonen Shatu	M	Ayehu Gugsa	Sostu Segno	
50	Embiyale Atenafu	M	Ayehu Gugsa	Sostu Segno	
51	Bishaw Atnafu	M	Ayehu Gugsa	Sostu Segno	
52	Ayechelu Shatu	M	Sostu Segno	Ayehu Gugsa	
53	Ewri Leyaw	M	Ayehu Gugsa	Sostu Segno	
54	Ayalew Getahun	M	Ayehu Gugsa	Sostu Segno	
55	Bishaw Teferi	M	Ayehu Gugsa	Sostu Segno	
56	Mulugeta Atnafu	M	Ayehu Gugsa	Sostu Segno	
57	Sewenet Kassa	M	Ayehu Gugsa	Sostu Segno	
58	Yohannes Atnafu	M	Ayehu Gugsa	Sostu Segno	
59	Alemu Tadele	M	Ayehu Gugsa	Sostu Segno	
60	Yenew Alamerew	M	Ayehu Gugsa	Sostu Segno	
61	Gezahegn Reta	M	Ayehu Gugsa	Dikuna Dereb	
62	Telaye Feleke	M	Ayehu Gugsa	Dikuna Dereb	
63	Aweke Bezu	M	Ayehu Gugsa	Dikuna Dereb	
64	Shete Mulu	M	Ayehu Gugsa	Dikuna Dereb	
65	Denekew Alemayehu	M	Ayehu Gugsa	Dikuna Dereb	
66	Tsega Abat	M	Ayehu Gugsa	Dikuna Dereb	
67	Denkew Ayalew	M	Ayehu Gugsa	Dikuna Dereb	
68	Asrat Mekonen	M	Ayehu Gugsa	Dikuna Dereb	
69	Abiye Bayu	M	Ayehu Gugsa	Dikuna Dereb	
70	Abiye Getahun	M	Ayehu Gugsa	Dikuna Dereb	
71	Workneh Yenewen	M	Ayehu Gugsa	Dikuna Dereb	
72	Salesh Yerdaw	M	Ayehu Gugsa	Dikuna Dereb	
73	Gojam Abat	F	Ayehu Gugsa	Dikuna Dereb	
74	Asras Kebede	M	Ayehu Gugsa	Dikuna Dereb	
75	Bitawush Mulu	F	Ayehu Gugsa	Dikuna Dereb	
76	Asras Bitaw	F	Ayehu Gugsa	Dikuna Dereb	
77	Felegush Kassa	F	Ayehu Gugsa	Dikuna Dereb	
78	Zewde Haymanot	F	Ayehu Gugsa	Dikuna Dereb	
79	Shita Niguse	F	Ayehu Gugsa	Dikuna Dereb	
80	Menbale Ferede	M	Ayehu Gugsa	Dikuna Dereb	
81	Anteneh Mekuriyaw	M	Ayehu Gugsa	Dikuna Dereb	
82	Bitaw Asras	M	Ayehu Gugsa	Dikuna Dereb	
83	Yeshalem Dessie	F	Ayehu Gugsa	Dikuna Dereb	
84	Alene Abat	M	Ayehu Gugsa	Dikuna Dereb	
85	Shitaye Mekonen	F	Ayehu Gugsa	Dikuna Dereb	
86	Gesese Ferede	M	Ayehu Gugsa	Dikuna Dereb	
87	Medhanit Melaku	F	Ayehu Gugsa	Dikuna Dereb	
88	Zaleke Tolosa	M	Ejersa Lafo	Jemjem lega bato	
89	Teshome Feyisa	M	Ejersa Lafo	Jemjem lega bato	
90	Negusa Tolosa	M	Ejersa Lafo	Jemjem lega bato	
91	Ajema Safisu	M	Ejersa Lafo	Jemjem lega bato	
92	Shifera Lema	M	Ejersa Lafo	Jemjem lega bato	
93	Chala Dulume	M	Ejersa Lafo	Jemjem lega bato	

94	Ababa Tsegyt	M	Ejersa Lafo	Jemjem lega bato
95	Fitena Lema	M	Ejersa Lafo	Jemjem lega bato
96	Chala Assefa	M	Ejersa Lafo	Jemjem lega bato
97	Dayibi Balchu	M	Ejersa Lafo	Jemjem lega bato
98	Gazu Fayisia	M	Ejersa Lafo	Jemjem lega bato
99	Humsa Yilma	M	Ejersa Lafo	Jemjem lega bato
100	Bekele Mohain	M	Ejersa Lafo	Jemjem lega bato
101	Warki Bone	F	Ejersa Lafo	Jemjem lega bato
102	Beyene Motu	M	Ejersa Lafo	Jemjem lega bato
103	Bachi Kebede	M	Ejersa Lafo	Jemjem lega bato
104	Bulcha Tolosa	M	Ejersa Lafo	Jemjem lega bato
105	Negash Desta	M	Kersa Malima	Jemjem-Zerma
106	Abusha Tadese	M	Kersa Malima	Jemjem-Zerma
107	Dita Desta	M	Kersa Malima	Jemjem-Zerma
108	Bacha Seifu	M	Kersa Malima	Jemjem-Zerma
109	Buzayehu Desta	M	Kersa Malima	Jemjem-Zerma
110	Abebe Negash	M	Kersa Malima	Jemjem-Zerma
111	Bekele Deyits	M	Kersa Malima	Jemjem-Zerma
112	Itenesh Bekele	F	Kersa Malima	Jemjem-Zerma
113	Chuna Bayisa	F	Kersa Malima	Jemjem-Zerma
114	Meseret Girma	F	Kersa Malima	Jemjem-Zerma
115	Getu Dakaba	M	Ejere	I/Aga
116	Kuma Birhanu	M	Ejere	I/Aga
117	Teshome Getu	M	Ejere	I/Aga
118	Gadisa Bali	M	Ejere	I/Aga
119	Gari Himisa	M	Ejere	I/Aga
120	Ketema Getu	M	Ejere	I/Aga
121	Dinknesh Dinku	F	Ejere	I/Aga
122	Sharom Teshome	F	Ejere	I/Aga
123	Kebisse Jura	F	Ejere	I/Aga
124	Kababal Bali	M	Ejere	I/Aga
125	Tiko H/meskel	M	Ejere	I/Aga
126	Dajamal Alamu	M	Ejere	I/Aga
127	Bayisa Duferra	M	Ejere	I/Aga
128	Gadissa Gutal	M	Ejere	I/Aga
129	Birhanu Bachi	M	Ejere	I/Aga
130	Gazahegn Jawar	M	Ejere	Indod
131	Damise Tagbaln	M	Ejere	Indod
132	Tsigu Sambataa	M	Ejere	Indod
133	Gazzuma Lamacho	M	Ejere	Indod
134	Challa Goromow	M	Ejere	Indod
135	Asrat Legesse	M	Ejere	Indod
136	Laggassa Mersha	M	Ejere	Indod
137	Gonfe Latae	M	Ejere	Indod
138	Mulugeta Belete	M	Ejere	Indod
139	Dereje Abdissa	M	Ejere	Indod
140	Aweke Bekele	M	Ejere	Indod
141	Urgessa Soori	M	Ejere	Indod
142	Abebe Ketema	M	Ejere	Indod
143	Dinkina Kabbaba	M	Ejere	Indod
144	Roba Debelle	M	Dugda	Dodota´ Dembel

145	Ido Erba	M	Dugda	Dodota´ Dembel	
146	Dhuga Gobana	M	Dugda	Dodota´ Dembel	
147	Ireso Kallo	M	Dugda	Dodota´ Dembel	
148	Danyee Weltiko	M	Dugda	Dodota´ Dembel	
149	Balcha Gobu	M	Dugda	Dodota´ Dembel	
150	Guta Balcha	M	Dugda	Dodota´ Dembel	
151	Urgesa Kufa	M	Dugda	Dodota´ Dembel	
152	Salbana Gada	M	Dugda	Dodota´ Dembel	
153	Shushu Mishkaso	M	Dugda	Dodota´ Dembel	
154	Fareso Waqitola	M	Dugda	Dodota´ Dembel	
155	Gamada Balcha	M	Dugda	Dodota´ Dembel	
156	Bayesa Waqitola	M	Dugda	Dodota´ Dembel	
157	Ashu Waqitola	M	Dugda	Dodota´ Dembel	
158	Midhakso Balcha	M	Dugda	Dodota´ Dembel	
159	BulLaa Kuga	M	Dugda	Dodota´ Dembel	
160	Dasse Urgesa	M	Dugda	Dodota´ Dembel	
161	Dodee Zillo	M	Dugda	Dodota´ Dembel	
162	Giku Bariso	M	Dugda	Dodota´ Dembel	
163	Jilo Gabu	M	Dugda	Dodota´ Dembel	
164	Denkense Durase	M	Wondo Genet	washa	
165	Belaynesh Gebre	F	Wondo Genet	washa	
166	Maresewot Lema	F	Wondo Genet	washa	
167	Asrese Aweke	M	Wondo Genet	washa	
168	Alem Mezegebu	F	Gumer	Arekitshelko	
169	Zeheryat Mohammed	F	Gumer	Arekitshelko	
170	Abebech Denbi	F	Gumer	Arekitshelko	
171	Yeshi Baro	F	Gumer	Arekitshelko	
172	Yebekrut Gebre	F	Gumer	Arekitshelko	
173	Genet Gebre	F	Gumer	Arekitshelko	
174	Mekye Mohammed	F	Gumer	Arekitshelko	
175	Amsalech Makteg	F	Gumer	Arekitshelko	
176	Salet Mune	F	Gumer	Arekitshelko	
177	Sarech Nuri	F	Gumer	Arekitshelko	
178	Gizaw Marute	M	Gumer	Arekitshelko	
179	Mekya Mohamed	F	Gumer	Arekitshelko	
180	Salot Muze	F	Gumer	Arekitshelko	
181	Alemnesh Mezgebu	F	Gumer	Arekitshelko	
182	Abebech Denbi	F	Gumer	Arekitshelko	
183	Yeshi Bari	F	Gumer	Arekitshelko	
184	Yebkarut Gebre	F	Gumer	Arekitshelko	
185	Genet Gebre	F	Gumer	Arekitshelko	
186	Leheryat Mohamed	F	Gumer	Arekitshelko	
187	Amsalech Maretg	F	Gumer	Arekitshelko	
188	Daniel Fereje	M	Gumer	Arekitshelko	
189	Munir Degebe	M	Gumer	Arekitshelko	
190	Sarech Nur	F	Gumer	Arekitshelko	
191	Gabtu Sherga	M	Gumer	Jonbero	
192	Nasir Aman	M	Gumer	Jonbero	
193	Shemsu Nasir	M	Gumer	Jonbero	
194	Denkenesh Durasa	F	Gumer	Jonbero	
195	Belaynesh Gebre	F	Gumer	Jonbero	
196	Asregu Aweke	F	Gumer	Jonbero	

197	Meseret Lemu	F	Gumer	Jonbero	
198	Lemma Timkega	M	Gumer	Jonbero	
199	Ramete Hulala	F	Merab Azernet	Jaremo Semboye	
200	Meyimuna Bediru	F	Merab Azernet	Jaremo Semboye	
201	Zulfa Wulchafo	F	Merab Azernet	Jaremo Semboy	
202	Nefisa Shukralah	F	Merab Azernet	Jaremo Semboy	
203	Sofia Nefisu	F	Merab Azernet	Jaremo Sembo	
204	Medina Surur	F	Merab Azernet	Jaremo Sembo	
205	Yohanes Bogale	M	Wendogenet	Aruma	
206	Niguse Shibru	M	Wendogenet	Aruma	
207	Dedemo Amara	M	Wendogenet	Aruma	
208	Abera Kebede	M	Wendogenet	Aruma	
209	Kefyalew Shonka	M	Wendogenet	Aruma	
210	Mateyos Shashama	M	Wendogenet	Aruma	
211	Mekbeb Senbeto	M	Wendogenet	Aruma	
212	Tsegereda Meskelu	F	Wendogenet	Aruma	
213	Fikru Birada	F	Wendogenet	Aruma	
214	Birtkun Deai	F	Wendogenet	Aruma	
215	Konjit Didims	F	Wendogenet	Aruma	
216	Tirunesh Yirgu	F	Wendogenet	Aruma	
217	Tadesse Tagwasasa	M	Wendogenet	Aruma	
218	Detamo Bareso	M	Wendogenet	Aruma	
219	Feraje Tule	F	Wendogenet	Aruma	
220	Wemtu Bushura	F	Wendogenet	Aruma	
221	Aster Niguse	F	Wendogenet	Aruma	
222	Yuba Galfato	F	Wendogenet	Aruma	
223	Bizunesh Lansamo	F	Wendogenet	Aruma	
224	Beyenech Yohannes	F	Wendogenet	Aruma	
225	Ayelech Ledamo	F	Wendogenet	Aruma	
226	Bartu Tabay	F	Wendogenet	Aruma	
227	Ayelech Habaso	F	Wendogenet	Aruma	
228	Tirunesh Yirgu	F	Wendogenet	Wosha Soyama	
229	Konjit Didamo	F	Wendogenet	Wosha Soyama	
230	Worke Gindeso	F	Wendogenet	Wosha Soyama	
231	Zirtu Barso	F	Wendogenet	Wosha Soyama	
232	Mesaye Shirew	F	Wendogenet	Wosha Soyama	
233	Wegayehu Assefa	F	Wendogenet	Wosha Soyama	
234	Mame Tabi	F	Wendogenet	Wosha Soyama	
235	Zertu Haile	F	Wendogenet	Wosha Soyama	
236	Almaz Amalo	F	Wendogenet	Wosha Soyama	
237	Mulu Mateyos	F	Wendogenet	Wosha Soyama	
238	Almaz Ama	F	Wendogenet	Wosha Soyama	
239	Mulu Matewos	F	Wendogenet	Wosha Soyama	
240	Almaz Teka	F	Wendogenet	Wosha Soyama	
241	Misrak Wakayo	F	Wendogenet	Wosha Soyama	
240	Fantu Didamo	F	Wendogenet	Wosha Soyama	
242	Daete Dukem	F	Wendogenet	W.Soy	
243	Tadelech Taye	F	Wendogenet	W.Soy	