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Ministry of Agriculture and Natural Resources

Participatory Small-scale Irrigation Development Programme

Phase II

(PASIDP-II)

Environmental and Social Management Framework (ESMF)

FINAL REPORT

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Acronyms and Abbreviations

ADLI	Agricultural Development Led Industrialisation
AGP-II	Agricultural Growth Programme Phase II
ANRS	Amhara National Regional State
ARCCH	Authority of Research and Conservation of Cultural Heritages
BOA	Bureau of Agriculture
BOEPLAU	Bureau of Environmental Protection, Land Administration and Use
BOFED	Bureau of Finance and Economic Development
CA	Conservation Agriculture
CBINReMP	Community-Based Integrated Natural Resources Management Project
CC	Climate Change
CRGE	Climate Resilient Green Economy
CSA	Central Statistics Agency
DA	Development Agent
EPLAUA	Environmental Protection, Land Administration and Use Agency
ESC	Environment, Social and Climate
ESIA	Environmental and Social Impact Assessment
ESMP	Environmental and Social Management Plans
FAO	Food and Agriculture Organisation
FPCMU	Federal Programme Coordination and Management Unit
FPSC	Federal Programme Steering Committee
FPTC	Federal Programme Technical Committee
GOE	Government of Ethiopia
GTP	Growth and Transformation Plan
Ha	Hectares
IA	Implementing Agency
IFAD	International Fund for Agriculture Development
KDC	Kebele Development Committee
MOA	Ministry of Agriculture
MOANR	Ministry of Agriculture and Natural Resources
MOEFCC	Ministry of Environment, Forests and Climate Change
MOFEC	Ministry of Finance and Economic Cooperation
MOLSA	Ministry of Labour and Social Affairs
MOWIE	Ministry of Water, Irrigation and Energy
MTR	Mid-Term Review
PASIDP	Participatory Small-Scale Irrigation Development Programme
PCR	Physical Cultural Resources
PDR	Programme Design Report
PIM	Project Implementation Manual
PMP	Pesticide Management Plan
RAP	Resettlement Action Plan
RPCMU	Regional Programme Coordination and Management Unit
RPSC	Regional Programme Steering Committee
RPTC	Regional Programme Technical Committee
SECAP	Social, Environmental and Climate Assessment Procedures
SLMP-II	Sustainable Land Management Programme Phase II
SNNPR	Southern Nations, Nationalities and Peoples Region
USD	United States Dollar
WB	World Bank
WMT	Watershed Management Team

Executive Summary

Introduction

The first phase of the Participatory Small-Scale Irrigation Development Programme (PASIDP) was implemented from 2008 to 2015. PASIDP has contributed to reducing Ethiopia's vulnerability to adverse weather conditions and drought, and to reduce rural poverty and food insecurity. However, implementation was limited to parts of four regions, and therefore more needs to be done to extend PASIDP's successful interventions to other parts of the country for the benefit of the rural poor. The country is still very dependent on rain-fed agriculture and, given the variable rainfall, increasing temperatures and the recurrent droughts, achievement of full food and nutrition security for all would be difficult. Therefore, the Government of Ethiopia (GOE) and the International Fund for Agricultural Development (IFAD) have agreed to design and implement a second phase of the Programme, PASIDP-II. PASIDP-II's goals and objectives are consistent with the strategic objectives of the GOE's Second Growth and Transformation Plan (GTP II), namely: increased and market-oriented crop production and productivity; increased livestock production and productivity; reduced degradation and improved productivity of natural resources; and enhanced food security.

PASIDP-II has been assigned a Category A classification according to IFAD's Social, Environmental and Climate Assessment Procedures (SECAP). Although the majority of the proposed interventions, including irrigation schemes, are expected to have limited, site-specific and manageable environmental and social risks, since the exact sites and interventions are not known at this stage, an Environmental and Social Management Framework is required to be developed for the Programme in order to guide the preparation of environmental and social impact assessments (ESIAs) and environmental and social management plans (ESMPs). Project (or scheme) specific ESIAs will be undertaken during Programme implementation for those schemes classified as Category A, while ESMPs will be prepared for schemes classified as Category B. The interventions, particularly in the lowlands, may trigger the need for the implementation of a Free Prior and Informed Consent (FPIC) plan. The ESMF will facilitate the application of SECAP requirements to PASIDP-II interventions in order to address the social, environmental and climate impacts associated with PASIDP-II design and implementation.

Project Description

The Programme area covers four regions of Ethiopia: Amhara, Oromiya, Southern Nations, Nationalities and Peoples Region (SNNPR) and Tigray. The targeting mechanism will seek to ensure equitable participation in, and benefits from, Programme activities. The Programme will focus on rural areas only, and woredas will be selected based on the level of poverty and food insecurity, potential for small-scale irrigation and those not covered by the second phase of the Agriculture Growth Programme (AGP-II). The Programme comprises the following components and subcomponents:

- *Component 1: Investment in Small-scale Irrigation Infrastructure* aims to enable farmers to have access to sustainable irrigation schemes. The proposed Programme aims to develop 12,000 hectares of small-scale irrigation schemes. Subcomponent 1.1 "Irrigation Scheme Participatory Planning and Preparation" will support (a) the identification and selection of schemes, (b) the feasibility studies and detailed designs following improved quality guidelines, (c) the establishment and strengthening of Irrigation Water Users Associations, (d) the required environmental and social impact studies. Subcomponent 1.2 will provide financing

for the development of the selected irrigation schemes, including access roads and basic marketing infrastructure.

- *Component 2: Investment in Capacity for Sustainable Agriculture* aims to give farmers increased market-oriented skills and capacity for sustainable agriculture. The component will support a range of activities designed to ensure that the target beneficiaries operate in an environment that is more conducive to rural commercial development. Subcomponent 2.1 will finance the strengthening of farmers' cooperatives, the development of market linkages, and access to financial services. Subcomponent 2.2 will support the improvement of crop husbandry practices mainly through farmers' research groups, availability of improved seed. The Subcomponent will also make provision for gender-activities and promotion of nutrition-sensitive agriculture. Subcomponent 2.3 will support improved watershed development and management and promotion of conservation farming.
- *Component 3: Programme Management, Monitoring, Evaluation and Knowledge Management* will focus on Learning and Knowledge Management, Programme Management, and Monitoring and Evaluation.

This ESMF focuses on Component 1 Investment in Small-scale Irrigation Infrastructure and Subcomponent 2.3 Watershed Development and Management.

Lessons Learned and Gap Analysis

Although PASIDP-I contributed to increased production and productivity, improved crop diversification, increased cropping seasons, increased overall beneficiary HHs income, improved HHs asset ownership, improved HH food security, improved family nutrition and improved women empowerment, it was noted that there was need for technical backstopping at all stages of the Programme, to enhance local capacity for implementation, and to conduct implementation and supervision missions. The multi-donor supported Sustainable Land Management Project[1] noted major shortcomings as being lack of capacity at the different levels (kebele, woreda and region), and lack of financial resources to implement the EMSPs and mitigation measures, and lack of capacity specifically relating to the identification, planning and screening of subprojects at kebele level by development agents and at woreda level. Key findings of the review of the multi-donor funded Agricultural Growth Program[2] Phase I (AGP-I) ESMF included: ESMPs produced at both regional level and woreda level were of low quality; limitations on the implementation of mitigation measures (including pesticide management plans) and monitoring of implementation; poor documentation of environmental and social safeguards; and poor adherence to dam safety guidelines.

As part of the ESMF preparation, a Gap Analysis was conducted on a selection of schemes for which feasibility studies, designs and environmental impact assessment studies or environmental and social management plans had been prepared. On the whole, the ESIAs and ESMPs covered issues relating impacts of sedimentation and soil erosion; dust and exhaust emissions during construction; disturbance to the communities during construction; agrochemical use; water logging; salinization; and institutional responsibilities to varying extent. However key gaps that required greater analysis included, among others, hydrological characteristics of the rivers, water availability for irrigation and

[1] The SLM Project is supported by: The World Bank, GIZ, KfW, Canadian International Development Agency, the European Union, IFAD GEF, and the Government of Finland.

[2] The AGP Program is funded by: Agencia Espanola De Cooperacion International Para El Desarrollo, Canadian International Development Agency – Government of Canada, Food and Agriculture Organization of the United Nations, Embassy of the Kingdom of the Netherlands, United National Development Program (UNDP), United States Agency for International Development (USAID), and the World Bank Group

determination of environmental flow; water quality; aquatic ecology; details on protected areas in or near the project area; climate vulnerability and impacts of climatic events, and cumulative impacts. In many cases the analysis of impacts and monitoring requirements do not tie in with the baselines. Only a few reports indicate whether or not physical and economic displacement will occur as a result of the project, and the need for a resettlement action plan. The Gap Analysis concluded that there is in general a lack of capacity among consultants to conduct adequate environmental and social assessment studies and prepare adequate ESMPs to satisfy IFAD SECAP requirements.

Stakeholder Consultations

PASIDP-II will build on experience and lessons of relevance from previous programmes and projects. At Federal level, meetings were held with representatives from the PASIDP Federal Project Coordination Office, Directorates of the Natural Resources Management, Small Scale Irrigation, Plant Protection in the Ministry of Agriculture; the Monitoring, Evaluation and Licencing Department in the Ministry of Environment, Forests and Climate Change; the Directorates of Water Utilization Permits and Administration, Irrigation and Drainage, GIS and the Environmental Impact Assessment and Social Development Office in the Ministry of Water, Irrigation and Energy. Consultations were also held at regional, woreda and kebele levels in order to establish processes, capacity and programme perceptions. Meetings were held with representatives from PASIDP Regional Offices, Regional Water Bureaus, and Regional Environmental Protection and Land Administration and Use Bureaus. At woreda level, experts from various woreda offices including water, agriculture, forests and natural resources were consulted, while at kebele level, consultations were held with the kebele administrations, members of the communities and PASIDP scheme beneficiaries.

In order to ensure that target communities participate in decisions for PASIDP-II, community consultations were held at selected proposed small-scale irrigation schemes proposed in each of the four Programme regions, viz. Amhara, Oromiya, SNNP and Tigray. In addition, discussions were held with the relevant local government agencies at Woreda and Regional levels. In all, 327 community members (including potential beneficiaries) participated in the consultations held in 11 woredas in the four regions. As IFAD is among the first international financial institutions to adopt Free, Prior and Informed Consent (FPIC) as an operational principle, one of the key objectives of the community consultations conducted during the preparation of this ESMF was to establish the extent to which the identification of schemes proposed under PASIDP-II was community-driven. The consultations confirmed that communities had indeed requested for the proposed schemes as they are facing a number of climate-related challenges which are affecting their chief means of livelihood, namely agricultural production. It was also established that the communities are well aware of their rights to improved living standards and sustainable development, including their right to be consulted on projects which affect them, and were also aware of the national legal processes for resettlement and compensation, and grievance redress. Consultations at woreda and regional level revealed that while disclosure is a requirement at these administrative levels, they rarely received ESIA and ESMP reports for the PASIDP-II schemes. Moreover, at woreda level it was noted there are a number of capacity gaps: apart from time and financial constraints which may hinder the conduct of ESMF monitoring, some woreda experts were not familiar with the various policy and regulatory requirements related to environmental management and resettlement and compensation.

Potential Environmental, Social and Climate-Related Impacts

Although the actual infrastructure for the proposed schemes has not been confirmed at this stage, it is likely that the schemes may have irrigation infrastructure (diversion weirs, small dams with walls/embankments, shallow wells, boreholes, conveyance canals, secondary/tertiary/field canals headworks, pipes, water storage facilities, pumps, pump houses and drainage lines); access infrastructure (access roads, bridges and footpaths), ancillary facilities (workshops, sheds, offices and fuel storage). Interventions for watershed management essentially include water conservation and soil conservation, such as water harvesting using contour bunds / benches, water spreading bunds, micro-catchments, water storage facilities such as small dams and sand dams, biological measures, and production techniques such as conservation agriculture.

Specific benefits resulting from the Programme include climate resilience, improved productivity, value-addition, and market opportunities, which will increase incomes and food and nutrition security for smallholder households. However, typical adverse impacts of irrigation schemes are:

- Reduction in downstream flow as a result of diversion of water, which could compromise water availability downstream to satisfy human and livestock demand, and affect aquatic habitats and biodiversity;
- Inundation of the river upstream, caused by damming, which could result in physical and economic displacement, hinder access to grazing and water sources for livestock, and destroy vegetation and natural habitats;
- Soil erosion caused by scheme excavation works (including access roads, dams), and poorly managed upper catchment areas, leading to loss of cultivable land or siltation of canals;
- Soil degradation and salinization due to improper application of agrochemicals, overwatering and poor drainage;
- Reduction in water quality due to application of agrochemicals or oil spills, affecting water potability for domestic and livestock use downstream, as well as causing poisoning of aquatic fauna;
- Loss of biodiversity and ecological imbalances caused by poisoning of non-target species, particularly bees and other beneficial insects, and pest resurgence;
- Resistance to pesticides;
- Impacts on community health (malaria, HIV/AIDS) and safety from construction activities, but more seriously as a result of dam failure and storage, handling, use and disposal of agrochemicals;
- Reduction in water availability for the schemes due to climatic events – prolonged dry seasons and subsequently drought – or upstream diversion of water for water supply or irrigation;
- Flooding due to climatic events resulting in loss of soil and crop damage; and
- Destruction of physical cultural resources, given that Ethiopia is blessed with a rich history and culture and these resources are abundant.

While the overall intention of watershed management is to improve environmental conditions in catchment areas, some interventions could have adverse impacts. The most significant ones relate to:

- Denied or hindered access to natural resources or grazing areas;
- Use of exotic species for slope protection.

Climate Risk Assessment

During consultations, communities described both flood and drought events as having severe impacts on their livelihoods. Often times, floods have damaged homes, traditional irrigation infrastructure, roads/access ways, vegetation, crops and pasture, while drought has affected agricultural production, and livestock have perished due lack of food and water. PASIDP-II has therefore been designated as having high-medium climate risk, since the Programme will have some projects that promote agricultural activity on marginal and/or highly degraded areas (such as on hillsides, deforested slopes or floodplains), that establish infrastructure in areas with a track record of extreme weather events, and that are located in areas in which rural development projects have experienced weather-related losses and damages. Therefore according to SECAP assessment processes requires an in-depth climate risk analysis.

At this stage of the Programme development, the locations and extents of the schemes to be included in the Programme are not known. Nor has the area and type of vegetation (woodlands, grasslands, forests) to be cleared been determined. Therefore it is not possible to carry out a detailed assessment of GHG emissions. So while a net decrease in GHG emissions may be expected as a result of programme activities as compared with the "no project" scenario, this can only be confirmed when actual figures for tonnes of carbon dioxide equivalent (tCO_2eq) are obtained.

Resettlement Action Plan

At this stage of the Programme, the schemes to be included under PASIDP-II have not been determined, and thus the number of people likely to be physically or economically displaced by PASIDP-II activities is not known. In addition, the project will endeavour to avoid schemes that have high probability of physical resettlement and economic displacement of communities. In this context, Resettlement Action Framework is not required at design stage. However, if any scheme is selected that will trigger physical and economic resettlement, a Resettlement Action Plan shall be prepared and disclosed as a precondition to financing it. The process should entail meaningful consultation and negotiation with potentially affected people, according to a FPIC Implementation Plan. In case, no agreement is reached, the project implementers will modify the specific interventions associated with affected people or halt them if changes are not possible.

Environmental and Social Management Procedures

For reasons of maintaining consistency in developing and implementing ESMFs within the MOANR, the environmental and social management procedures for PASIDP-II closely follow those developed by AGP-II and SLMP-II.

Projects are identified by the local communities and submitted to the Development Agents (DAs) and Kebele Development Committees for consideration. The DAs and KDCs take the project through a first screening process to establish the schemes' eligibility for funding under PASIDP-II based on a set of eligibility criteria. If the project clears this stage, it then proceeds to the Woreda level for further screening, where the need for additional precautionary measures, further studies, and extent of environmental and social investigation is determined. At this point impact rating is done, and the project is categorised as Category A (requiring an ESIA) or Category B (requiring an ESMP). ESIAs and more complex ESMPs (Category B projects that raise some concerns as determined by the screening criteria) will be prepared by consultants, while for projects with no issues of concern, ESMPs can be prepared by the Woreda PASIDP Coordination Team. In some cases other safeguards documents may

be required such as Resettlement Action Plans, Pesticide Management Plans, Physical Cultural Resources (PCR) Assessment, Climate Risk Analysis, or other management plans dealing with environmental and social aspects. Approvals for ESIAs and complex ESMPs will be done by Regional Bureaus for Environmental Protection, Land Administration and Use (BOEPLAUs) or the respective office responsible for environmental protection[3], but other ESMPs will be approved by the Woreda Environmental Protection, Land Administration and Use Agencies (EPLAUAs).

During consultations to be carried out for ESIAs/ESMPs, the processes for disclosure of the documents should be communicated. IFAD's SECAP procedures also require that sufficient consultations have been carried out with key stakeholders (ie. the communities) in order to satisfy its requirements for Free Prior and Informed Consent (FPIC).

Prior to approval of the projects, the ESIAs and ESMPs, Pesticide Management Plans (PMPs) and RAPs where these are required, will be disclosed at regional, woreda and kebele levels at a location accessible to the general public, and in a form and language that the communities are able to understand, so that they may comment on any aspects/issues contained in the reports prior to their approval.

A grievance redress mechanism (GRM) will be developed in line with the national EIA Proclamation which provides that any person dissatisfied with the authorisation or monitoring or any decision of the environmental authority or relevant regional environmental agency may submit a grievance notice to the authority or regional agency. The mechanism will facilitate the resolution of concerns raised and lodged by affected persons through established grievance systems. Cognisance will also be taken of IFAD's Complaints Procedure which can also receive complaints from project-affected people.

Performance monitoring will ensure that safeguards instruments are prepared to the required standard and approved, and that the ESMPs and RAPs are being implemented. . This will be done by the IWUAs, WMTs, Kebele DA, Woreda PASIDP Team and the PASIDP RPCMU ESC Safeguards Specialist, overseen by the FPCMU Safeguards Specialist. Results monitoring involves the monitoring compliance and effectiveness of the safeguards instruments, and also the overall environmental, socio-economic and climate-related assessment of the Programme's interventions. Results monitoring will be done on an annual basis by the RPCMU ESC Safeguards Specialist with support from the FPCMU ESC Safeguards Specialist IFAD's Environmental, Social and Climate Safeguards team.

Quarterly and annual reviews will be undertaken and annual review workshops will be held at Regional level with a view to identifying bottlenecks in implementing the ESMF and proposing solutions. Environmental and social auditing will be done by the Regional BOEPLAU and Woreda EPLAUA, who may request that independent consultants conduct the audits.

The Woreda PASIDP Coordinators will submit quarterly and annual performance reports to the RPCMU ESC Safeguards Specialists. The RPCMU ESC Safeguards Specialists will in turn submit quarterly and annual performance reports covering all the woredas in their regions to the FPCMU ESC Safeguards Specialist. The FPCMU ESC Safeguards Specialist will submit quarterly and annual reports to IFAD.

[3] Different regions have different offices that deal with environmental protection. For example in Oromiya Region the responsible office is the Bureau of Rural Land and Environmental Protection. For the purposes of this document the offices responsible for environmental protection at Regional and Zonal level are referred to as the Bureau of Environmental Protection, Land Administration and Use (BOEPLAU).

Capacity Building

Apart from the woreda EPLAUA and regional and zonal BOEPLAU, most of the staff of the implementing agencies (for agriculture, natural resources, water) had little or no training in managing environmental and social issues, while others had some knowledge of environmental and social issues, but not enough to enable them to implement ESMPs, PMPs and RAPs to the required standards. However, it was observed that at kebele level, most of the DAs had a diploma qualification, and some even had university degrees. At woreda level, all staff dealing with environmental and social issues had university degrees and had a good grasp of environmental issues, but their capacity to practically implement or monitor environmental, social and climate related management was lacking.

Training will therefore be carried out targeting FPCMU and RPCMU ESC Safeguards Specialists, Zonal Environmental/Social Specialists, Woreda PASIDP Teams, Irrigation Water Users Associations (IWUAs) at the scheme level, Kebele Development Committee, Kebele Development Agents, Watershed Management Teams at the Woreda, Kebele and Community levels (WMTs), Regional, Zonal, Woreda and Kebele staff in the relevant implementing agencies (namely Agriculture, Environmental Protection and Land Use, Water and Irrigation), and Federal and Regional Programme Steering Committees. Training will be conducted by consultants at the Federal and Regional levels, and thereafter will be rolled-out (through training of trainers) to the woreda and kebele levels. Training will cover topics such as:

- National and IFAD environmental, social and climate legal and administrative frameworks requirements;
- ESMF processes, procedures and institutional arrangements to develop and implement required safeguards documents;
- Screening and impact rating;
- Environmental, social and climate impact assessment, PMP, RAP, PCR assessment approaches and requirements;
- Preparation, implementation and monitoring of ESMPs, ESIAs, PMPs and RAPs;
- National and IFAD grievance redress and complaints procedures;
- Reporting and monitoring the implementation of ESMPs, PMPs and RAPs; and
- Environmental and social best practices.

Capacity building in participatory mapping, watershed management and conservation agriculture techniques will be included under PASIDP-II Subcomponent 2.3.

ESMF Implementation Budget

The budget for the implementation of the ESMF is estimated at USD 4,727,000. This figure covers updating existing/preparing new ESIAs/ESMPs/RAPs; salaries for environmental and social safeguards personnel at Federal, Regional and Zonal level; capacity building and training, annual review workshops; implementation of ESMPs; management and monitoring of environmental, social and climate related aspects of the programme; technical assistance; and annual audits.

1 Introduction

1.1 Background

Since 2004, Ethiopia has experienced high and consistent economic growth driven largely by growth in services and agriculture. With growth rates between 8% and 14%, GDP has outpaced population growth (which has averaged about 3% during the 2004-2014 period) and Ethiopia recorded annual per capita growth rates of 8.3% over the last decade (World Bank, 2013). This has translated in a successful reduction of poverty during this period. The national incidence of poverty declined markedly between 2004/05 and 2010/11: in 2000, according to the World Bank, Ethiopia had one of the highest poverty rates in the world with 56% of the population living below the US$1.25 Purchasing Power Parity (PPP) a day and 44% of its population below the national poverty line. It is estimated that between 2005 and 2010, a total of 2.5 million people were lifted out of poverty. In 2011, less than 30% of the population lived below the national poverty line and 31% lived on less than US$1.25 a day. Huge strides have also been made towards the attainment of the Millennium Development Goals (MDGs), particularly in gender parity in primary education, child mortality, HIV/AIDS, and malaria. But despite this impressive progress, Ethiopia's Human Development Index (HDI) value for 2013 is still a low 0.435, positioning the country at 173 out of 187 countries and territories.

The first phase of the Participatory Small-Scale Irrigation Development Programme (PASIDP) was implemented during the period 2008-2015. PASIDP has contributed to reducing the country's vulnerability to adverse weather conditions and drought, and to reduce rural poverty and food insecurity. But implementation was limited to parts of four regions, and therefore more needs to be done to extend the Programme's successful interventions to other parts of the country for the benefit of the rural poor. The country is still very dependent on rainfed agriculture and, given the variable rainfall, increasing temperatures and the recurrent droughts, achievement of full food and nutrition security for all would be difficult. Therefore, the Government of Ethiopia (GOE) and the International Fund for Agricultural Development (IFAD) have agreed to design and implement a second phase of the Programme, PASIDP-II. It is noted from past interventions that different regions of the country have different requirements in terms of irrigation technologies, capacity building needs, market access conditions and climate change resilient measures. PASIPD-II will therefore adopt a differentiated approach by region and by scheme, with location specific interventions in harmony with specific requirements. The Programme will seek to mitigate the inherent risks which have a direct impact on productivity and rural assets. This will include measures to assess and reduce technical and financial risks, and to provide climate change resilience measures. This will enable the Programme investments to derive increased net revenues for the target group emanating from integrated prioritized market linkages, development of irrigation infrastructure, climate resilience crop agronomy and institutional development. There will also be substantial incremental employment derived from the additional labour and services inputs required for successful irrigated agriculture. These are all consistent with the strategic objectives of the GOE's Second Growth and Transformation Plan (GTP II), namely: increased and market oriented crop production and productivity; increased livestock production and productivity; reduced degradation and improved productivity of natural resources; and enhanced food security.

1.2 Goal and Objectives of PASIDP-II

The Programme's goal is to contribute to increased prosperity and improved resilience to climate-induced shocks in food insecure areas of Ethiopia. The Programme's development objective is to provide improved income and improved food security for poor rural households on a sustainable basis.

The Programme will explore synergies and complementarities with ongoing activities of the relevant GOE and GOE's other development partner-funded programmes/projects in the Programme area, such as the World Bank-supported Second Phase of the Agriculture Growth Programme (AGP-II) and the Second Phase of the Sustainable Land Management Project (SLMP-II). Where relevant, synergies will also be explored with the ongoing IFAD-supported programmes/projects in the country.

1.3 Rationale and Objectives of this ESMF

IFAD's Environment and Natural Resource Management (ENRM, 2011) Policy stresses that project designs present opportunities to improve systematic integration and scaling up of environmental and natural resource management. Such integration can help IFAD to engage in new and strengthened partnerships with specialized entities for enhanced and effective responses to issues associated with natural resources and, climate variability and change. In addition, IFAD's Social Environmental and Climate Assessment Procedures (SECAP, 2015) set out a process that recognizes that through better risk identification, environmental and social harm can be avoided and space created for enhancing development benefits and opportunities.

IFAD's Climate Change Strategy (2010) calls for a more systematic response to increasing demands from the Fund's clients for technical support and innovation to better respond to climate change. This means analysing and addressing climate change challenges during the early stages of programme and project design to build resilience and adaptive capacity.

In line with IFAD requirements, a SECAP review note was prepared during early design, as a result of which the Programme has been assigned a Category A classification. The majority of the proposed interventions, including irrigation schemes, are expected to have limited and site-specific environmental and social risks that can be readily remedied by appropriate preventive actions and/or mitigation measures. However, it is probable that some of the proposed irrigation schemes that will be included in the programme may have significant implications affecting a broader area and are not readily remedied. This may include: physical resettlement and/or economic displacement; affected land access and use rights of communities; and loss of environmental services provided by a natural ecosystem. Since the exact sites and interventions are not known at this stage, an Environmental and Social Management Framework needs to be developed for the Programme in order to guide the preparation of environmental and social impact assessments (ESIAs) and environmental and social management plans (ESMPs). Project (or scheme) specific ESIAs will be undertaken during Programme implementation for those schemes classified as Category A, while ESMPs will be prepared for schemes classified as Category B. The interventions, particularly in the lowlands, may trigger the need for development of a Free Prior and Informed Consent (FPIC) plan.

IFAD recognises that GOE has its own systems for delivering safeguards and that supporting Government's efforts to strengthen and use their systems would enhance country ownership, extend development impacts, and reduce transaction costs. The GOE Environmental Protection Agency's (EPA) Environmental Impact Assessment Regulations stipulate the need for full or partial ESIAs depending on the size of the irrigation scheme, scale of displacement, and in the case of dams or reservoirs, depending on dam height and reservoir area. Small and medium scale scheme assessments are prepared and reviewed at the Regional level, while large scale projects are reviewed at the Federal level.

As a precursor to the development of the ESMF, a gap analysis was undertaken on a number of ESIAs and ESMPs. This exercise highlighted areas that require more attention in order to satisfy SECAP requirements.

The ESMF will facilitate the application of SECAP requirements to PASIDP-II interventions in order to address the social, environmental and climate impacts associated with PASIDP-II design and implementation. To this end, the objectives of the ESMF will be to ensure that:

i. The guiding values and principles in SECAP are adopted into the programme design to avoid harm and promote high social and environmental benefits;
ii. Social, environmental and climate mitigation and adaptation sustainability (SECAP and ASAP) considerations are mainstreamed into all PASIDP-II activities; and
iii. Effective stakeholder's equity, consent, engagement, and compensation are considered including a procedure to respond to complaints from project-affected individuals/ communities.

The ESMF is therefore intended to:

- Guide ESIAs and ESMPs that will be prepared such that they address the deficiencies identified in the Gap Analysis;
- Present a table of standard preventive actions and mitigation measures for irrigation sub-projects to address any potential adverse environmental or social impacts;
- Describe implementation procedures in relation to screening, preparation of ESIAs and ESMPs, submission, review and clearance of ESIA/ESMP documents;
- Provide guidance for steps to be undertaken to develop a Resettlement Action Plan in the event any subproject triggers resettlement and/or displacement of economic resources or loss of environmental services, including arrangements for information disclosure, meaningful consultation with affected communities and description of grievance redress mechanisms (both informal and formal channels) for resolving complaints;
- Assign roles and responsibilities of the various actors in implementing the ESMF;
- Provide capacity building and training measures to ensure that both ESMF and subsequent ESIAs/ESMPs will be effectively implemented;
- Recommend the preparation/undertaking of further studies, investigations or activities, and their respective timing, to ensure that environmental and social management and monitoring would comply with national and IFAD requirements; and
- Provide an estimated budget for implementation of preventive actions and/or mitigation measures recommended in the ESIAs and ESMPs to be included in the overall Programme cost.

1.4 Approach and Methodology used for the Preparation of the ESMF

At this point it is important to note that Ministry of Agriculture has developed a number of ESMFs for various programmes involving small scale irrigation, the most relevant to PASIDP being ESMFs for the Sustainable Land Management Programme II (SLMP-II) and Agricultural Growth Programme II (AGP-II). During discussions with the Directorate of Natural Resources Management in the Ministry of Agriculture, as well as with SLMP and AGP officers, it was recommended that rather than developing different procedures and methodologies, the PASIDP-II ESMF should adopt the procedures and methodologies developed in the SLMP-II and AGP-II in order that there is consistency in methodologies and procedures contained in ESMFs developed within the sector at Federal , as well as at Regional, Zonal, Woreda and Kebele levels. This ESMF has therefore closely followed the

methodologies and procedures contained in the SLMP-II and AGP-II ESMFs, while at the same time incorporating IFAD safeguard requirements.

The preparation of this ESMF has been guided by a number GOE Environmental Protection Agency[4] (EPA) guidelines, including the Environmental Impact Assessment Guidelines, EIA Procedural Guidelines, Guidelines for the Preparation of EMPs, as well as specific guidelines on Irrigation, Crop Production, Soil Conservation, and Dams and Reservoirs. The ESMF takes cognisance of the various federal proclamations and directives, especially proclamations and directives on Environmental Impact Assessment, Environmental Pollution Control, Registration and Control of Pesticides, Expropriation of Landholdings for Public Purposes and Payment of Compensation. Key requirements of these instruments are described in Chapter 3.

The ESMF has conformed with IFAD's safeguard policies, including the Indigenous Peoples Policy (2009), Policy on Disclosure of Documents (2010), Climate Change Policy (2010), Environment and Natural Resources Management Policy (2012) and Social, Environment and Climate Assessment Procedures (2015). These are also summarised in Chapter 3.

Phase 1 of the assignment commenced in March 2016, when the Gap Analysis on Environmental Impact Studies prepared for selected PASIDP-II schemes was carried out. This involved the review of ESIAs and ESMPs for 11 schemes which were selected on the basis of the readiness of implementation readiness based on the maturity of design and judgment of additional work that may need to be done before the schemes are constructed. Visits were made to two sites in Amhara Region (Zeragn Earth Dam and Gollina River Diversion) and consultations held. The findings of the Gap Analysis are presented in Chapter 4. In addition, various programme documents, guidelines, proclamations and directives, and ESMFs for other programmes were perused. A list of documents reviewed/perused is contained in Annex 1 References.

Phase 2 of the assignment was carried out in April 2016. This phase focussed on the preparation of the ESMF and involved further documentation review, meetings and consultations. Sites in all four programme regions were visited and consultations held at each site.

1.5 Stakeholder Consultations

At Federal level, meetings were held with representatives from the PASIDP Federal Project Coordination Office, Directorates of the Natural Resources Management, Small Scale Irrigation, Plant Protection in the Ministry of Agriculture; the Monitoring, Evaluation and Licencing Department in the Ministry of Environment, Forest and Climate Change; the Directorates of Water Utilization Permits and Administration, Irrigation and Drainage, GIS and the Environmental Impact Assessment and Social Development Office in the Ministry of Water, Irrigation and Energy.

A guideline was drawn up to guide the consultations at regional, woreda and kebele levels in order to establish processes, capacity and programme perceptions. Meetings were held with representatives from PASIDP Regional Offices, Regional Water Bureaus, and Regional Environmental Protection and Land Administration and Use Bureaus. At woreda level, experts from various woreda offices including water, agriculture, forests and natural resources were consulted, while at kebele level, consultations were held with the kebele administrations, members of the communities and PASIDP scheme beneficiaries.

[4] The Environmental Protection Agency has now been absorbed into the Ministry of Environment, Forests and Climate Change (MOEFCC).

Details of the outcomes of consultations are presented in Chapter 6, while minutes of community consultations are provided in Annex 10. The list of all persons consulted is presented in Annex 9.

1.6 Disclosure of this ESMF and FPIC Implementation Plan

IFAD's Policy on the Disclosure of Documents (2010) requires full disclosure to the public, and includes information notes on projects being developed for Board presentation, agreements for approved loans and grants, and project/programme design documents which include ESIAs, ESMFs, RAPs and RAFs. This ESMF and FPIC Implementation Plan will therefore be disclosed on IFAD's official website (http://www.ifad.org).

In addition, the ESMF will be disclosed the MOANR's official website, and also at the Regional, Zonal, Woreda and Kebele levels, so that all parties are able to access the document.

1.7 Limitations and Assumptions

Limitations/Challenges

The main limitations in the preparation of the ESMF have been:

- The Project Design Report was still in the process of being developed during the ESMF preparation, and as such the types of interventions to be proposed under PASIDP-II were not entirely formed. Thus the ESMF has assessed impacts based on likely proposed PASIDP-II interventions.
- The delay in identifying a Community Participation Specialist to undertake consultations in the field, verify that FPIC processes were followed, and assist in developing social profiles for the four regions, has also led to a delay in gathering and assimilating FPIC and community related data. The assignment's time frame has also been determined by IFAD's approval processes and dates.
- Initially it had been proposed that the 12 sites that were selected for ESIA review for the Gap Analysis should be visited. But due to time limitations, inclement weather conditions and logistical reasons (mainly distances between schemes) all these sites could not be visited within the allocated time period for site visits. Alternative sites were selected instead. Nevertheless, schemes in all the four regions and also different scheme types (dams, river diversions, springs) were visited.

Assumptions

Assumptions made are as follows:

- At this stage of the Programme, the schemes to be included under PASIDP-II have not been determined, and thus the number of people likely to be physically or economically displaced by PASIDP-II activities is not known. In addition, the project will endeavour to avoid schemes that have high probability of physical resettlement and economic displacement of communities. In this context, Resettlement Action Framework is not required at design stage. However, if any scheme is selected that will trigger physical and economic resettlement, a Resettlement Action Plan will be prepared and disclosed as a precondition to financing the scheme. The process will entail meaningful consultation and negotiation with potentially affected people, according to the FPIC Implementation Plan presented in Annex 5. In the event

that no agreement is reached, the project implementers will modify the specific interventions associated with affected people or halt them if changes are not possible.

- As PASIDP-II will involve in the region of 100 ESIAs and ESMPs to be developed, and a smaller number of RAPs, it would be impractical to post all these documents on the IFAD site for disclosure. This ESMF is intended to be an "umbrella document" covering all the environmental, social and climate assessments to be prepared under the Programme. It is assumed that this document will therefore satisfy the requirements of IFAD's Disclosure Policy.

1.8 Report Presentation

This report is presented in 12 chapters and ten (10) annexes.

Chapter 1 sets the context of the ESMF by describing the background to PASIDP, the Programme's goals and objectives, as well as rationale. The methodology for developing the ESMF is described, as well as an overview of public consultations held. It also presents disclosure requirements for the ESMF, and limitations and assumptions made during the preparation of this ESMF.

Chapter 2 describes the Programme target regions and its components. Chapter 3 describes the administrative, policy and legal framework for environmental, social and climate-related management in Ethiopia. It also presents IFAD's Safeguard Policies, describes differences in IFAD and GOE policies and the requirements of international conventions and treaties to which Ethiopia is party.

Lessons learned from PASIDP-I and the Sustainable Land Management Project and Agricultural Growth Program are summarised in Chapter 4. In addition, the findings of the Gap Analysis on Environmental Impact Assessment Studies prepared for schemes under consideration for PASIDP-II which was conducted as part of this assignment are summarised here.

Chapter 5 presents an overview environmental and social setting of the four PASIDP-II target regions, namely Amhara, Oromiya, Tigray and SNNPR.

Chapter 6 presents the outcome of the consultations held during the preparation of this ESMF which focussed on the identification of projects and free, prior and informed consent.

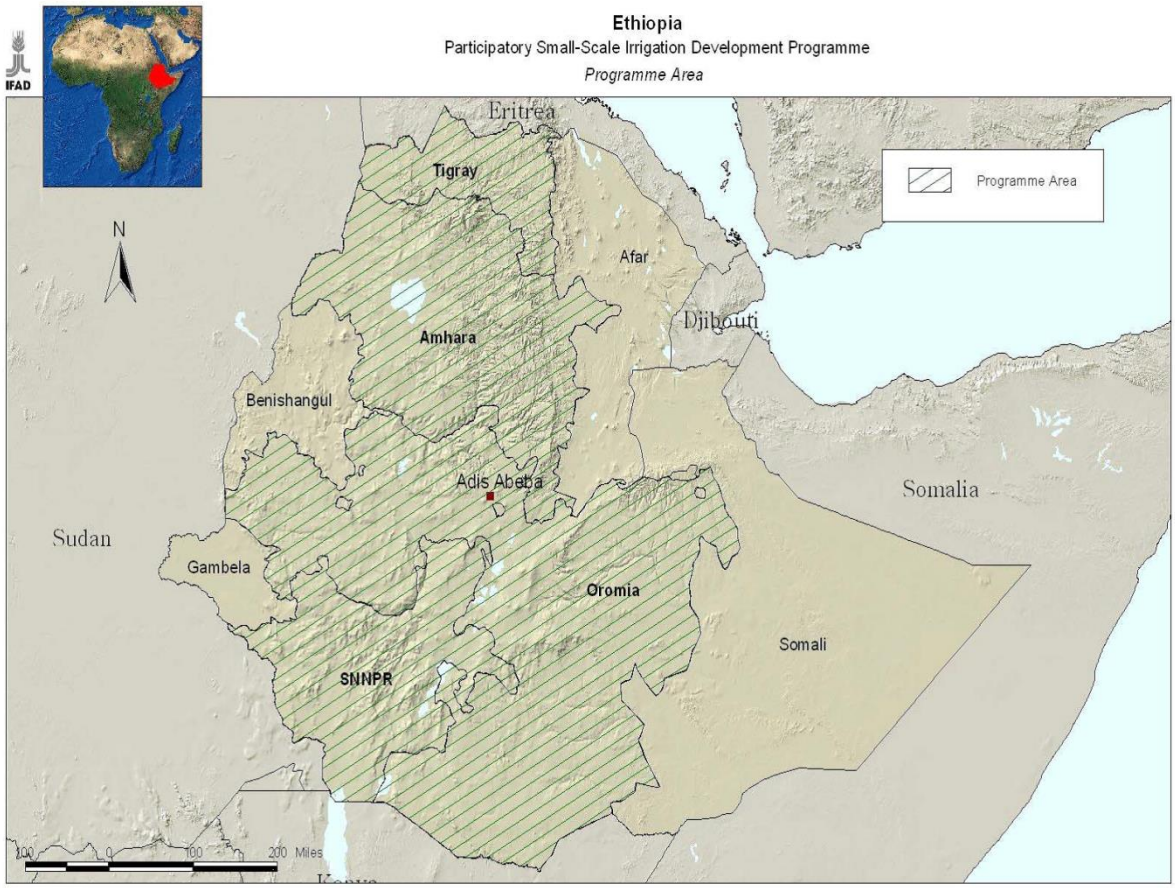
Chapter 7 describes generic environmental, social and climate-related impacts due to irrigation schemes and watershed development and management initiatives, their mitigation and cumulative and synergistic impacts, while Chapter 8 discusses climate risk assessment.

Chapter 9 provides guidance for the preparation of a resettlement action plan.

Chapter 10 describes the environmental and social management procedures for PASIDP-II and is therefore the essence of this ESMF. Chapter 11 discusses capacity building needed to implement the requirements of the ESMF, while Chapter 12 gives an estimated budget for the implementation of the ESMF.

The annexes contain references, screening checklists, an impact rating checklist, ESIA key issues checklist, the FPIC Implementation Plan, Guidelines for a Pesticide Management Plan, Guidelines for Small Dam Safety, the Main Report for the Gap Analysis, a list of persons consulted during the preparation of this ESMF, and minutes of community consultations.

Map 1: PASIDP-II Programme Area



Source: IFAD

The designations employed and the presentation of the material in this map do not imply the expression of any opinion whatsoever on the part of IFAD concerning the delimitation of the frontiers or boundaries, or the authorities thereof

2 PASIDP-II Project Description

2.1 PASIDP Target Regions

The Programme area covers four regions of Ethiopia. These are: Amhara, Oromiya, Southern Nations, Nationalities and Peoples Region (SNNPR) and Tigray. The choice of the area was premised on the Government's desire to build on lessons and experience generated by PASIDP and to scale up the Programme's successful interventions. By mid-term, the opportunity to expand the interventions of PASIDP-II on a pilot basis to other regions is envisaged.

For now, highland plateaux characterize most of the Programme area, with diverse agro-ecological features. In areas that have climates that vary from semi-arid to humid and contain nearly all of the important areas for cereal cultivation, the livelihood is mostly based on a mixed crop-livestock system. This is a predominantly mixed production system based on the production of a wide spectrum of crops and the rearing of livestock. The highland annual cropping and farming system is dominated by a wide range of cereals, oil crops and food legumes.

The PASIDP-II core target group consists of poor and food insecure rural households, mainly involved in rain-fed agriculture or traditional irrigation schemes. These households rely predominantly on mixed crop-livestock farming system, living on an average per capita income of less than US$0.3 per day. They are operating on land holdings of less than one hectare in lowlands with potential for irrigation and in the adjacent watersheds. Thus PASIDP-II targets 100,000 beneficiary households: 30,000 households in small-scale irrigation schemes and some fields in the adjacent watersheds; 30,000 households in the adjacent watersheds; 20,000 employment opportunities for youth and landless people created due to the growing labour need requirements in irrigation schemes and related downstream and upstream agribusiness development; and 20,000 households that benefitted from irrigation support under PASIDP-I and that will benefit from the agronomic support and market linkages support under PASIDP-II.

The targeting mechanism will seek to ensure equitable participation in, and benefits from, Programme activities. The targeting strategy will be guided by self-targeting measures that will ensure that Programme interventions respond to the priorities, labour capacity and livelihood strategies of the target groups; and also by direct targeting, through community planning mechanisms, that will ensure that specific groups, such as the youth, or women headed households, will be selected for support.

The Programme will select woredas according to the following criteria: (i) a high level of poverty and food insecurity; (ii) potential for small-scale irrigation; and (iii) not covered by the second phase of the Agriculture Growth Programme (AGP-II). In addition, as the Programme aims to focus on rural areas, urban woredas will not be selected.

2.2 Programme Components

The Programme's development objective will be achieved through the effective implementation of two technical components supported by Programme Management services.

Component 1: Investment in Small-scale Irrigation Infrastructure

The objective of this component is to increase productivity and resilience of small farm enterprises by increasing areas under sustainable agricultural water management and enable them to improve

household revenues and food and nutrition security from the production and marketing of selected crops. This is to be achieved through two subcomponents.

Subcomponent 1.1: Irrigation Scheme Participatory Planning and Preparation. The programme will adopt a fully participatory process for identification, feasibility and construction of new irrigation schemes. Once a scheme is confirmed as a potential candidate for a full feasibility study, it would be necessary that an Irrigation Water Users Association (IWUA) be formed to act as the representative of the potential irrigation farmers.

The feasibility studies will involve technical (catchment management, climate resilience, water resource management, agriculture, etc.) and administrative (government representatives, traditional, etc.) authorities of different levels, will full participation by the IWUAs. At the end of the process, the respective Water Resource Bureaux for each participating region will provide the Programme with the list of potential schemes, including the basis for their selection. A holistic approach will be employed. This will be done on a scheme-by-scheme basis. Multidisciplinary feasibility studies will be undertaken bringing together required experts. A key requirement for participation will be the confirmed willingness of the benefiting farmers to significantly contribute to the investment cost and future operation of the scheme. Additionally, prior to confirmation for investment, there would need to be complete sharing of information and expected commitments with the IWUA. The formal acceptance of this information by the IWUA, and its commitment to sustainable operation of the scheme, would be required before construction would be able to commence.

Subcomponent 1.2: Small-scale Irrigation Infrastructure Development. This subcomponent aims at developing new and upgrade selected existing irrigation scheme infrastructure on about 12,000ha as identified through value chain analysis for selected commodities. The infrastructure will include irrigation infrastructure and, to a limited extent improved market facilities and rehabilitation of access roads where necessary to ensure adequate access to markets.

Component 2: Investment in Capacity for Sustainable Agriculture

The Component will support a range of activities designed to ensure that the target beneficiaries operate in an environment that is more conducive to rural commercial development. Emphasis will be put on market linkages, strengthening of producer institutions and linkages to financial services.

Subcomponent 2.1: Agribusiness Linkages and Market Access. This subcomponent will aim to improve access to input and output markets and financial services. It will include the strengthening of farmers' cooperatives so that they are able to apply the principles and practices of irrigation farming as a business for PASIDP-II. Market Access Alliances will be developed as voluntary organisations which will seek to enable engagement between all relevant entities in the marketing chain from farmers to initial markets. Access to finance will be facilitated to enable productivity improvements through the timely acquisition of inputs and small to medium-scale capital assets, such as processing equipment, small-scale agricultural machinery, animals for land works and transportation, and value-addition facilities. Under this subcomponent, a Programme Market Facilitation Team will be established to support and coordinate the commercial viability of the irrigation schemes.

Subcomponent 2.2: Capacity Building and Empowerment of Small Holder Farmers. The objectives of this subcomponent is to ensure that farmers' productivity is enhanced, their agriculture is profitable and their produce is effectively linked to markets. Activities related to structured linkages to markets for the target beneficiaries' produce are a key element of this subcomponent. Allied to this is the need to ensure that producer organisations have the ability to participate and benefit from Programme interventions. Importantly, activities under the subcomponent will enable the target institutions to

effectively continue to undertake their respective responsibilities, on behalf of their members, long after Programme completion. To provide the means for productivity enhancement, the sub-component will provide support for improved access to effective financial services by the economically active poor households. This will be provided for seasonal credit for the timely acquisition inputs and capital investment for small to medium-scale capital assets, such as processing equipment, small-scale-scale value-addition facilities, etc.

Subcomponent 2.3: Watershed Development and Management. The objective of this subcomponent is to improve land and water management on 60,000 ha in rain-fed areas adjacent to areas selected for irrigated agriculture, building on Ethiopia's successful community-based watershed management approach. Interventions under this subcomponent are expected to benefit a total of 120,000 households. To tackle the socio-economic root causes of land degradation, investments in the rain-fed areas will be guided by a landscape approach, integrating socio-economic benefits from land and environmental sustainability in a wider geographic zone. Planning and execution of interventions will be done in a participatory manner, using the tested and proven approaches to watershed management under the Community-Based Integrated Natural Resources Management Project (CBINReMP). A key feature of this intervention will be support for the application of Climate Smart Agriculture (CSA), through the medium of introduction of Conservation Agriculture (CA) techniques for rainfed farmers.

Component 3: Programme Management, Monitoring, Evaluation and Knowledge Management

This is a cross-cutting component servicing the two technical components. The objective of the component is to facilitate and manage the Programme in an efficient and effective manner by providing overall coordination, including planning and implementation, financial management and control, procurement support, monitoring and evaluation, knowledge management, progress reporting, and liaison with all relevant institutions. For this purpose, Programme Coordination Management Units will be established at the National and Regional levels to coordinate the different Programme activities.

2.3 Design of PASIDP-II

Recognising that small-scale irrigation development is an important pathway not only for improving food security and incomes of drought-prone communities, but also for protecting upstream forests and bio-reserves, PASIDP-II is being designed based on:

i. Mainstreaming of participatory planning and selection of schemes in order to enhance long-term sustainability;
ii. Developing agri-business linkages and market access in order to mitigate marketing risks that were perceived by farmers, in particular for perishable high-value crops;
iii. Integration of climate change adaptation strategies, including adjacent watershed improvement and management;
iv. Promotion of improved crop husbandry and access to inputs as well as improved access to financial services, so as to achieve the targeted yields and to improve water productivity of farms and schemes;
v. An enhanced focus on gender and youth as priority target group;
vi. Mainstreaming nutrition-sensitive agriculture; and
vii. Aligning with IFAD's Social, Environmental and Climate Change Assessment Procedures (SECAP) and its international engagements with respect to climate change resilience.

2.4 Scheme Selection for PASIDP-II

The selection criteria of irrigation schemes at the identification stage will be:

- Sufficient access to markets;
- Potential to produce profitable crops with sufficient availability of water and irrigable soils;
- Absence of social conflicts with regard to access to land and water.

If confirmed, a full feasibility study will be developed following PASIDP II quality standards. At this stage, a longer list of selection and prioritization criteria will be applied, including:

- ESMF Screening Criteria as developed in this document;
- An acceptable estimated unit cost of development – lower than 5.500 US$/ha;
- Estimated cost of water/ha for the targeted crop,
- Estimated production cost to revenue ratio;
- An acceptable plot size to reach out to sufficient smallholders (on average less than 0.5 ha/household);
- Willingness of the land owners in the targeted schemes to include vulnerable groups in the schemes.

Finally, the findings of the feasibility studies will be discussed with the targeted farmers, organized in an IWUA, who will need to give their written approval to contribute to the rehabilitation and to ensure scheme maintenance before the detailed design of works is undertaken.

3 Administrative, Policy and Legal Framework for Environmental Management in Ethiopia

3.1 Institutional Framework

At federal level, the Environmental Protection Authority (EPA), initially established by Proclamation No. 9/1995, was the main Environmental Protection Organ of the State, until recently. The EPA took over the duties previously assigned to the Ministry of Natural Resources Development and Environmental Protection (MONREP). At the same time as the EPA was instituted, an Environmental Protection Council (EPC) was established, with representatives from most of the federal ministries to supervise the EPA's activities. The Director-General of the EPA served as the Secretary to the Council. The mandate and duties of the EPA were subsequently clarified by the Proclamation for Establishment of Environmental Protection Organs (Proclamation No. 295/2002). This proclamation was issued to re-establish the federal Environmental Protection Authority (EPA), to establish Sectoral Environmental Units and Regional Environmental Protection Agencies. A recent restructuring has further transformed EPA to Ministry of Environment, Forest and Climate Change (MOEFCC). Accordingly, the mandate and duties of the EPA were transferred to the MOEFCC including formulation of policies, strategies, legislations 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 of their implementation. Likewise, the Ministry is also in charge of setting environmental quality standards for air, water and soils, monitoring pollution, establishing EIA procedures and an environmental information system, and undertaking capacity development in relevant agencies to ensure the integration of environmental management in policy development and decision making.

According to the EIA Directive No 2/2008, projects requiring full environmental impact assessments and which are reviewed at Federal level include irrigation schemes having an irrigated area of 3000 ha or more, and involving dam and reservoir construction with a dam height 15 metres or more, or with reservoir storage capacity of 3 million m^3 or more. Six sector ministries, including the Ministry of Water, Irrigation and Energy (MOWIE) and the Ministry of Agriculture (MOA) have been given jurisdiction to review and approve ESIAs relevant to their respective sectors. With regard to irrigation projects, MOWIE has jurisdiction for schemes over 3000 ha, while schemes of less than 3000 ha fall under the jurisdiction of the MOA.

Regional Environmental Protection Agencies (REPAs) have been established as provided by the Proclamation No. 295/2002, which decreed that each national regional state should 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.

3.2 Policies and Strategic Documents

The Constitution of Ethiopia

The Administrative, Policy and Regulatory Framework for Environmental and Social Management in Ethiopia essentially stems from the constitution of the Federal Democratic Republic of Ethiopia (FDRE, 1995). There are several provisions in the constitution, which have direct policy, legal and institutional implications towards the appropriate implementation of environmental protection and rehabilitation

action plans to avoid, mitigate or compensate the adverse effects of development actions on the existing environment and social dynamics.

The Constitution has an exclusive article on the environment and therefore states in its Article 44 (1) that: “All persons have the right to live in a clean and healthy environment”. Furthermore, concerning compensation to Project Affected Peoples (PAPs), under Sub-Article 2, stipulates that: “All persons who have been adversely affected or whose rights have been adversely affected as a result of state programs have the right to commensurate monetary or alternative means of compensation, including relocation with adequate state assistance. ”

Regarding public consultation and participation, Article 92 (3) of the constitution states that: “People have the right to full consultation and to the expression of views in the planning and implementation of environmental policies or projects that affect them directly.”

The Regional states also 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 Environmental Policy

The Environmental Policy of Ethiopia, approved in 1997, is aimed at guiding sustainable social and economic development of the country through the conservation and sustainable utilization of the natural, man-made and cultural resources and the environment at large. The policy lists specific objectives encompassing wide range of environmental issues to be addressed through the adoption of the policy. It also provides overarching environmental guiding principles to be adopted to harmonize the environmental elements in sectoral, cross-sectoral and other policies. The policy clearly outlined the sectoral environmental policies, relevant to environmental management among others are: (i) Soil Husbandry and Sustainable Agriculture; (ii) Forests, Woodlands and Trees; (iii) Genetic, Species and Ecosystem Biodiversity; (iv) Water Resources; (v) Energy Resources; (vi) Human Settlement, Urban Environment and Environmental Health; and (vii) ESIA.

Water Resource Management Policy

Ethiopian Water Resources Management Policy was set out in Proclamation No. 197/2000 (the "WRM Proclamation"). The policy is intended to promote comprehensive and integrated water resources management and optimal utilisation of available water resources for sustainable socio-economic development. Inter alia, the policy calls for conservation and protection of water resources as an integral feature of the water resources planning and development process, and therefore mandatory EIAs of all water resource development projects[5].

The policy entrusts the Ministry of Water Resources (now Ministry of Water, Irrigation and Energy (MOWIE)) with broad powers to plan, manage, use, administer and protect water resources, including the promotion and implementation of irrigation projects. The sub-sectoral policies include Irrigation, Hydropower, and Water Supply and Sanitation, each with an associated Strategy.

The Policy was elaborated in the Ethiopian Water Sector Strategy (2001), also known as the National Water Strategy. The purpose of the Strategy is to translate the Policy into action, with the following specific objectives:

[5] Also see Chapter 5 of the EPA's 2003 EIA Procedural Guidelines which cover water development for agriculture and hydropower, as well as associated resettlement

- Improving the living standard and general socio-economic well-being of the Ethiopian people.
- Realising food self-sufficiency and food security in the country.
- Extending water supply and sanitation coverage to large segments of the society, thus achieving improved environmental health conditions.
- Generating additional hydro-power.
- Enhancing the contribution of water resources in attaining national development priorities.
- Promoting the principles of integrated water resources management.

The Strategy is a comprehensive document, covering all aspects of water resources development and management. Inter alia, it calls for mandatory EIAs for all water projects, and promotes gender mainstreaming. From an environmental point of view, it is interesting that the Strategy includes a call to "Reclaim existing wetlands" by drainage and other means, but not for their conservation or the protection of wetland values.

Health Policy

The Government of Ethiopia issued its Health Policy in 1993, which was issued based on the result of a critical examination of the nature, magnitude and root causes of the prevailing health problems of the country and awareness of newly emerging health problems. The Policy accords appropriate emphasis to the needs of the less-privileged rural population which constitute the overwhelming majority of the population and the major productive force of the nation. It further articulated realistic goals and the means for attaining them based on the fundamental principles that health, constituting physical, mental and social well-being, is a prerequisite for the enjoyment of life and for optimal productivity. To that end, the Policy advocates the general principle that health development should be seen not only in humanitarian terms but as an essential component of the package of social and economic development as well as being an instrument of social justice and equity.

In particular, the Health Policy enunciated the decisive role of popular participation and the development of self-reliance in these endeavours and is therefore determined to create the requisite social and political conditions conducive to their realization. The Policy emphasised the importance of achieving access to a basic package of quality primary health care services by all segments of the population, using the decentralized state of governance. It also stipulates that the health services should include preventive, promotive and curative components.

In order to achieve the goals of the health policy, a twenty-year health sector development strategy was formulated in 1997, to be implemented through a series of five-year plans. The last phase (HSDP-IV) was implemented from 2010/11 – 2014/15. The Federal Ministry of Health has recently launched a new strategy: the "Ethiopian National Health Care Quality Strategy (2016 – 2020): Transforming the Quality of Health Care in Ethiopia". This latest Ethiopian National Healthcare Quality Strategy (ENHQS) builds on the plan laid out in HSTP to further drive large-scale improvement in quality of care delivery over its planning period. Successful realisation of the ENHQS will substantially contribute towards achieving the ultimate goal to position Ethiopia's health outcomes at a level of a lower-middle-income country by 2025 and of a middle-income country by 2035[6]. This is done by ensuring reliable, excellent clinical care, protecting patients, staff, and attendants from harm, and improving the efficiency of the delivery of care, while increasing access, equity and dignity of care for all segments of the Ethiopian population.

[6] Health Sector Transformation Plan

Building on the earlier endeavours and having informed by WHO guidelines[7] , four priority strategic focus areas have been defined for the ENHQS, as explicit next steps to reach its desired objective - i.e. (1) Develop an integrated approach to planning, improving, and controlling quality; (2) Activate key constituencies to advance quality; (3) Drive improvements in quality by explicitly linking Universal Health Coverage (UHC) strategy with quality; and, (4) Support strong data systems and feedback loops as "backbone" of all improvement actions[8].

Conservation Strategy of Ethiopia

The Conservation Strategy of Ethiopia (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 CSE provides a strategic framework detailing principles, guidelines and strategies for the effective management of the environment. The most important areas that are considered in the document include the following:

- Improvement of soils, crop and animal husbandry for sustainable agricultural production.
- Management of forest and woodland resources.
- Development of water resources for irrigation, hydroelectricity and water supply.
- Rangeland management and pastoral development.
- Promotion of individual participation in sustainable development of natural, artificial and cultural resources, and environmental protection.
- Land resource use policy and strategies; physical land use planning.
- Integration of social, cultural and gender issues in sustainable resources and environmental management.
- Development of environmental education, public awareness and human resources.

Biodiversity 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.

Agricultural and Rural Development Policies and Strategies

A distinct feature in Ethiopia's development aspirations since the early '90s has been the prominent place the Government has consistently accorded to agriculture and rural development sector as the central pillar of the Country's development. In fact, the GOE's comprehensive development policy framework was heavily based on the concept of Agricultural Development-Led Industrialisation (ADLI). While ADLI had persisted over a decade without further elaboration; it was in 2003 that a more structured set of policy and strategies was introduced.

[7] World Health Organization (2006); Quality of care: a process for making strategic choices in health systems.
[8] MoH/FDRE (no date); Ethiopian National Health Care Quality Strategy (2016 – 2020): Transforming the Quality of Health Care in Ethiopia.

The Rural Development Policy and Strategies (RDPS, 2003) presents specific policies and strategies to guide agricultural and rural development, based on the ADLI platform. The RDPS recognises that the development effort in rural areas cannot be limited to agriculture alone. There is a need for rural infrastructure and social development programmes and for trade and industry to build on and support developments in agriculture. Key elements of the RDPS include: rural and agricultural centred development as a means of: (i) ensuring rapid economic growth; (ii) enhancing benefits to the people; (iii) eliminating food aid dependency; and (iv) promoting the development of a market-oriented economy. It also sets out five basic directions for agricultural development:

- A labour intensive strategy, which sees the mobilisation of under-utilised and un-productive rural labour as a key driver of growth, rather than capital-intensive approaches. It envisages high levels of training and technology adoption in order to boost agricultural productivity without drawing heavily on the country's scarce capital resources;
- Proper utilisation of agricultural land, by guaranteeing the availability of land to people who seek to make a living out of land, and assisting them to utilise it productively on a sustainable basis through irrigation, multi-cropping and diversified production;
- A "foot on the ground", which envisages moving ahead in a stepwise manner building on experiences and indigenous knowledge at the same time as exploring opportunities for deploying new technologies in conjunction with human resource development;
- Differentiation according to agro-ecological zones, which recognises that Ethiopia's enormous agro-ecological diversity calls for different approaches to agricultural development in different parts of the country. This also provides the opportunity for risk management through diversification; and
- An integrated development path among various activities and products in agriculture, as well as linking these to education, health and infrastructure development.

Food Security Strategy

This strategy addresses both the supply and the demand side of the food equation - that is, availability and entitlement respectively from both a national and household level perspective. Within this, particular attention is focused on the diversity of food production zones in Ethiopia (i.e. areas with adequate moisture, moisture deficit and pastoral) to tailor options and strategies accordingly.
The three basic pillars on which the strategy rests are:

i. To increase the availability of food through increased domestic production.
ii. To ensure access to food for food deficit households; and
iii. To strengthen emergency response capabilities.

Climate Resilient Green Economy

The Climate Resilient Green Economy (CRGE, 2011) is Ethiopia's overarching framework and a national strategy towards a green economy. The Green Economy Strategy is believed to provide an opportunity to promote sustainable development in Ethiopia. Currently it builds on an investment plan of over 60 initiatives that are, or can be, turned into financed projects.

For this to happen there is a strong need to reform the economy. The CRGE is envisioned to be the main driver for this transformation. The CRGE has three complementary objectives: i) fostering economic development and growth, ii) ensuring abatement and avoidance of future GHG emissions; and iii) improving resilience to climate change. To achieve these objectives CRGE sets out to tap into international climate finance, seize opportunities for innovation and new technologies, and create competitive advantages via sustainable resource use and improving productivity. Thematically the investment plan covers four different areas of work: 1) Improving crop and livestock production

practices for reduced emissions, and increasing food security and farmer income; 2) Protecting and re-establishing forests for their carbon stocks and other ecosystem services; 3) Expanding electricity generation from renewable sources of energy for domestic and regional markets; and 4) Moving quickly to modern and energy-efficient technologies in rural cooking, transport, industry, and buildings. While building a climate-resilient green economy, Ethiopia's vision is to achieve middle-income status by 2025.

National Nutrition Programme (2013-2015)

The National Nutrition Program (2013-2015) is focused on addressing the dire situation of the country's most vulnerable demographic groups (pregnant and lactating women, adolescents, and children under five years of age). It is based on the evidence that early damage is irreversible after the child reaches 24 months of age. After that time it is almost impossible for the children to recover from the development deficits. Infants born with low birth weight for example are not only more likely to be stunted, but also to have reduced cognitive ability as they grow up, which in turn will contribute to reduced future economic productivity.

The NNP also aims to break the intergenerational cycle of under-nutrition. A malnourished woman is more likely to have a low-birth weight baby and to die during delivery. Low-birth weight babies are more likely to be stunted, and a stunted girl has a greater likelihood of complications during pregnancy and delivery, as well as a greater chance of having a low-birth weight baby, so continuing the intergenerational cycle of under-nutrition.

The Strategic Objectives of the National Nutrition Program (2013-2015) of Ethiopia are:

- Improve the nutritional status of women (15-49 years) and adolescents (10-19 years);
- Improve the nutritional status of infants, young children and children under 5 years;
- Improve the nutrition service delivery for communicable and lifestyle related diseases affecting all age group;
- Strengthen implementation of nutrition-sensitive interventions in different sectors (agriculture, education, water, social protection); and
- Improve multi-sectoral coordination and capacity to ensure implementation of NNP.

National Cultural Policy

The Cultural Policy was put into effect after being endorsed by the council of Ministers of the FDRE in October 1997. This Policy was issued recognising the fact it is high time the heritage, history, fine arts, handicraft and folk art (tales, proverbs, popular poetry, dance, songs, etc) of the nations, nationalities and people of Ethiopia are collected, registered, analysed and preserved from any form of adulteration, and that these are given equal recognition and right to develop. It is also aimed at promoting national, continental and international cultural Cooperation on the basis of the equally of people's culture and their mutual benefits.

Accordingly, the Policy provides the general principles and guidance for subsequent actions to realise its desired objectives including strategic, legal and procedural frameworks and directions to follow. The major elements of the policy, therefore, describe needs to be considered with regard to: Inventory and Standardization; Study, Research and Development; the Establishment and Expansion of Cultural Institutions; the conservation, preservation and inspection of heritage; the Repatriation and Restitution of Heritages; Developing Languages and Providing Professional Assistance While Determining the Language for use: Initiating and Encouraging Creative Artists & Other Professionals; Protecting the Right of Property to Creative Works and other Related Rights; the Spread of Cultural Knowledge; and several other administrative aspects.

3.3 Legislation

3.3.1 Proclamations

For ease of reference, proclamations and directives that are applicable to PASIDP are presented in Table 3.1 below.

Table 3.1 Proclamations and Directives applicable to PASIDP

Proclamations/Directives	Requirement	Relevance to PASIDP-II
Environmental Impact Assessment Proclamation, No. 299/2002	- Makes EIA mandatory (article 8). - Elaborates on considerations with respect to the assessment of positive and negative impacts on the basis of size, location, nature, cumulative effects, etc.	Relevant to PASIDP-II as SSI projects might potentially cause some significant adverse environmental and/or social impacts
A Directive Issued to Determine Projects Subject to EIA, Directive, No.1/2008	- Issued by Council of Ministers to determine projects subject to mandatory EIA. - Categorises projects into 3 schedules: Schedule-1 (requiring full EIA), Schedule-2 (not likely to warrant a full EIA) & Schedule-3 (not require an EIA). - Projects situated in an environmentally sensitive areas, fall under Schedule I irrespective of the nature of the project.	PASIDP-II is assigned as EA Category "A" given that significant adverse impacts may to occur due to the use of agrochemicals as well as the Programme's potential to economically or physically displace people/households.
Environmental Pollution Control Proclamation No.300/2002	- Management of hazardous waste, municipal waste. - Establishment of environmental quality standards for air, water & soil. - Monitoring of pollution. - Addresses environmental pollution due to noise and vibration.	Relevant to PASIDP-II due to the use of agrochemicals, many of which are considered hazardous, as well as their packaging.
Solid Waste Management Proclamation, No. 513/2007	- Aims to promote community participation to prevent adverse impacts & enhance benefits from solid waste management. - Provides for preparation of solid waste management action plans by urban local governments.	Relevant to PASIDP-II due to solid wastes products that are generated at different stages of the projects including construction waste, food waste, and sanitary waste, as well as general waste (paper, plastic etc.).
Rural land Administration and Use Proclamation, No.456/2005	- Registered land to be acquired for public works or for investment, compensation shall be paid to the land use holder or substitute land shall be offered. - Imposes restrictions on the use of various categories of land, for example	Relevant to PASIDP-II, as some of the schemes involve relocation/ resettlement of homesteads, acquisition of land, fields, small dams, night storage ponds, canals, etc, and may deny access to grazing and watering points

Proclamations/Directives	Requirement	Relevance to PASIDP-II
	wetland areas, steep slopes, land dissected by gullies, etc.	
Forestry Conservation, Development and Utilisation Proclamation No. 94/1994	- To ensure the conservation of existing forests and the establishment of State forests to conserve forest resources within their ecosystems. - Prohibits the felling of *Hagenia abyssinica, Cordia africana, Podocarpus gracilior, Juniperus procera,* and *Olea europaea ssp. Cuspidata*) from their natural habitats.	Relevant to PASIDP-II as it is obliged to avoid destruction of forests or excess use of forest products during construction of the SSI infrastructure, while its watershed management component will also have to take cognisance of this proclamation.
Labour Proclamation No. 377/2003	- Established 48 hours working & one day rest/week, overtime rates, paid leave, the 12 national public holidays, and maternity leave. - Sets minimum age for young workers at 14 years - Did not establish a minimum wage - Designates MOLSA as the responsible government ministry for Labour and Social Affairs with its subsidiary structures extending down to Kebele level.	Relevant, as the SSI projects may hire labour during construction, and when the schemes are in operation, farmers employ farm hands to help them at times of peak farming seasons (eg. cultivation, weeding, pesticide applying, harvesting etc.). Also it is PASIDP's obligation that children under 14 years are not employed on the schemes.
Ethiopian Water Resources Management Proclamation, No. 197/2000	- To ensure water resources are protected, conserved & utilized for socioeconomic benefits of the people. - Ensure that management of water resources is carried out properly & harmful effects of water are prevented; - Indicates the requirements on water bank management and prevention of harmful effects on water resources etc. - Prohibit clearing and cutting trees or vegetation and construction of residential houses within the delimited banks of water bodies.	Relevant to PASIDP-II as the schemes entirely depend on availability of water resources, which needs conservation, efficient use and protection.
Pesticide Registration and Control Proclamation: Proclamation No. 674/2010	- Covers agricultural, household, public health, and industrial pesticides. - Seeks to promote safer pesticide handling and use in the country. - Requires all pesticides to be registered to ensure safety (humans, non-target organisms and the environment). - Prohibits importation of highly hazardous and banned pesticides; and, - Requires that all pesticides to display labels per MOA label requirements.	Relevant to PASIDP-II as some of the crops under irrigation are susceptible to pests and require use of pesticides.
Proclamation on Expropriation of Landholdings for Public Purposes and	- Establishes the legal principles and framework for expropriation of landholdings and compensation for	Relevant to PASIDP-II, as some of the schemes involve relocation/ resettlement of homesteads, acquisition of land, fields, small

Proclamations/Directives	Requirement	Relevance to PASIDP-II
Payment of Compensation: Proclamation No.455/2005	public purposes, and procedures for expropriation and grievance redress.	dams, night storage ponds, canals, etc, and may deny access to grazing and watering points
Regulation for the payment of Compensation for property Situated on Landholdings Expropriated for Public purposes: Regulation No. 135/2007.	- Provides the procedures for application of Proclamation No 455/2005.	Relevant to PASIDP-II, as some of the schemes involve relocation/ resettlement of homesteads, acquisition of land, fields, small dams, night storage ponds, canals, etc, and will therefore require compensation
Proclamation on Classification of Cultural Heritages into National and Regional Cultural Heritages: Proclamation No. 839/2014	- Sets criteria for Classification of Cultural Heritages (CCH). - Provides for the Procedures and Management of National and Regional Cultural Heritages. - Provides for Establishment of Cultural Heritages Classification Council.	Relevant, because the SSI projects and other infrastructures developed by the projects are required to observe protection and conservation of the Cultural Heritages defined as defined by law.
Proclamation on Research and Conservation of Cultural Heritage: Proclamation No. 209/2000	- Provides for establishment of the Authority for Research and Conservation of Cultural Heritage (ARCCH) as the responsible federal body. - Defines and categorises cultural heritage, deals with cultural heritage management, and includes provisions for the exploration, discovery and study of cultural heritage. - At Regional, Zonal and Woreda levels, heritage issues are managed and administered by the respective Bureaus and Offices of Culture and Tourism (eg. in ANRS, these are now Culture, Tourism and Parks Development).	Relevant to PASIDP-II as described above, for which it needs to work with concerned bodies at Regional, Zonal and Woreda levels etc.
Occupational Health and Safety (draft)	- Occupational health data collection and harmonization is in its early stages - There is no proclamation on "Occupational Health and Safety" or any other tangible provision. - Some articles in the proclamations of Labour and public health, nevertheless, require employers to observe certain aspects of employees' safety and health at work places. - Currently, it is governed/overseen by the Occupational Safety, Health and Working Environment Department (OSHWED) within MOLSA, according to ILO.	Irrespective of whether a proclamation exists or not, a project under PASIDP-II needs to observe internationally accepted *Occupational Safety and Health* principles (eg. ILO Guidelines) to ensure optimal security and wellbeing within its working environment

In addition to the above, the various Programme Regions have their own proclamations and directives which apply to environmental and social management.

3.3.2 EPA Guidelines

The EPA developed a number of guidelines that have a bearing on PASIDP activities. These are also presented in tabular form below, for ease of reference.

Table 3.2 EPA Guidelines of Relevance to PASIDP

EPA Guidelines	Requirement/Provisions	Relevance to PASIDP-II
Environmental Impact Assessment Guidelines (EPA, 2000)	- Provides the policy and legislative framework, the general ESIA process and key sectoral environmental issues, standards. - Recommendations for environmental management in key sectors such as agriculture, industry, transport, tannery, dams and reservoirs, mining, textiles, irrigation, hydropower and resettlement projects.	Relevant to PASIDP-II as SSI projects might potentially cause some significant adverse environmental and/or social impacts
Procedures For Preparation Of Environmental Management Plans (EPA, 2003)	- Provides the essential components to be covered in any environmental management plan (eg. Identified impacts, mitigation measures, monitoring, capacity building, etc). - Structured formats for mitigation measures, monitoring and institutional arrangements.	Relevant to PASIDP-II for the above reason
Environmental Impact Assessment Guidelines On Irrigation (EPA, 2004)	- Cover all types of irrigation projects including water harvesting, storage, conveyance, on-farm distribution and drainage etc. - Aim to assist in developing irrigation projects that address sustainable development issues. - Highlight major issues and potential impacts with appropriate enhancement and mitigation measures to be taken during preparation and assessment phases.	Relevant to PASIDP-II as it mainly involves Irrigation development; projects are required to undergo EIAs, as they might potentially cause significant adverse environmental and social impacts, the management of which will be guided by these guidelines.
Guidelines on Soil Conservation on Cultivated Land (EPA, 2004)	- Intended to assist farmers, to take care of their cultivated lands against soil erosion. - Describe six physical soil conservation techniques briefly including their descriptions, areas of applicability, specifications, effects, best combinations with other biophysical conservation measures and materials used etc.	Relevant to PASIDP-II as most SSI are used for crop cultivation on lands susceptible to erosion and degradation; these guidelines help to apply appropriate conservation measures to protect the land.

EPA Guidelines	Requirement/Provisions	Relevance to PASIDP-II
Guidelines on Crop production (EPA, 2004)	- Cover food crops and export/industrial crops aiming to assist crop production processes address sustainability needs. - Analyse both rain-fed and irrigated production process including post-harvest activities (storage, processing, and commercialisation). - Highlight major issues and potential impacts with appropriate enhancement and mitigation measures to be taken in preparation and assessment phases.	Relevant to PASIDP-II as the SSI projects are geared for crop production, and these guidelines assist to ensure sustainability production processes.
Guidelines for Dams and Reservoirs (EPA, 2004)	- Provide guidance on the construction and operation of dams and reservoirs for various purposes. - Highlight major issues and potential impacts with appropriate enhancement and mitigation measures to be integrated in designing, construction, and EIA and management phases.	Relevant to PASIDP-II as some SSI schemes may involve the construction of dams and reservoirs as their source of irrigation water. Thus there is a need to incorporate appropriate measures to avoid potential adverse social and environmental impacts, for which these guidelines are useful.

3.4 IFAD Safeguard Polices

Indigenous Peoples Policy (2009)

Policy on Engagement with Indigenous Peoples aims to enhance IFAD's development effectiveness in its engagement with indigenous peoples' communities in rural areas. It sets out the principles of engagement IFAD will adhere to in its work with indigenous peoples, and the instruments, procedures and resources IFAD will deploy to implement them. The Policy is consistent with international standards, in particular the United Nations Development Group Guidelines on Indigenous Peoples' Issues, and with IFAD's mandate and Strategic Framework 2007-2010.

In its engagement with indigenous peoples, all IFAD supported projects are guided by nine fundamental principles:

a) Building upon cultural heritage and acknowledging cultural identity as assets;
b) Ensuring free, prior and informed consent;
c) Enhancing community-driven development;
d) Ensuring equitable access to land, territories and resources;
e) Valuing indigenous peoples' knowledge and practices;
f) Enhancing resilience of ecosystems in which indigenous people live and developing innovative adaptation measures to address environmental issues and climate change;
g) Exploring opportunities to enable indigenous people to value their products and facilitating access to markets;
h) Empowering indigenous peoples to secure and manage their resources and lead their own development processes; and

i) Ensuring gender equality, with commitment to improve the well-being of indigenous women.

Policy on Improving Access to Land and Tenure Security

The IFAD land policy provides a conceptual framework for the relationship between land issues and rural poverty, and identifies the major implications of this relationship for IFAD's work. The policy acknowledges the complexity and dynamics of evolving rural realities and articulates guiding principles for mainstreaming land issues in the Fund's main operational instruments and processes. It also provides a framework for the subsequent development of operational guidelines and decision tools.

The main principles of the policy are:

- Align with national priorities and support to poverty reduction strategies;
- Adhere to the "do-no-harm" principle at all times;
- Appreciate the diversity and dynamic nature of existing agrarian structures and tenure systems;
- Support the centrality of the empowerment of poor rural people and the organizations that
- represent them;
- Forge complementary partnerships with like-minded actors;
- Focus on the gender dimension of land rights;
- Adhere to the principle of free, prior and informed consent;
- Support to production services and market linkages to maximize the positive effects of access to land and tenure security.

Anchored in this policy are the tenets of Free Prior and Informed Consent (FPIC).

Policy on Disclosure of Documents (2010)

IFAD's Policy on the Disclosure of Documents enables project design documents to be disclosed prior to the Executive Board session at which the project is to be considered. The Consultation also directed the Executive Board to review policy provisions with regard to the disclosure of previously undisclosed documents.

Under IFAD's current disclosure policy, the following documents are disclosed to the public at the same time that they are made available to Executive Board representatives and Governors:

- All documents submitted to the Governing Council (including its Replenishment Consultations);
- All documents submitted to the Executive Board (including the Evaluation Committee);
- Information/status notes on projects being developed for presentation to the Executive Board following internal approval of the inception memorandum;
- Agreements for loans and grants once they are signed and effective;
- Amendments to loan and grant agreements once signed and countersigned;
- Previously undisclosed documents that are eligible for disclosure under the current policy (upon request or as necessary)

All evaluation reports and documentation submitted to the Evaluation Committee are made available to the general public on the website of the IFAD Office of Evaluation (IOE), which is part of IFAD's corporate website. Project/programme design documents are disclosed to the public in their original language prior to the Executive Board session at which the project/programme is to be considered.

The policy also discusses the process for disclosure of previously undisclosed documents, the language of disclosure and appeals.

Climate Change Strategy (2010)

The goal of IFAD's Climate Change Strategy is to maximize IFAD's impact on rural poverty in a changing climate through:

- Supporting innovative approaches to helping smallholder farmers build their resilience to climate change;
- Helping smallholder farmers take advantage of available mitigation incentives and funding;
- Informing a more coherent dialogue on climate change, rural development agriculture and food security.

The strategy aims to empower local communities and their institutions to participate in climate-change related decision-making processes, and to build their capacity to respond using their own and others' experience. IFAD's focus is to develop key partnerships on the ground, such as community-based, farmers' and women's organizations, NGOs, and national and local public institutions, including agriculture ministries. Based on its growing in-country presence, IFAD also engage where appropriate in country-level climate and environment coordination efforts, working closely with bilateral and multilateral donors, and taking advantage where appropriate of the capacity of partner organizations.

Environment and Natural Resources Policy (2012)

IFAD's Environment and Natural Resources Policy aims to enable poor rural people to escape from and remain out of poverty through more-productive and resilient livelihoods and ecosystems, by integrating the sustainable management of natural assets across its activities and its partners' activities.

The Policy sets out 10 core principles to guide its support, namely:

1. Scaled-up investment in multiple benefit approaches for sustainable agricultural intensification;
2. Recognition and greater awareness of the economic, social and cultural value of natural assets;
3. 'Climate-smart' approaches to rural development;
4. Greater attention to risk and resilience in order to manage environment- and natural-resource related shocks;
5. Engagement in value chains to drive green growth;
6. Improved governance of natural assets for poor rural people by strengthening land tenure and community-led empowerment;
7. Livelihood diversification to reduce vulnerability and build resilience for sustainable natural resource management;
8. Equality and empowerment for women and indigenous peoples in managing natural resources;
9. Increased access by poor rural communities to environment and climate finance; and
10. Environmental commitment through changing its own behaviour.

Social, Environment and Climate Assessment Procedures (SECAP) (2015)

SECAP endeavours to ensure that IFAD's goal of enabling poor rural people to improve their food and nutrition security, increase their incomes and strengthen their resilience, particularly to climate change, is done in an environmentally and socially responsible manner. The procedures set the minimum standards for the assessment of social, environmental and climate change risks of IFAD projects which apply throughout the project cycle. The procedures aim to:

".. (i) provide information and analysis that strengthen the social, environmental and climate dimensions of projects and programmes; (ii) maximise social, environmental and climate change adaptation benefits and avoid or minimise negative impacts; and (iii) increase the consistency, transparency and accountability in decision making concerning these dimensions...".

SECAP provides a step-wise description of the processes to assess risk at each phase of the project or programme cycle, namely: Environmental and Social Categorisation and Criteria, Environmental and Social Impact Assessment (ESIA); Climate Risk Analysis; ESIA Review and Recommendations; Loan Negotiations; Executive Board Approval, Project Supervision and Implementation, and Project Completion and ex-post ESIA.

With regard to categorisation, PASIDP falls under Category A as some of the programme interventions may have significant environmental and social consequences that are sensitive, affect a broader area or are irreversible, and will need specific focussed measures to manage them. For example, the irrigation schemes may:

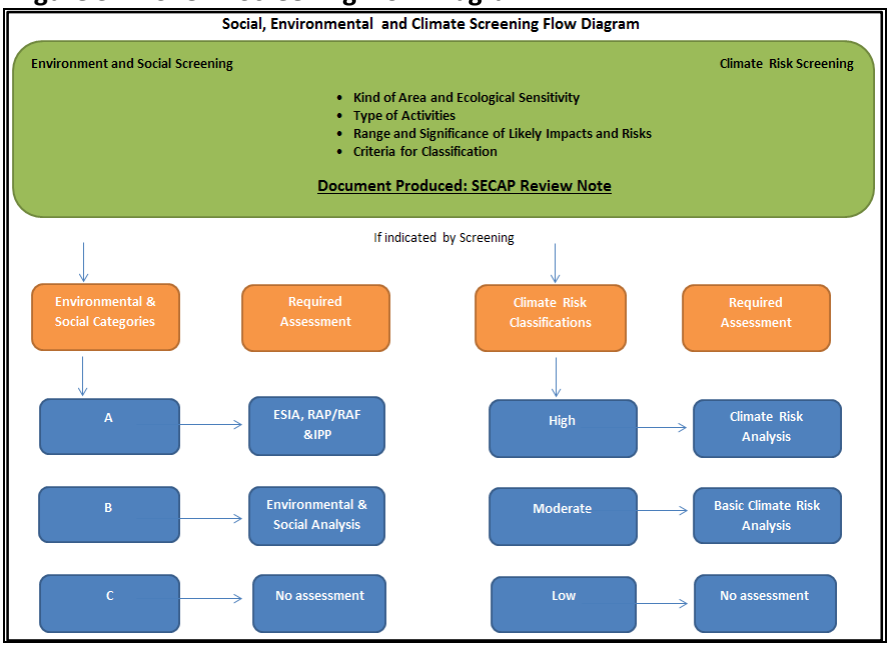
- Require the construction of dams > 15 m in height;
- Necessitate physical and / or economic displacement;
- Affect access to land and natural resources, hindering communities' user rights;
- Result in loss of environmental services provided by a natural ecosystem (for example wetlands); and/or
- Affect physical cultural resources.

The programme also classifies as high to medium risk for climate risk as the schemes are located in areas that are highly degraded areas, have a track record of extreme weather events, and have experienced weather-related losses and damages in the recent past.

Category B projects are those that may have some adverse environmental and/or social impacts on human populations or environmentally significant areas, but the impacts are less adverse than those for Category A; are site-specific and few are-irreversible in nature; and can be readily remedied by appropriate preventive actions and/or mitigation measures. While no formal ESIA is required for Category B programmes/projects, in many cases further environmental analysis could be undertaken during project preparation or implementation.

Category C projects generally do not require additional environmental analysis because the activities have positive environmental impacts, or negligible or minimally adverse environmental impacts. They would include, for example, technical assistance grants for agricultural research and training, grants to generate global environmental impacts, research, capacity building and institutional strengthening.

Figure 3.1: SECAP Screening Flow Diagram



Included in SECAP are a series Guidance Statements which are applicable in the context of PASIDP: these include Biodiversity and Protected Area Management; Agrochemicals; Fisheries and Aquaculture; Forest Resources; Livestock and Range Resources; Water; Small Dams; Physical Cultural Resources; Rural Roads; Development Of Value Chain, Microenterprises and Small Enterprises; Rural Finance; and Physical and Economic Resettlement.

Where resettlement or economic displacement is envisaged, SECAP requires that the principles of "do no harm" and "free, prior and informed consent" are adhered to at all times and for all beneficiaries for any intervention that might affect the land access and user rights of communities.

3.5 Differences in IFAD and GOE Policy Requirements

The table below highlights differences and similarities in the requirements for environmental and social assessment as well as resettlement and compensation in the Ministry of Environment, Forest and Climate Change and IFAD's SECAP.

Table 3.3 Comparison of MOEFCC and IFAD Requirements

Requirement	Ministry of Environment, Forests and Climate Change (EPA) Environmental Procedures	IFAD SECAP and Other Policies
Environmental and Social Screening	According to the EIA Directive No 2/2008, projects requiring full environmental impact assessments and which are reviewed at Federal level include: • Irrigation schemes having an irrigated area of 3000 ha or more • Dam and reservoir construction with a dam height 15 metres or more, or with reservoir storage capacity of 3 million m3 or more	SECAP categorises small scale irrigation projects as Category B, but does not define "small scale" as being below a given area of land to be irrigated. Professional judgement is therefore used to determine the categorisation which can be influenced by proximity to environmentally or ecologically sensitive areas, or other social, cultural or socio-economic considerations.

Requirement	Ministry of Environment, Forests and Climate Change (EPA) Environmental Procedures	IFAD SECAP and Other Policies
	The Ministry of Water, Irrigation and Energy and the Ministry of Agriculture have jurisdiction over EIAs for these projects – ie. EIAs are reviewed and approved by the respective Ministries. Projects having irrigated areas of less than 3000 ha, or dams/reservoirs having dam heights of less than 15 m or reservoir capacities of less than 3 million m3 require Preliminary Impact Assessments, and are reviewed at Regional Level by specific Bureau offices – these come under different sectors in the various regions. The MEFCC does not have its agencies at Regional Level as yet, but it is intended that they will do so under the current restructuring.	SECAP's Guidance Statement #8 on Small Dams categorises dams and reservoirs having a dam wall ≤ 5m high wall or reservoirs having a volume of ≤ 50 000 m3 as Category B (requiring a Preliminary ESIA or EMP) and dams/reservoirs having a dam wall > 5m or reservoir volumes of > 50 000 m3 as Category A (requiring full ESIA). For Category A projects a formal ESIA, RAP and/or IPP, as applicable, are required with ESMP elaboration. Category B projects do not require formal ESIA, but in many cases further environmental analysis is requested during project preparation or implementation in the form of an ESMP which may be a stand-alone document or an output from environmental analysis.
Climate Risk Classification	The EIA Procedural Guidelines (2003) list climate as an aspect to be considered as potentially affecting projects. Although the MEFCC / EPA guidelines do not currently consider Climate Risk in project assessment, with the new change in structure within the Ministry, and having Climate Change in its title, the Ministry is now placing greater importance on climate change adaptation and resilience, as evidenced by the launching of the Climate Resilient Green Economy Strategy (2011)..	SECAP provides a Climate Risk Classification methodology which specifies that projects that have high vulnerability to climate risk are for example: those that promote agricultural activity on marginal and/or highly degraded areas; projects that establish infrastructure in areas with a track record of extreme weather events; and projects in areas in which rural development projects have experienced weather-related losses and damages in the past. IFAD requires that projects classified as high risk undertake an in-depth climate risk analysis. Examples of medium risk projects include projects that make use of climate-sensitive resources, but do not focus on these resources as a main commodity (such as irrigation projects); projects which invest in infrastructure not directly exposed to extreme weather events but have potential to become more resilient through adaptation of green technologies; and projects which focus on institutional development and capacity building for rural institutions in climatically heterogeneous areas, where opportunities exist to strengthen indigenous climate risk management capabilities. Low risk projects are those that are not likely to be vulnerable to climate risks (eg. development of a micro-finance institution). Projects

Requirement	Ministry of Environment, Forests and Climate Change (EPA) Environmental Procedures	IFAD SECAP and Other Policies
		under PASIDP-II are therefore considered to lie within the high and medium climate risk category.
Consultations and FPIC	The EIA Proclamation No. 299/2002 and the EPA EIA Procedural Guidelines 20013 guidelines require consultations with key stakeholders at Federal, Regional, Zonal and Woreda level, as well as with the affected communities, and their participation, during the entire EIA process. There is no requirement for FPIC, but the national EIA Guidelines require participation of interested and affected groups through consultations, and also in providing inputs and comments throughout the ESIA process. With regard to irrigation schemes, Water User Organisations (which are community based) are required to be involved in the management of irrigation water management.	SECAP emphasises the need for greater consultation by communities (especially the marginalized poor) and stakeholders that are likely to be affected by IFAD's operations during the respective programme/project cycle, in order to provide input to the project design, receive feedback on the draft ESIA report, ensure broad community support to the project, and to ensure that affected people endorse the proposed mitigation/ risk reduction and management measures. In addition to public consultations, SECAP requires FPIC for all projects that are likely to affect land or user rights to land, whether or not the affected people belong to indigenous groups or minorities. All schemes being considered under PASIDP-II will therefore require FPIC.
Public Disclosure	There is no stipulated requirement for public disclosure, although the MEFCC and Regional Bureaux responsible for environmental review recommend disclosure of environmental and social documents at woreda level.	IFAD's Policy on the Disclosure of Documents (2010) requires full disclosure to the public, and includes information notes on projects being developed for Board presentation, agreements for approved loans and grants, and project/programme design documents which include ESIAs, ESMFs, RAPs and RAFs.
Compensation and Resettlement	Compensation and resettlement is chiefly guided by three legal instruments. The Rural Land Administration and Use Proclamation No. 456/2005, introduces a Rural Land Holding Certificate which provides a level of security of tenure. For land to be acquired for public works or for investment, the proclamation requires compensation to be paid to the land use holder commensurate with the improvements made to the land, or substitute land must be offered. The Proclamation on Expropriation of Landholdings for Public Purposes and Payment of Compensation No.455/2005 addresses issues related to public domain, property laws, land asset classification and valuation, customary laws and processes for expropriation, and provides for complaints	IFAD's Policy on Improving Access to Land Tenure Security stresses Free Prior Informed Consent and the "Do no Harm" Principles. These principles are also reflected in other IFAD policies including the Targeting Policy, Engagement with Indigenous Peoples Policy and Gender Equality and Women's Empowerment Policy. The core tenets of IFAD's principles on compensation and resettlement are that wherever possible, any physical or economic resettlement that could negatively impact affected people should be avoided or minimised; that all land and natural resource users with a legitimate claim will be recognised including people having informal/customary rights; and that no

Requirement	Ministry of Environment, Forests and Climate Change (EPA) Environmental Procedures	IFAD SECAP and Other Policies
	and appeals in relation to compensation. The Regulation for the Payment of Compensation for Property situated on Landholdings Expropriated for Public Purposes No. 135/2007 describes the procedures for settling issues related to public domain, property laws, land asset classification and valuation, customary laws and processes for expropriation, and grievance redress.	affected person should be left worse off, and preferably in a better position through proper and timely compensation and other mitigation measures.
Grievance Mechanisms	The Proclamation on EIA No. 299/2002 provides that any person dissatisfied with the authorisation or monitoring or any decision of the environmental authority or relevant regional environmental agency may submit a grievance notice to the authority or regional agency. This also applies if a complaint arises out of non-compliance of environmental or social actions provided in the ESMP. The authority or regional agency is required to respond within 30 days. As mentioned above, the Proclamation on Expropriation of Landholdings for Public Purposes and Payment of Compensation No.455/2005 and the Regulation for the Payment of Compensation for Property situated on Landholdings Expropriated for Public Purposes both provide avenues for grievance redress.	IFAD has developed a Complaints Procedure for "Alleged Non-Compliance with its Social and Environmental Policies and Mandatory Aspects of Its Social Environmental and Climate Assessment Procedures". Parties adversely or potentially adversely affected by IFAD-funded projects and programmes may bring issues to the Fund's attention using SECAPcomplaints@ifad.org. Complaints must be put forward by at least two people who are both nationals of the country concerned and/or living in the project area. Complaints from foreign locations or anonymous complaints will not be taken into account. Complaints must concern projects/programmes currently under design or implementation. Complaints concerning closed projects, or those that are more than 95 per cent disbursed, will not be considered. IFAD does not provide monetary compensation to resolve complaints. The IFAD website provides a clear summary of the steps involved and guidance on how to report issues.
Physical Cultural Resources	The protection of physical cultural resources is enshrined in the Constitution of the FDRE. The National Cultural Policy of 1997 puts into effect the requirements of the constitution in terms of protection and preservation of cultural and historical legacies. Proclamation No. 839/2014 on Classification of Cultural Heritages into National and Regional Cultural Heritages provides for the classification of cultural heritages and their management, and Proclamation No. 209/2000 on Research and Conservation of Cultural Heritage states that in the event of a chance find in the course of any fortuitous event, the find must be reported to the Authority for Research and Conservation of	In cases where physical cultural resources are found, IFAD assists borrowers in avoiding, minimising or mitigating adverse impacts on PCR in the development programmes/ projects that it finances. Due diligence is carried out through applying SECAP to ensure that PCR are properly identified and adequately addressed and that any measures to protect PCR comply with the borrower's national legislation as well as with its obligations under relevant international treaties and agreements. SECAP prescribes general steps for programmes/ projects that apply in cases involving PCR: screening; collecting data;

Requirement	Ministry of Environment, Forests and Climate Change (EPA) Environmental Procedures	IFAD SECAP and Other Policies
	Cultural Heritage, and the discoverer is required to protect and keep the same intact, until the Authority takes delivery thereof.	assessing impacts; and formulating mitigating measures.
Safety of Dams	In addition to the requirements the EIA Directive No 2/2008 which lists projects requiring full environmental impact assessments, the MEFCC/EPA has developed Guidelines for Dams and Reservoirs (2004) which highlight major issues related to dams and reservoirs, and describes typical beneficial and adverse impacts and enhancement and mitigation measures. In considering dam/reservoir design and construction, aspects to be covered should include poverty, physical and natural environment, health, gender, population and participation by communities and civil society. The Guideline notes external factors that need to be addressed, including land use, seismicity, social instability, and hazard management. The guidelines also present environmental and social monitoring indicators.	SECAP's Guidance Statement #8 on Small Dams categorises dam sizes in relation to the level of environmental investigation required (see above). Since the risk of small dams failing is higher than that for large dams, the Guidance Statement recommends following international best practices based on the World Commission on Dams recommended procedures (including gaining public acceptance, an options assessment, ensuring sustainability of rivers and livelihoods), as well as ensuring adequate planning, quality of the design and construction, optimum use of storage infrastructure after construction, and safety monitoring. IFAD has no specific guidance on safety of large dams

3.6 International Treaties and Conventions

Ethiopia is a signatory to a number of international or multi-lateral conventions and treaties. Those which are of relevance to PASIDP-II are described below. GOE has domesticated these treaties and conventions, as reflected in the various policies and proclamations described above in Sections 3.2 and 3.3.

Table 3.4 International Treaties and Conventions

International Treaty / Convention	Stipulations/ Requirements	Relevance to PASIDP-II
Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters (1998)	Deals with the rights of access to information, public participation in decision-making, and access to justice in environmental matters.	The Programme is based on a participatory approach, and therefore access to information, public participation and access to justice are among the founding principles of the Programme design.
Convention on Biological Diversity (CBD, 1992)	Aims to conserve biological diversity, promote the sustainable use of the components of biological diversity, and ensure fair and equitable sharing of the benefits arising out of the utilization of genetic resources.	Schemes may require the clearing of vegetation but also may affect aquatic ecology if environmental flow is not maintained.

International Treaty / Convention	Stipulations/ Requirements	Relevance to PASIDP-II
Cartagena Protocol on Biosafety to the Convention on Biological Diversity	Aims to ensure the safe handling, transport and use of living modified organisms (LMOs) resulting from modern biotechnology that may have adverse effects on biological diversity, taking also into account risks to human health.	May be relevant if modified seed is to be used on the schemes. May also apply to the growing of indigenous crops such as teff and coffee.
UN Framework Convention on Climate Change (UNFCCC)	Provides a framework for international cooperation to combat climate change by limiting average global temperature increases and the resulting climate change, and coping with its impacts.	PASIDP focusses on climate smart agriculture and requires a climate risk assessment to be undertaken in order to guide Programme design in coping with climate-related impacts on livelihoods.
Kyoto Protocol to the UNFCCC (1997)	Legally binds developed country Parties to emission reduction targets.	
Paris Agreement to the UNFCCC (2015)	Seeks to accelerate and intensify the actions and investment needed for a sustainable low carbon future. Its central aim is to strengthen the global response to the threat of climate change by keeping a global temperature rise this century well below 2 degrees Celsius above pre-industrial levels and to pursue efforts to limit the temperature increase even further to 1.5 degrees Celsius. The Agreement also aims to strengthen the ability of countries to deal with the impacts of climate change	
United Nations Convention to Combat Desertification (UNCCD, 1994)	Aims to combat desertification and mitigate the effects of drought in countries experiencing serious drought and/or desertification, particularly in Africa, through effective action at all levels, supported by international cooperation and partnership arrangements. It specifically addresses the arid, semi-arid and dry sub-humid areas, known as the drylands, where some of the most vulnerable ecosystems and peoples can be found.	Although PASIDP-II focuses mainly on the highland areas, there are some schemes that fall within the semi-arid zones.
Convention concerning the Protection of the World Cultural and Natural Heritage (World Heritage Convention, 1972)	Requires state parties to recognize that the duty of ensuring the identification, protection, conservation, presentation and transmission to future generations of the cultural and natural heritage situated on its territory, belongs primarily to that State. It will do all it can to this end, to the utmost of its own resources and, where appropriate, with any international	The Programme regions host a number of important historic and cultural sites. These are well documented. However because of its rich cultural history there may be sensitive cultural/historic areas in the vicinity of the scheme sites that may be particularly affected during scheme construction.

International Treaty / Convention	Stipulations/ Requirements	Relevance to PASIDP-II
	assistance and co-operation, in particular, financial, artistic, scientific and technical, which it may be able to obtain.	
The Rotterdam Convention (formally, the Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade)	Promotes shared responsibilities in relation to importation of hazardous chemicals. The convention promotes open exchange of information and calls on exporters of hazardous chemicals to use proper labelling, include directions on safe handling, and inform purchasers of any known restrictions or bans. Signatory nations can decide whether to allow or ban the importation of chemicals listed in the treaty, and exporting countries are obliged to make sure that producers within their jurisdiction comply.	Agrochemicals used on the schemes must be those that are registered with, and approved by, the MOA and properly labelled for safe handling, disposal, etc. In addition, farmers must be trained on the hazards of these agrochemicals and how to store, handle and use them.
The Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal (the Basel Convention, 1989),	Designed to reduce the movements of hazardous waste between nations, and specifically to prevent transfer of hazardous waste from developed to less developed countries (LDCs). It does not, however, address the movement of radioactive waste. Also intended to minimize the amount and toxicity of wastes generated, to ensure their environmentally sound management as closely as possible to the source of generation, and to assist LDCs in environmentally sound management of the hazardous and other wastes they generate.	Of particular relevance to PASIDP is the provision of assistance in the management of hazardous and other wastes – in this case it applies to the disposal of expired agrochemicals and their containers.
Stockholm Convention on Persistent Organic Pollutants (1992)	Aims to eliminate or restrict the production and use of persistent organic pollutants (POPs).	Agrochemicals used in PASIDP schemes must be those that are registered with and approved by the MOA.
The Bamako Convention on the ban on the Import into Africa and the Control of Transboundary Movement and Management of Hazardous Wastes within Africa (Bamako Convention, 1991).	Prohibits the import of any hazardous (including radioactive) waste into Africa	Relevant in the case if expired agrochemicals and their containers are taken to other countries for disposal.

4 Lessons Learnt and Gap Analysis

4.1 PASIDP-I

PASIDP-I was implemented from 2008 to 2015. The programme has directly benefited 36,148 households from the newly constructed irrigation schemes, while another 25,477 households have been benefited from the agricultural component. Its interventions have resulted increased production and productivity, improved crop diversification, increased cropping seasons, increased overall beneficiary HHs income, improved HHs asset ownership, improved HH food security, improved family nutrition and improved women empowerment (IFAD, March 2016).

Nevertheless, according the PASIDP Project Completion Report (IFAD, March 2016), there are areas for improvement which have been identified below, and which need to be recognised in the development of PASIDP-II Programme Design:

- The participatory approach in irrigation development at all levels of the government structure and community is crucial in ensuring sustainable scheme development and irrigation management. Participatory decisions have to an extent ensured collective action and effective implementation of farm and scheme level management interventions.
- There was a need for technical backstopping right from the beginning: at study and design, construction, community mobilization, catchment management, agricultural development and institutional engagement.
- It is also of paramount importance to have adequate local capacity for implementation, timely staffing, continual flow of funds and availability of vehicles to enhance implementation efficiency.
- The commitments and active involvement of political leaders was critical for effective project implementation, facilitation and motivation of all stakeholders for action.
- Implementation and supervision missions are very important to instil best practices and identify critical gaps for improvement, and would benefit from involving local expertise in all project design and supervision missions.

In order to address the above, during PASIDP-II there is need for a more consultative approach with scheme communities in order to ensure that issues such as access to resources, loss of land, impacts on physical cultural resources are well addressed. Issues noted with regard to technical backstopping, local capacity and resources for implementation and the involvement of local expertise on supervision missions are all applicable to ensure sound environmental and social management during PASIDP-II. However, with regard to commitment and active involvement of political leaders, while commitment is crucial, there is a danger that too much political involvement will sway decisions which should be made by the communities. FPIC processes therefore come into play in such cases.

The PASIDP Draft Impact Evaluation Study Report (IFAD, January 2016) notes that one of the challenges in assessing the impact of the project has been the absence of, or poor quality of, baseline data. With regard to environmental, social and climate-related data, during PASIDP-II it will be important to institute monitoring systems that ensure data is documented, collated, analysed and stored.

4.2 Sustainable Land Management Project (SLMP)

The prime objective of the multi-donor supported[9] Sustainable Land Management Project is reducing land degradation in agricultural landscapes and improving the agricultural productivity of smallholder farmers. The main project components are watershed management (scaling up best practices), land certification (strengthening land tenure), project management (knowledge management) and addressing climate change/variability related risks and to maximize Green House Gas (GHG) emission reductions. An ESMF was produced ahead of the first phase of the project (2008-2013). Prior to the commencement of the second phase a gap analysis was undertaken to identify shortcomings in the previous ESMF in order that the ESMF for SLMP II build on lessons learnt. The main gaps were noted as being lack of capacity at the different levels (kebele, woreda and region), and lack of financial resources to implement the EMSPs and mitigation measures. Specifically, shortcomings were identified as relating to the identification, planning and screening of subprojects at kebele level by development agents and at woreda level; lack of capacity and budgets to conduct ESIA studies/prepare ESMPs; and lack of financial resources to implement and monitor mitigation measures/ESMPs.

To address these gaps it was recommended that capacity is built in environmental and social management especially at kebele and woreda level; screening checklists are prepared to guide the screening process; and adequate financial resources are allocated for the preparation of ESMPs, implementing environmental and social mitigation measures and for monitoring (MOA, SLMP II ESMF, 2013). In addition, members of the Federal SLMP Coordination Unit noted that the need to have dedicated environmental and social officers at Federal and Regional levels is critical in ensuring safeguards are complied with within the Programme activities.

4.3 Agricultural Growth Program (AGP)

The Agriculture Growth Program (AGP) is a multi-donor funded[10] program focusing on increasing sustainable agriculture growth. It promotes agricultural growth in targeted, potentially rich, but underdeveloped woredas of the country. The program's key strategic priorities are agricultural production and commercialization through institutional strengthening, scaling up of best practices, market and agribusiness development; and rural infrastructure development and management though small-scale agricultural water management and market infrastructure development (http://ethioagp.org/agricultural-growth-program-agp).

As part of the program design, in 2010 an ESMF was prepared for Phase I of the program. Subsequently in developing the ESMF for AGP-II, a review was undertaken on the implementation of the ESMF for AGP-I. Key findings were that:

- ESIAs and ESMPs produced at both regional level and woreda level were of low quality;
- There were limitations on the implementation of mitigation measures (including pesticide management plans) and monitoring of implementation;
- Documentation of environmental and social safeguards was poor; and

[9] The SLM Project is supported by: The World Bank, GIZ, KfW, Canadian International Development Agency, the European Union, IFAD GEF, and the Government of Finland.

[10] The AGP Program is funded by: Agencia Espanola De Cooperacion International Para El Desarrollo, Canadian International Development Agency – Government of Canada, Food and Agriculture Organization of the United Nations, Embassy of the Kingdom of the Netherlands, United National Development Program (UNDP), United States Agency for International Development (USAID), and the World Bank Group

- Dam safety guidelines were not followed.

The review also found that apart from the Woreda EPLAUAs, the implementing agencies at woreda level and at most of regional levels do not have staff dedicated and/or trained personnel to deal with environmental and social management. In many institutions, staff have been retained for specific core duties, and consequently when assigned to environmental and social management issues, they are not adequately familiar with the subject. In some cases, environment personnel are present but level of training and technical capacity on environmental principles and tools of management is not sufficient. (MOA, AGP II ESMF, 2015).

Reasons for the challenges quoted above include inadequate capacity to implement both environmental and social mitigation, monitoring and safeguard requirements; limited support by decision makers to emphasise the importance of ESMF implementation; budgetary and logistical constraints; non-implementable ESMPs; and rapid turnover of trained and skilled personnel especially at woreda level.

During discussions with the Environmental and Social Safeguards Officer at the Federal AGP Coordination Unit, the need for support from decision makers, the importance of having dedicated environmental and social officers at Federal and Regional level, and enhanced capacity of the focal person woreda level and development agents at kebele level was reiterated.

4.4 Gap Analysis on Selected ESIAs undertaken for Potential PASIDP-II Schemes

As part of this assignment, a Gap Analysis was conducted on a number of schemes for which feasibility studies, designs and environmental impact assessment studies or environmental and social management plans had been prepared. The aim of the exercise was to identify only to the extent necessary, gaps in ESIAs and ESMPs in order that they can be updated to meet SECAP requirements. In order to guide the Gap Analysis, a checklist of issues to be considered in the development of an ESIA was prepared, based on IFAD's SECAP ESIA requirements and the GOE EPA requirements for ESIAs as stipulated in the Environmental Impact Assessment Proclamation No. 299/2002, and the EPA EIA Procedural Guidelines of 2003. The Gap Analysis Report is presented in Annex 8.

ESIAs/ESMPs selected for review in the Gap Analysis were those for which feasibility studies, detailed designs, and environmental and social impact assessments had been prepared. Then for each type of intervention (small dams, river diversions and piped systems), those schemes with the largest footprint were selected for the Gap Analysis since these were expected to have the more serious environmental and social consequences. However, as the ESIA report was not available for the piped scheme, the Gap Analysis covered 11 schemes, as shown in Table 4.1 below.

The Gap Analysis indicated what has been addressed by the ESIAs and ESMPs, and what key issues are missing that need to be addressed, taking into account project categorisation and complexity.

In discussing the gaps identified, it is important to note that the MEFCC (EPA) requires only Preliminary ESIAs for irrigation schemes less than 3000 ha, and dams/reservoirs having dam/weir heights of less than 15 m or reservoir capacities of less than 3 million m^3. No guidance is provided on the contents of a Preliminary ESIA, and therefore it is understandable that the contents varied from scheme to scheme and consultant to consultant. However, EPA has prepared guidelines for environmental management plans which specifies brief but thorough discussions on significant impacts, their causes, and how they can be managed/ mitigated.

Table 4.1 Schemes Selected for the Gap Analysis

	Region	Scheme Name	Area (Ha)	Number of Households
Small Dams			**550**	**1,310**
	Amhara		**550**	**1,310**
		Abass Micro- Earth Dam	130	160
		Waka Micro- Earth Dam	70	300
		Ziragn Micro- Earth Dam	350	850
River Diversions			**1,631**	**3,544**
	Amhara		**170**	**200**
		Gollina Intake	170	200
	Oromiya		**550**	**1,300**
		Bereda Lencha	300	800
		Welmel Tika	250	500
	SNNPR		**800**	**1,600**
		Beko River Diversion	500	1,000
		Golla River Diversion	200	400
		Gondoro River Diversion	100	200
	Tigray		**111**	**444**
		Daero (Belesa)	36	144
		Mai-tsahlo	75	300
Grand Total			**2,181**	**4,854**

On the whole, the ESIAs and ESMPs covered issues relating to the following to varying extent:

- Impacts of sedimentation and soil erosion;
- Dust and exhaust emissions during construction;
- Disturbance to the communities during construction;
- Agrochemical use;
- Water logging;
- Salinization; and
- Institutional responsibilities.

Key issues that are not addressed adequately (or at all) in the ESIAs and ESMPs are as follows:

- The studies hardly refer to or incorporate the data/information provided in the other design documents, particularly sections on hydrology, water resources management, geology and soils, agronomy, and socio-economy. The accuracy of the technical data would also need to be verified, eg. water balance, flows, etc, but nevertheless a lot of information is presented in these sections which would enhance the quality of the ESIAs and ESMPs, particularly in terms of presenting baselines which form the basis of impact analysis. However, the environmental baselines in the design documents are generally poor.
- Project descriptions do not cover all the components (eg. roads, ancillary works) and do not provide sufficient information on the schemes in order for the reader to understand what is being proposed. Some documents do not mention the area to be irrigated. There are very few details on irrigation methodology, irrigation layout, water requirement, and choice of agrochemicals.
- A discussion on project alternatives only appears in a few of the ESIA reports.
- Processes for public disclosure are not described.

- The reports do not comprehensively describe all relevant national and regional legal instruments, and the implications of these on project development and implementation are not explained.
- Hydrological characteristics of the rivers, water availability for irrigation and determination of environmental flows are not fully described.
- Aquatic ecology is rarely mentioned.
- Details on forests, woodlands or protected areas in or near the project area are not adequately presented.
- Water quality and soil quality measurements are not included or mentioned (although much of this is provided in the other design documents).
- Social baselines do not incorporate the information provided in the Socio-Economic Study and other documents prepared as Design Documents.
- Climate vulnerability and impacts of climatic events on the project are not addressed in any of the ESIA reports or ESMPs reviewed.
- The analysis of impacts does not tie in with the baselines.
- Although some ESIA reports acknowledge that physical and economic displacement will occur, these are inadequately discussed, if at all. Numbers of affected households and assets are not provided, and no recommendations made for the preparation of RAPs or any form of compensation plan are proposed.
- Stakeholder consultations vary from adequate to poor. Key issues such as whether the communities were informed or had enough knowledge on the project, were for the most part not mentioned.
- Cumulative impacts are not addressed, particularly in terms of other development projects in the immediate project area.
- Mitigation measures need to be expanded, bearing in mind that the contractor implementing the mitigation measures may not be familiar with environmental and social processes and terminology.
- Not all the reports present comprehensive management plans and monitoring plans which include mitigation measures, responsibilities, timing, frequency of monitoring and costs.
- Monitoring indicators do not tie in with the baselines.
- Complementary measures should be included as recommendations to enhance the project.
- No substantial recommendations are made to improve the design.

The conclusion from the Gap Analysis exercise was that there is in general a lack of capacity among consultants and woreda level experts to carry out adequate environmental and social assessment or prepare adequate environmental and social management plans, to acceptable IFAD SECAP standards. The ESIAs and ESMPs have been approved at the regional and woreda levels respectively, which indicates that the regional and woreda Environmental Protection and Land Administration Bureau/Office Experts may also not have the capacity to review these documents to ensure they satisfy IFAD SECAP safeguard requirements, or they may not be aware of these requirements. This finding is corroborated in the review of the gaps in implementation of the SLMP I and AGP-I ESMFs (see Sections 4.2 and 4.3 above, respectively). PASIDP-II will therefore include in its capacity building programme support to consultants as well as relevant personnel at Federal, Regional and Woreda level to ensure that ESIAs and ESMPs of adequate standard are prepared for the remaining projects (See Chapter 11).

During the preparation of this ESMF, discussions in the field with woreda and kebele level authorities and communities revealed that consultations with the communities were on the whole carried out once by the design consultants, and during the preparation of socio-economic studies for the schemes. But subsequently, neither preliminary nor final designs were not discussed with the communities,

kebele nor woreda authorities. This therefore contradicts the participatory principle upon which the Programme is based.

During the start-up activities for PASIDP-II, the ESIAs and ESMPs will need to be updated to satisfy SECAP requirements. The updating of these documents will begin with those schemes that are selected for immediate implementation - that is schemes prioritized on the basis of factors such as cost per hectare, market access, readiness for implementation in terms of feasibility studies and design. The updating activity will include presentation and explanation of scheme designs to the communities, kebeles and woredas for comment and further input if necessary, in order to fulfil SECAP consultation and FPIC requirements, and a budget has been provided for this activity (See Chapter 12).

5 Environmental and Social Setting

This chapter intends to present the general environmental and social overview for the four regions within which PASIDP-II will target. Information has been obtained mainly from secondary sources, for example regional strategic documents, internet sites for relevant sectoral ministries, and ESIA documents prepared for proposed PASIDP schemes.

5.1 Administrative Structure in Ethiopia

The administrative structure of FDRE is generally described as having 5 levels: Federal, Regional State, Administrative Zone, Woreda Administration and Kebele Administration.

As provided by the FDRE's Constitution , the powers of regional governments include establishment of a State administration that advances self- government and democratic order, protection of the Federal Constitution, enactment of the State constitutions and subordinate laws; formulation and execution of economic, social and development policies, strategies and plans of the State; administration of land and other natural resources in accordance with Federal laws and establishment and administration of the state police force; maintaining public order and peace within the State. The Federal Government and the States have concurrent power on matters of taxation.

The administrative setup at the Regional level divided along sectors that are organised in the same way as at the Federal level; the regional counterparts of line ministries are called bureaux. For instance, the Bureau of Water Resources Development is mandated to, among other things, supervise the balanced distribution and utilization of the region’s water resources for various types of service, grant permits to and supervise waterworks engaged in the construction of dams and other works for the use of the water resources of the region, and collect charges for water use as might be enacted by law. Other bureaux include the agriculture and rural development; environmental protection, land administration and use; health; investment; and tourism and culture etc.

At Zonal level, the corresponding sectoral departments provide technical support needed to Woredas without assuming administrative powers.

The Sectoral functions at the Woreda level are undertaken by offices of the respective sectors. The Woreda administrations constitute the major decision-making government organ. A Woreda Administration has the following duties and responsibilities, among others:

- Implementation of the policies, laws and directives of the state;
- Coordination of the activities of various offices in the Woreda;
- Maintenance of peace and security in the Woreda , directing the police and security forces;
- Planning and implementation of projects;
- Supervision of development programs within the Woreda; and
- Proper use and accounting for the annual budget.

The Woredas are the key focus of the government's commitment to decentralized delivery of services. The various sector offices at Woreda level are meant to command optimal level of technical personnel including subject matter specialists to provide technical and management backstopping supports to development agents (DAs) working at the village level. Depending on the knowledge and skill requirements of specific undertakings, the Woreda level experts are also called upon to directly involve with designing, supervise/guide implementation for development activities - eg. SWC, SSI,

rainwater harvesting, road construction, water supply development, sanitation and waste management etc. The actual situations in most woredas, nevertheless, are far from attaining dependable status in this regard. Main challenges reported for the prevailing capacity limitations at Woreda level include inadequate budget, people with the required levels of qualifications being less motivated to work at woredas (mainly in the relatively remote woredas), and high staff turnover, among others.

The Kebele is the lowest administrative level structure. It generally comprises sub-Kebeles and is headed by an elected chairman. The main responsibilities of the Kebele administrations include preparation of an annual Kebele development plan; ensuring the collection of land and agricultural income tax; organizing local labour and in-kind contributions for development activities; and resolving conflicts within the community through the social courts.

5.2 Amhara Region

The Amhara National Regional State (ANRS) covers some 157,647 km^2 across north-western and north-eastern Ethiopia. The Region is divided into 11 administrative zones; viz. Waghemra, North Wello, North Gonder, South Gonder, South Wello, North Shewa, Oromiya, East Gojjam, West Gojjam, Awi and Bahir Dar special zone, which are further divided into 167 woredas (129 rural and 38 urban).

Biophysical Environment

Topography, Climate and Rainfall. The region is perhaps topographically the most diverse and complex of all the regions in the country. It is the highest part of the country characterised by rugged mountains, extensive plateaux and scattered plains separated by deeply cut gorges, steep slopes and cliffs which makes travel over them very difficult. The massifs, consisting of the higher parts of the region, form the most impressive features in roughness and grandeur. There are two main groups of massifs separated by the Tekeze Gorge in north and the Abay Gorge in the south, which are connected by the Yeju-Wadla Delant plateau in the middle. Piedmont lowlands are found to the west. Amhara Nation Regional State is topographically divided into the highlands and lowlands. The highlands are above 1500 meters above sea level and comprise the largest part of the northern and eastern parts of the region. The highlands are also characterized by chains of mountains and plateaus and include Ras Dejen (4620 m), Guna (4236 m), Choke (4184m) and Abune – Yousef (4190m) mountain peaks. The lowlands lie mainly in the western and eastern parts between 500-1500m asl. Areas above 2,300 m asl fall within the "Dega" climatic Zone, and areas between the 1,500-2,300m asl meter above sea level contour fall within the "Woina Dega" climatic zone; and areas below 1,500 fall within the "Kolla" or hot climatic zones. The Dega, Woina Dega and Kolla parts of the region constitute 25%, 44% and 31% of the total area of the region, respectively. The annual mean temperature for most parts of the region lies between 15°C-21°C. The Region receives the highest percentage (80%) of the total rainfall in the country. The highest rainfall occurs during between mid-June and early September. The mean annual rainfall over the whole region varies from 300 mm in the east to over 2,000 mm in Awi and west Gojjam zone and comparatively small area of Tarmaber (Mezezo) and Basona Woreda in the North Shewa Zone. The amount of rainfall, and also the length of the rainy season, decreases towards the north and north-east[11].

Soils. Some 15 major soil types are found in Amhara Region. The most predominant are leptosols, followed by vertisols and cambisols.

[11] ANRS (2015). The 2nd Regional Conservation Strategy.

Water Resources. The main rivers basins in the region are the Abay, Tekeze, Jema and Awash River basins which are found in Amhara region. The major lakes are Lakes Tana, Zengena and Haik. Although groundwater potential has not been studied in detail, both volcanic and alluvial aquifers exist in the region, the latter having good yields in Debre Markos (Sentera plain), Kombolcha valley and Kobo - Alamata plain.

Vegetation / Flora. Vegetation patterns have largely been affected by anthropological factors, particularly in the highlands. Where natural vegetation exists, this is influenced by rainfall, soil, drainage and altitude. In the Highlands the original vegetation cover comprises mosaic of wooded grassland and plateau forest, with the forests occupying the more favourable sites. In the drier eastern parts of the Region, the forest remnants comprise mixed Juniperus and Olea woodland. In the wetter western parts they comprise mixed *Podocarpus falcatus-Juniperus procera* forest with a well-developed understorey often comprising *Croton macrostachyus, Ficus* spp*., Olea europaea subsp. cuspidata, Trema orientalis* and *Maesa lanceolata. On* the shores and islands of Lake Tana a more humid variant of this forest occurs. The woodlands can be divided into the Acacia-Commiphora woodlands found in the drier lowlands of the eastern foothills and the inner Tekeze valley and the broadleaf Combretum-Terminalia woodland found in the wetter areas of the western lowlands. Above about 3,200masl Afro-alpine and sub-afro-alpine vegetation occurs in a combination of giant herbs and shrubs, succulents and grasses, with patches of Giant Heather (*Erica arborea*).[12]

Fauna. The region has about 450 species of birds and 50 species of larger mammals. The region is also home to large number of endemic species of Ethiopia, for example Walia Ibex, Abyssinian Wolf, Gelada Baboon, Menelik's Bush Buck and Stark's Hare. In addition, there a number of species of small mammals, birds, fish, and reptiles and amphibians, some of which are also endemic.

Protected Areas. The region has identified 17 priority forest areas comprising natural and plantation forests, of which Denkoro Forest is notable. Protected areas include the Simien National Park and Halatish Regional Park. Although not protected, Amhara region contains a number of Important Bird Areas (IBAs), namely: Simien Mountains National Park, Fogera plains, Bahir Dar–Lake Tana, Yegof forest, Denkoro forest, Awi Zone, Choke Mountains, Guassa (Menz), Jemma and Jara valleys, Mid-Abbay (Blue Nile) river basin, Ankober–Debre Sina escarpment, and Aliyu Amba–Dulecha (ANRS, RCS 2015).

Socio Economic Environment

Land Use. In 2011/12, most of the agricultural land (more than 85%) is under temporary crops and all households growing temporary and/or permanent crops, (2004 E.C). The numbers of households growing both types of crops are not mutually exclusive. The average holding sizes per household is 1.27 hectares. The average cropland area (both temporary & permanent) was found out to be 1.07 hectares per household and 1.06 hectare per holder. The average size of land holding for 50% of the holders was < 1 ha; while only small number (1%) of holders had 5-10 ha of land in 2011/12.[13] About 6% of the land is categorised as grazing land, while woodland comprises on ly 1% of the regional area.

Land Tenure. Landholding rights gives the right to use the land for agricultural purposes as well as to lease it and, while the right remains in effect, bequeathed to family members, as well as the right to acquire property thereon, by labour or capital, and to sell, exchange and bequeath the same. Rural land use is based on proper land use planning, providing for the proper use of various types of land,

[12] ANRS (2002). Strategic Plan for the Sustainable Development Conservation and Management of Woody Biomass Resources.

[13] CSA (2012). *Agricultural Sample Survey 2011/2012 (2004 E.C.), (September – December, 2011): Volume IV: Report on Land Utilization (Private Peasant Holdings, Meher Season); Statistical Bulletin 532.* Addis Ababa, May, 2012.

such as slopes, gullies and wetlands, as well as the utilization of rural land for villages and social services. This is intended to create a sense of ownership among the vast majority of the rural population and enable them to take initiatives and collectively engage in environmental management activities etc. All land users are provided with certificates entitling them with the rights described above.

Water Supply. The improved water supply service coverage in Amhara Region averages 58% (54% rural and 87% urban). Out of 135 rural woredas, for which data were available, 25 woredas (18.5%) were with less than 30% coverage, while 65 woredas (48.2%) had between 30-50% coverage. In other words, a total of 90 woredas (67%) have below 50% coverage.[14]

Population and Demographic Characteristics. The population of ANRS constitutes 22.53% of the total population of Ethiopia. The total projected population of ANRS for 2015 is estimated at about 20.4 million, of which 50.1% are male and 49.9% are female. About 83.8% of the Amhara population resides in rural areas, and mainly depend on subsistence agriculture. The Region's average population density estimated for 2015 is about 132 persons/sq. km

Economic Activities. Agriculture accounts for 70% of the regional GDP followed by services and industry, which are contributing 24% and 6%, respectively; and accounting for 92.2%, 6.5% and 1.3% of employment.[15] A recent household income expenditure survey conducted in the Region shows that about 96% of the regional population fall under low and middle income /expenditure brackets with an annual income below 1,050 Birr.[16] Around 30.5 % of the total population in the region lived under absolute poverty (ie. 30.7% rural and 29.2% urban).[17] Despite huge potential for agricultural resources, the sector is still underdeveloped, characterized by low production and productivity with pockets of food deficit areas. Tourism is also becoming an important activity as the region hosts some popular tourist sites (eg. Blue Nile Falls, Simien National Park, and the rock-hewn churches of Lalibela)

Health. Existing medical and health facilities in ANRS as provided by CSA for the year 2012/13, included 26 hospitals, 858 hospital beds, 897 clinics and 796 health centres. The latter don't include such facilities run by Police and Armed Forces.

Education. In the academic year 2013/14 the total number of teacher at primary and secondary schools was 95,059. This includes governmental (93,878) and non-governmental (1,181) schools[18]. The number of students enrolled to primary and secondary schools during the same period was 4,460,104 including governmental (4,419,292) and non-governmental (40,812).

[14] Ephraim A (2013). Water Sector Assessment in Amhara Region: Main Report and Appendices. HELVETAS Swiss Inter-cooperation in Ethiopia (HELVETAS Ethiopia), March 2013, Addis Ababa.

[15] ERA/WTC/ATC/AGE, 2009. Final WIDP for Jabi Tehnan Woreda, Amhara Region: Volume I - Main Report. Ethiopian Roads Authority (ERA) through Consultancy Services for Wereda Integrated Development Study Lot-2. WT Consult Plc In Joint – Venture with Afri -Tech Consult Plc in Association with Afri Geoinformation Engineering Plc, July 2009, Addis Ababa

[16] ERA/WSP/ORGUT/ Norplan/ Haddis Consult and Shebelle Consulting Engineers, 2009. FINAL WIDP REPORT For Woreda Integrated Development Study for 6 NDF woredas: Mecha Woreda – Amhara Regional State, The Federal Republic of Ethiopia. Ethiopian Roads Authority (ERA); WSP International Sweden AB in association with ORGUT Consulting AB of Sweden, Norplan of Norway, Haddis Consult and Shebelle Consulting Engineers of Ethiopia, *February, 2009.*

[17] MoFED/FDRE, 2012. Ethiopia's Progress Towards Eradicating Poverty: An Interim Report on Poverty Analysis Study (2010/11). Development Planning and Research Directorate, Ministry of Finance and Economic Development (MoFED), Federal Democratic Republic of Ethiopia (FDRE); March 2012, Addis Ababa.

[18] Source: http://www.csa.gov.et/images/documents/pdf_files/nationalstatisticsabstract/2012/2012%20Education.pdf

5.3 Oromiya Region

Oromiya National Regional State (ONRS) is located in the middle of Ethiopia. It is the country's biggest region, with a total area of approximately 363,375 km^2 and stretches from Ethiopia's border with Sudan in the west to about 50 km from the Somalia border to the east. It shares physical borderlines with all other regional states part from Tigray National Regional State. Oromiya Region also shares international Borders with Sudan to the west and Kenya to the south. Administratively, the ORNS divided into 20 administrative zones, 304 woredas (265 rural and 39 urban) and 6,889 Kebele administrations (6,349 rural and 540 urban). The ORNS is the largest as well as the most populous (29.7%) of all the regional states of the Country.

Biophysical Environment

Topography, Climate and Rainfall. The topography of Oromiya Region varies from high rugged mountain ranges, undulating plateaus, panoramic gorges and deep incised river valleys, and rolling plains, with altitudes ranging from less than 500 m asl to over 4500m (Mt Batu being the highest peak at 4607 m). The prevailing climatic types in the region may be grouped into 3 major categories: the dry climate, tropical rainy climate and temperate rainy climate. The dry climate has mean annual temperatures of 27°C to 39°C, and mean annual rainfall of less than 450 mm. The hot semi-arid climate mean annual temperature varies between 18°C and 27°C, with a mean annual rainfall of 410-820 mm with noticeable variability from year to year. The highlands experience temperate climate and ample precipitation of between 1200-2000mm. Five major agro-climatic zones are represented in the region: Alpine (Dhaamotaa/Wurch), Temperate (Baddaa/Dega), Sub-tropical (Baddaa Daree/woinadega), Tropical (Gamoojjii/Kolla) and Desert (Ho'aa/Bereha). The Kolla and Woinadega zones (lying between 500-1500m asl and 1500-2500m asl, respectively) are the most predominant, covering about 90% of the region.

Geology and Soils. Precambrian complexes comprising granites, gneisses, migmatites, feldspathic sandstones, diorites and quartzodiorites cover about 22% of the region. Other rocks found in the region are from the Paleozoic/Mesozoic Era (sandstones, shales and glacial deposits) and the Cenozoic Era (basaltic lava rocks). More than 20 soil types exist in the region, but the main soil types are cambisols (found in 40% of the region). Other soil types include luvisols, fluvisols, vertisols, phaeozems, regosols, nitosols and xerosols.

Water Resources. There are eight major drainage basins in the Region. The Genale Basin covers about one third of the total area of the Region, followed by Wabi Shebele and Abay Basins. The other basins are the Gibe/Omo, Baro, Rift Valley, and Segan River Basins. The region has numerous lakes including: the Oromo Lakes which lie with in the Rift Valley (Ziway/Dembel, Abijata, Shala and Langano), Beseka; lakes with shared boundaries with SNNP Region (Abaya, Istifani and Awasa); crater lakes (Chukala, Hora, Bishoftu, Hora Oda, Megerisa, Wenchi and Dendi; and basin lakes (Adele, Haromaya and Cheleleka). Man made lakes include Fincha'a, Koka, Aba Samuel (Akaki) and Melka Wakena (created for hydropower generation).

Vegetation / Flora. The major vegetation types are: Afro-Alpine and Sub-Afro Alpine (0.4%) characterised by shrubs and heath; High Forest (8.14%) (consisting of Juniperus procera dry evergreen forest, mixed Juniperus-Podocarpus Evergreen Forest, Humid Upland Broadleaved with Podocarpus Forests, and Humid Upland Broadleaved with Aningeria Dominant Forests); Bush and Shrubland (23.2%) Riverine Forests (dominant species being Ficus sycamorus, Garciina livingstonea, Cordia Africana); Grassland (33.9%), and Plantations (0.2%).

Fauna. The region hosts some 400 species of birds and 46 species of mammals, many being Ethiopian or endemics or found only within the Horn of Africa region, including the Mountain Nyala, Salt's Dik Dik, Hamadryas Baboon, and Wattled Ibis,

Protected Areas. The region has three national parks (Bale Mountains, Awash and Abijatta Shalla) and regional (Dhera Zilfekar), five sanctuaries (Sankalle, Yabello, Babile, Erer-fafen and Kuni Muktar) and three wildlife reserves (Awash, Bale and Chelbi) and many controlled hunting areas. Out of the 58 National Forest Priority Areas of the Country, 49 out of 58 National Forest Priority Areas are found in Oromiya, covering about 8.1% of the Region. Forests noted for their rich biodiversity include Harena (Bale), Chilimo (West Shewa,Dendi woreda), Yayu (Ilu Abba Bor), Dindin (West Wellega), Anfarara (Guji), Munessa (West Arsi) and Menagesha Suba (Finfinne Surrounding, Wolmera woreda) forests, and the afro-montane forests of Keffa, Bench Maji and Sheka.

Socio Economic Environment

Land Use. Almost 33% of the region is open bushland/shrubland/wooded grassland. Another 27% is cultivated.[19]

Land Tenure. The Oromiya Regional Land Use and Administration Proclamation 56/2002 explicitly grants lifelong user-rights and forbids any further redistribution of granted plots, subject to three extenuating conditions: irrigated lands and lands needed for irrigation infrastructure such as pump houses and dams are exempt and the government retains the right to expropriate land for —more important public uses[20].

Water Supply. Of the total population residing in the urban areas, rural areas and the entire Region, 89.70%, 68.57% and 71.36% , respectively, had access to potable water supply as at mid-2013 (Oromiya BOFED, 2014).

Population and Demographic Characteristics. Population projections for 2015 show that the population in the Region as being 33,691,991 (of which 16,906,992 are male (50.2%) and 16,784,999 are female (49.8%). East Hararge Zone is the most populous zone, accounting for 10.01% of the total regional population. The population densities greatly vary among the various zones, ranging from 26.2 persons/km^2 in Borena Zone to 211.7 persons/km^2 in South West Shewa Zone. The population growth rate is the 2.9%. About 86% of the population is rural.

Economic Activities. Mixed farming dominates the livelihood of the region. Oromiya accounts for 51.2% of the crop production, 45.1% of the area under temporary crops and 44% of the total livestock population of Ethiopia. The main crops produced the region include maize, teff, wheat, barley, peas, bean and various types of oil seeds. Coffee is the main cash crop in the region. The region has the largest livestock resources base in Ethiopia of about 18.8 million tropical livestock units. Cattle, sheep, goats, donkey, and camels are the major types of animals reared

Food Security. About 54% of Oromiya, including of the whole of western flank (mainly highland), has moist sub-humid climatic conditions which is not affected by drought. However, the remaining 46%, mainly limited to its eastern and south-eastern parts, are highly vulnerable and recurrently affected by drought.

[19] Oromiya BOFED (2014). Physical and Socio-Economic Profile of Oromiya (Third Edition). Oromiya Bureau of Finance and Economic Development, National Regional State of Oromiya; November, 2014.

[20] www.usaidlandtenure.net/sites/default/.../USAID_Land_Tenure_Ethiopia_Profile.pdf (accessed 25 April 2016).

Health. Medical health facilities in Oromiya Region include 50 Hospitals, 1,639 Clinics and 5 Health Centres as well as 3,814 hospital beds. These facilities include both the government-run and others (missions, private).[21] Average health access ratios are: Hospital 1: 673,840, hospital beds 1: 8,834, Clinics 1: 20,556 and Health Centres 1: 30,381.

Education. In 2013, there were 1350 kindergartens, 12,060 primary schools, and 718 secondary schools in the Region.

5.4 Tigray Region

The Tigray Region is located at the northern tip of Ethiopia. The region shares common borders with Eritrea in the north, the Afar Region in the east, and Amhara Region in the south, and the Republic of the Sudan in the west. Tigray Region has an estimated area of 80,000 km^2. The State of Tigray consists of 4 administrative zones, one special zone, 35 woredas and 74 towns.

Biophysical Environment

Topography, Climate and Rainfall. Tigray's landform is composed of highlands ranging from 2300-3200m asl, lowland plains lying between <500 and 1500 m asl), mountain peaks as high as 3935 masl and high to moderately high hills of altitude between 1600 and 2200 m asl. Two altitude extremes depicting the varied relief is the the Tekeze Gorge at 550 m asl and the "Kisad Gudo" peak at 3,935 m asl. More than 90 percent of the region is categorized as semi-arid. The remaining areas in the region can be categorized as dry submoist (near the central south highlands and the Wolkite highlands) and arid (the lower areas of Erob and Hintalo Wajerat woredas). There are also some moist zone patches in the Kisad Gudo, Mugulat and the Tsegedie highlands. The eastern and southern zones receive peak rain in April and August, whereas the western and central parts experience uni-modal rainfall between June/July to August/September, and the north from April/ May to October/November. The mean annual rainfall for the region ranges from 600mm in the northeastern part to 1600mm in the western part of Welkait Woreda. Temperature ranges between 16°C – 20°C in the highland eastern and central part, and 38°C to 40°C in the lowlands of the western zones.

Geology and Soils. Geologically, Tigray comprises low-grade Metamorphic, Paleozoic and Mesozoic rocks. The region is characterised by tertiary volcanic, quaternary deposit and acidic to basic/ultra basic intrusions. Major soil types include orthic acrisols, chromic and eutric cambisols, humic cambisols, vertic cambisols and vertic luvisols, eurthic fluvisols, dystric nitosols, eutric nitosols, euric rogosols, haplic xerosols, cambic arenosols, and chromic andisols.

Water Resources. The Awash and Rift Valley Basins are the main water basins, and the Tekeze and Mereb Rivers are the main rivers in Tigray Region. There are small rivers such as Geba, Worii, Berber, Arqoa and Teter, which are suitable for irrigation development. Lake Ashenge is the major lake.

Vegetation / Flora. The natural vegetation of the region has largely been destroyed by human habitation dating back centuries. The dominant vegetation types today are woodland (juniper and acacia) and savannah. Accordingly, the vegetation cover of the region is divided into forest, woodland savanna and grassland regions. The north-western zone of the region comprises of grazing grass land, scattered bush, scrub and dense forest.

Fauna. Among the large mammals found in the state are Elephant, Leopard, Baboon, Klipspringer and Bush Buck.

[21] CSA, 2013. Health Services by Regions.

Protected Areas. Tigray region has six state forests: Wujig-Mahgo-Waren Natural Forest (in Southern zone); Hugumburda-Gratkahassu (Southern), Hirmi (North Eastern), Waldiba (North Western), Asimba (Eastern) and Desia (Eastern). The region has one national park: Kafta-Sheraro National Park (in Western and North Western zones)[22].

Socio Economic Environment

Land Use. About 93% of the land within the private peasant holding is under cultivation (temporary and permanent food crops). The total land area reported in Tigray Region for the private peasant holdings is estimated a little higher than 0.9 million hectares and operated by 998,148 agricultural households and about 1.1 million holders [23]. The average holding sizes per household is almost 0.94 hectares: the average size of land holding for 64% of the holders is < 1 ha; while only small number (0.32%) of holders have 5-10 ha of land.

Land Tenure. In rural areas, land administration and the daily management of land issues is delegated to local governments (Woreda and Kebele level). The Kebele administrators had previously registered community members holding land, noting names and area in terms of local measures, as the basis for taxation. The Woreda is also in charge of the issuance of certificates. The register in which the certificates are noted is kept at the Woreda level. Tigray Region started land registration and certification in 1995. The registration of farmland is systematic and takes place at the lowest levels of local government (Woreda and Kebele). The registration of user rights and confirmation of the field boundaries is done in public and neighbours are to be present.

Population and Demographic Characteristics. Estimated population projections for 2015 put the Region's population at 4,960,003 (49.27% male, and 50.73% female). The rural population accounts or 75.81% of the Region's total population.[24] In terms of religion 95.5% of the population are Orthodox Christians, 4.1% and 0.4% are Muslims and Catholics respectively. Regarding ethnic composition, 94.98% are Tigraway, 2.6% Amhara, 0.7% Erob and 0.05% Kunama. Tigrigna is the working language of the state.

Economic Activities. About 83% of the population of the Region are farmers. Teff, wheat, and barely are the main crops. Other agricultural products include beans, lentils, onions, and potatoes. Irrigation and terrace farming are used on the steep slopes. The region exports cotton, incense, sesame and minerals. 1.5 million hectares of land in the region is cultivable, of which one million hectares is being cultivated, while 420,877 hectares of land is terraced. Handicraft (gold smith, painting and wood sculptures) is another area of activity observed in the historic cities of the state. The State also has about 11.51 million domestic animals (1997 G.C.) of which 2.15 million are cattle, 5.63 million are sheep and goats and 392,000 are pack animals. Tourism is also an important economic activity as it hosts a number of world-renowned pre-Christian monuments, including the Axum obelisks or Steles (2nd century BC), the pre-Axumite Yeha's "Temple of The Moon" (5th century BC), bath and palace of the Queen Sheba and the Ark of the Covenant.

Food Security. Food insecurity in parts of Tigray Region have been a recurring phenomenon. Areas most affected by repeated food shortage and famine are the southern, eastern and northern parts of the Region Many factors are contributing to food insecurity and malnutrition. These include recurrent drought, farm production fluctuations, low non-farm employment opportunities, etc.

[22] MOA (2015). AGP-II ESMF

[23] CSA (2012). Agricultural Sample Survey 2011/2012 (2004 E.C.), (September – December, 2011): Volume IV: Report On Land Utilization (Private Peasant Holdings, Meher Season); Statistical Bulletin 532. Central Statistical Agency (Csa), The Federal Democratic Republic Of Ethiopia; Addis Ababa, May, 2012.

[24] CSA (2007). National Population and Housing Census of Ethiopia. May 2007

Health. Existing medical and health facilities in Tigray National Regional State (TNRS), include 17 hospitals, 201 clinics and 227 health centres. The distribution of existing medical and health facilities in Tigray Region in 2013/14 was such that average coverage for a hospital is 1: 291,765); clinics 1: 24,677 and health centres 1: 21,850.

Education. In 2013/2014, there were 30,577 government and 303 non-governmental schools[25]. The number of students enrolled to primary and secondary schools during the same period was 1,246,768 including governmental (1,214,733) and non-governmental (32,035).

5.5 SNNP Region

The Southern Nations and Nationalities Peoples Region lies in the southern part of the country. Gambella Region lies to the north west, Oromiya Region to the north and east. SNNP Region shares international borders with Kenya to the south, and the Republic of the Sudan to the South west. The region has an estimated area of about 112,323 km^2. The region is divided into 14 zones, consisting of 131 woredas and 4 special woredas and 22 town administrations. There are 399 urban and 3,735 rural kebeles in the region.

Biophysical Environment

Topography, Climate and Rainfall. The Region has undulating topography, and is dissected by the Omo river basin into western and eastern parts. The elevation ranges from 376 to 4,207 m asl, the lowest part being Lake Rudolf in South Omo and highest being Mount Goge in North Omo. About 56 % of the total area of the region lies below 1,500 m asl, and is largely categorized as hottest low land ("Kolla"). The rest 44% is found in the temperate climatic zone. The mean annual rainfall of the State ranges from 500 - 2200 mm, its intensity, duration and amount increases from south to northeast-northwest. The mean annual temperature of the Region ranges from 15°C to 30°C.

Geology and Soils. The regional geology is characterized by Alghe group rocks, Jimma volcanic and quaternary plateau basalts. The soil types found in the region includeacrisols, nitisols, fluvisols, vertisols, gleysols and lithosols.

Water Resources. Baro-Akobo, Omo-Gibe, Genale and Rift Valley drainage basins and the Awash basin found in SNNPR, Lakes: lake Abaya-the largest rift valley lake in Ethiopia, Chamo, Awassa, and Rudolf Ziway/Dembel, Abijata, Shalla, Langano, Beseka, Abaya, Istifani and Awasa in SNNPR. Perenial and seasonal rivers found in SNNP Region are the Omo, Gojeb, Mago, Segen, Woito, Akobo, Dima, Wabi, Wolga, Bilate, and Genale . The Rift Valley lakes include Awassa, Abaya, Chamo, Chew Bahir and Rudolf. Groundwater resources are found in the Bacho Plains.

Vegetation / Flora. Due to anthropogenic activity, there are few areas where natural vegetation still exists. The dominant forest and riparian species include: *Podocarpus falcatus*, *Cordia africana*, *Croton macrostachyus*, *Borassus aethiopum*, *Ricinus communis*, *Rhamnus prinoides*, and *Acacia decurrens*. Eucalyptus lots are commonly found.

Fauna. The region has more than 23 species of large mammals and some 300 species of birds. Some of the wild animals are Elephant, Lion, Giraffe, Leopard, Zebra, Monkey, Lesser Kudu, Water Buck, Crocodile, Warthogs, and Buffalo.

[25] Source: http://www.csa.gov.et/images/documents/pdf_files/nationalstatisticsabstract/2012/2012%20Education.pdf

Protected Areas. SNNPR has five national parks (Mago, Nechsar, Omo, Chebera Churchura and Maze), two wild life reserves (Chewbahir and Tana) and six controlled hunting areas (Akobo, Boyo Swamp, Maze Sheleko, Omo West, Murle, and Segen) (MOA, AGP-II ESMF, 2015).

Socio Economic Environment

Land Use. The larger portion of the Region is cultivated land (35%), followed by forest land (21%), and grazing land (14.9%).

Land Tenure. The land tenure system applying to most parts of the cultivated areas in SNNPR are formal, ie. governed by use rights defined by the State. Nevertheless, in areas where the livelihood types involve pastoral or semi-pastoral, there are still land and territories that the communities/social groups have traditionally owned or customarily used/occupied. In the later cases, the land use and management of natural resources are usually collective and the traditional types of governance prevail with limited interference by the State.

Water Supply. In 2014/15, the safe drinking water coverage in SNNP region reached 52.3% (57% in rural areas, and 82.6% in urban areas). The highest water coverage among the region and special woredas are found in Hawassa City, Kembata-Tembaro and Sheka zones with 100%, 80.5%, and 80% respectively. Those with the lowest coverage include Dawuro Zone, Basketo Special Woreda. and Siliti Zone having 45%, 49%, and 49.5 % coverage, respectively.

Population and Demographic Characteristics. The population of the SNNP Region was 18,954,361 accounting nearly 20% of the total population of the country in 2014/15. Of this, 87% resided in rural areas while the remaining 13 % inhabited urban areas. The average population density of the region was 176 persons per sq km[26]. The total number of household size in the Region was 3,868,237 and the average household size (family size) of 4.9 persons/household. The region is a multination which consists of about 56 ethnic groups with their own distinct geographical location, language, cultures, and social identities living together. These varied ethnic groups are classified in to the Omotic, Cushetic, Nilo-Sahara and Semitic super language families. Among them Omotic and Cushetic are the most populous and diversified ones with the largest area coverage in region respectively.

Economic Activities. Agriculture is still the single most important economic activity of the Region. The land holding of peasants is generally very small and the average land holding is less than one hectare per household. The peasants general use traditional hand tools to farm their lands. A diversified cropping system and cropping pattern is practiced in the region, based on the agro-ecological features (as characterized by altitude and climatic condition) as well as soil types. Farmer in the region mainly uses systems of multiple cropping to maximize production per unit area. The most common system in double cropping, inter-cropping relay cropping and rotation. Major crops grown in the region include maize, teff, enset, coffee, potato, wheat, barley, pulses, fruits and vegetables.

Food Security. SNNPR overall is not as food insecure as other Regions to the north and east of the country. However, the pressure of population on land means that the poorer third to half of the rural population operate on such small plots that they have very little margin of harvest stocks or livestock assets to withstand shocks, whether to food production or to cash crop prices. Given their dependence

[26] BoFED-SNNPRS, 2016. Annual Statistical Abstract 2007 E.C. (2014/2015). Bureau of Finance and Economic Development (BoFED), Southern Nations, Nationalities and Peoples' Regional State (SNNPRS); April 2016, Hawassa.

on the markets for food, for cash crops and for labour, it is difficult to distinguish between food insecurity and income insecurity.[27]

Health. In 2014/15, there were 54 all type of Hospitals, 702 Health Centres & 3822 Health Posts available in the region. This regional ratio for health institutions vs. served people shows, on average, one Hospital serves 350,961 people (i.e. 1:350,961), Health Centre (1: 26,997) and Health Post (1: 4,959).

Education. In 2014 there were 645 kindergartens, 6,192 primary schools (5,775 government, 417 NGO run) and 641 secondary schools. There is significant variation in distribution of schools at different educational levels among the various zones.

5.6 Gender in Agriculture

Ethiopia's economy heavily relies on agriculture with close to 80% of employment and 46 % of GDP concentrated in this sector (World Bank)[28]. The majority of farmers consists of smallholder peasants and produce mostly cereals for self- consumption. Access to irrigation, modern technologies, and inputs is limited. By 2007-2008, smallholder farmers cultivated 12 million hectares of land, which represented 96.3% of the total cultivated area[29]. Although there have been recent improvements, poverty alleviation and food security are still key challenges. By 2011, the population living on less than $1.25 and $2.00 dollars per day was 30.6% and 66%, respectively. Child malnutrition in 2011, measured as the percentage of children under age 5, remains high at 29.2 %. Enhancing sustained increases in agriculture productivity, and promoting gender equalitymay be the next step for further poverty alleviation and food security attainment, especially for rural Ethiopian households[30,31].

The Ethiopia Demographic and Health Survey (2011)[32] estimated 46% and 74 % of all working women (aged 15-49) and men of the same age respectively, are engaged in agricultural-based occupations, signifying a decrease from 2005 where numbers reached 52 % and 84 %, respectively. Not only is agriculture a major area of occupation for women but it is also the highest recruiter in all the wealth quintiles. In spite of their significant contribution to the sector and the economy, women are often disadvantaged and their contribution is less valued. Women, for instance, contribute as much as 70% of on-farm labour in post-harvest activities for cereals and comprise 60% of the labour marketing share. Despite the lack of gender-disaggregated data, the participation of women in crop production is estimated to be 45-75%, depending on the crop and stage of the production (UN Women, 2014)[33].

Women in agriculture also engage in livestock and crop production, both for subsistence and for commercial use (FAO, 2011)[34]. Women's role and participation in agriculture varies by region, and stereotypical tasks for women in the agricultural sector such as weeding vary across regions due to

[27] FEWSNET, USAID & DPPC, 2005. Southern Nations,Nationalities, and Peoples Region (SNNPR LIVELIHOOD PROFILE), Regional Overview. FEWSNET, USAID, Disaster Prevention and Preparedness Commission (DPPC), the Government of Ethiopia. December 2005.

[28] Source: http://data.worldbank.org/country/ethiopia

[29] Taffesse et al. (2012) was quoted in Aguilar et al. (2014).

[30] Tiruneh et al. (2001) was also quoted by Aguilar et al. (2014).

[31] Aguilar, Arturo; Carranza, Eliana; Goldstein, Markus; Kilic, Talip; Oseni, Gbemisola. 2014. *Decomposition of Gender Differentials in Agricultural Productivity in Ethiopia.* Policy Research Working Paper;No. 6764. World Bank, Washington, DC. © World Bank. https://openknowledge.worldbank.org/handle/10986/17317 License: CC BY 3.0 IGO.

[32] CSA, 2011. Ethiopia Demographic and Health Survey. Addis Ababa.

[33] UN Women, 2014. *Preliminary Gender Profile of Ethiopia*. Addis Ababa, Ethiopia, November 2014.

[34] FAO (2011). The State of Food and Agriculture 2010-11: Women in Agriculture. Rome: Food and Agriculture Organization of the United Nations

cultural norms and values. For example, in some regions women are forbidden to plough, while in others, they are expected to plough. However similarities also exist, as noted during consultation undertaken for this assignment; for instance women often cultivate vegetable crops on small plots of land located in their homesteads. On average, male fields are 1.9 km away from their home, while female fields are only 0.8 km away (Aguilar et al, 2014). Findings of the same study also indicated that marketing and decision making over revenues is usually regarded as the role of head of the house, these usually being men.

Overall, gender roles in agriculture and socio-cultural norms often restrict women's access to vital resources such as credit and extension services as well as other agricultural inputs (UN Women, 2014). The CSA Agricultural Sample Survey of 2006/7[35] indicated that the number of male landowners (land certified) outnumber the female landowners (land certified) by almost five times: 9.6 million vs. 2.3 million, respectively. Moreover, single women, both those who never married, or those who are divorced, are more likely to be landless, as most women tend to gain and keep access to land through marriage[36]. Although the new Family Law gives inheritance rights to daughters as well as to sons, fragmentation of holdings remains an issue of concern and women's land rights are still a contested area in the courts. Overall, it is still the case that women have less access to land ownership, productive farm inputs and credit services, less access to extension services and face more constraints in entering markets (UN Women, 2014. As a result, women farmers tend to produce less per hectare, compared to men[37]. The Ethiopia Rural Socioeconomic Survey (ERSS) further confirms this trend and indicates that female farm managers produce 23% less per hectare than their male counterparts. While the gap grows at median productivity level to 26%, it narrows down to 12% among the least productive farmers (CSA & WB, 2013)[38]. Other studies also reported that female headed household farmed yields are 35 % lower than male headed households - eg. FAO (2011).

Recognizing these obstacles for women farmers, the GOE has taken various steps to increase women's access to productive resources, such as land, and address the gender concerns of the land tenure system. The land certificate program, which legally requires the issuance of land ownership certificate in the name of the husband and his spouse, has been a major step forward to raising women's social and economic status. However, despite the growing assumption that the land certificate program narrows the gender gap in productivity, there are indications that land tenure is not directly linked to more gains for women (Bezabeh and Hoden, 2010)[39]. One of the major factors for lower productivity is cited as labour constraints which is directly linked to socio-cultural norms of engendered labour like ploughing which is considered as a male task. In some instances this leads to women renting out their entire land to relatives which may lead to ineffective command over their tenants and the cultivation of their plots, with subsequently less effort and poorer yields (Bezabeh and Hoden, 2010). Lower levels of input use and less access to extension advice are emphasized as further causes for the lower productivity of women's farms. In view of their triple role in society, women also spend fewer hours in agricultural activities and face overall time poverty due to a high number of unpaid activities they have to perform[40]. While male farmers spend about 23 hours a week on their farm, on average, females spend only about 14.4 hours per week (Aguilar et al, 2014).

[35] CSA (2006/7). Agricultural Sample Survey

[36] World Bank (2009). Ethiopia Unleashing the Potential of Ethiopian Women Trends and Options for Economic Empowerment

[37] O'Sullivan, M., Rao, A., Banerjee, R., Gulati, K. and Vinez, M., 2014. Levelling the field: improving opportunities for women farmers in Africa. *Levelling the Field: Improving Opportunities for Women Farmers in Africa 1*.

[38] CSA & WB, 2013. Ethiopia Rural Socioeconomic Survey (ERSS): Survey Report. Central Statistical Agency (CSA) & the World Bank (WB) May 2013, Addis Ababa

[39] Bezabeh and Hoden (2010) The Role of Land Certification in Reducing Gender Gaps in Productivity. Environment for Development. Discussion Paper Series. November 2010. EfD DP 10-23

[40] UN Women (2014) also stresses that "Women largely bear family and community responsibilities apart from their reproductive and productive roles and take care of all the reproductive work apart from their productive role".

Government policies have attempted to expand the provision of agricultural extension and credit services to farmers and despite some progress, the gap between female and male farmers access to those services continues to remain unaltered. The first GTP developed initial gender sensitive actions with a target of benefiting 30% of female-headed households in farming or in pastoralist and semi-pastoralist settings (MOFED, 2010)[41]. While this was a great attempt, indicators only targeted female-headed households, missing out on the majority of women who are either single or married. However, the target is also ambitious as it accommodates areas where the number of female headed households exceeds national average of 26 %[42].

Another major challenge is the collection of sex disaggregated data. To address this, the Gender Directorate of the MOA has developed a Gender Mainstreaming Manual (GMM) and signed a Memorandum of Understanding with regional counterparts to ensure accountability. The GMM aims at informing the collection of gender and sex disaggregated information and data at all levels within the sector. The existing initiative of also seeks to set up interdepartmental gender focal points in order to mainstream gender in various departments. This could provide an excellent model for the regions if the initiative shows results. Given the potential and key role that the agriculture sector has in reducing poverty, closing the widespread gender gap would yield immense benefit not only for women but also to their families, communities and the country at large (UN Women, 2014).

[41] MOFED (2010).Growth and Transformation Plan (GTP). 2010/11-2014/15

[42] About one-quarter, 26 %, of the households in Ethiopia are headed by women, an increase from 23 % in 2005 (EDHS, 2011), as cited by UN Women (2014).

6 Stakeholder Consultations

6.1 Background and Rationale

PASIDP-II is intended to build on experience and lessons of relevance from previous programmes and projects. It has been well established that inadequate beneficiary participation and community ownership, including inadequate engagement in both the process and product, greatly diminishes the long-term sustainability of development initiatives.

Consultation with the public and stakeholders is considered an important part of developing the ESMF as it provides valuable input to develop acceptable and sustainable project design and implementation plans. Most importantly, it allows the community of Project Affected People (PAP) opportunities to voice their aspirations, concerns and preferences regarding the intended development project, including their stance to give or withhold their consent to the proposed initiative, entirely or partly. This operational principle of empowering local communities to give or withhold their consent to proposed investment and development programmes that may affect their rights, access to lands, territories, natural resources and livelihoods etc. is ensured through facilitating Free, Prior and Informed Consent (FPIC) of affected communities prior to planning the development intervention. Consultations with the concerned communities in good faith are believed to constitute soliciting FPIC, which ensures that they participate in decision- making processes concerning the development project.

IFAD is among the first international financial institutions to adopt FPIC as an operational principle in its policy documents, including its policies on Improving Access to Land and Tenure Security (2008) and Engagement with Indigenous Peoples (2009). The principle is also mentioned in the IFAD Policy on Environment and Natural Resource Management (2011) and in IFAD's Social, Environmental and Climate Assessment Procedures (2014). IFAD-funded projects are people-centred, and for IFAD, FPIC is not so much a safeguard principle, rather a proactive approach to identify development pathways with local communities. Table 6.1 below shows FPIC requirements based on project typology and areas of intervention.

Table 6.1 FPIC Requirements

	Project likely to affect land access and/or use rights of communities	Agricultural and rural development projects unlikely to affect land rights[a]	Project supporting demand-driven services to individuals[b]
Rural areas without indigenous peoples or minorities	YES	NO	NO
Rural areas with some indigenous and minorities communities	YES	Case by case basis	NO
Indigenous peoples territories or tribal areas	YES	YES	YES

Source: IFAD (2015); How to do – Seeking free, prior and informed consent in IFAD investment projects.

[a] For example agricultural technologies and production, value chain development, social infrastructure.

[b] For example rural finance, small and medium-sized enterprise development.

There are many advantages to seeking FPIC:

- FPIC improves the relevance and quality of investments;
- Community ownership of the investment and its results and sustainability are enhanced;
- Partnership between local communities, government institutions and financing organizations is strengthened;
- The recognition and support of local communities' aspirations for their own development minimizes or prevents conflicts with other resource users; and,
- FPIC minimizes reputational, operational and fiduciary risks for the government, company or donor carrying out activities that may affect the land, resources and rights, and livelihood of the local communities.

It is possible that some of the schemes under PASIDP-II will affect land access or use rights to land and resources. This would then trigger the need for FPIC. Therefore an FPIC Implementation Plan is presented in Annex 5.

6.2 Consultation Locations

In order to ensure that target communities participate in decisions for PASIDP-II, community consultations were held at selected proposed small-scale irrigation schemes in each of the four Programme regions, viz. Amhara, Oromiya, SNNP and Tigray. In addition, discussions were held with the relevant local government agencies at Woreda and Regional levels. Schemes visited for Woreda-level and community consultations for this Programme are summarised in the Table 6.2 below.

Table 6.2 Schemes Visited for Community Consultation Purposes

Region	Woreda	Scheme Name / Structure Type	Est. Area (Ha)	No. of HHs (Beneficiaries)	No. of Consultation Participants
Locations where detailed community consultations were held					
Amhara	Menzmama-Midir	Waka Micro-Earth Dam	70	300	37
	Angolelana-Tera	Abass Micro-Earth Dam	130	160	36
Oromiya	Dolomena	Welmel River Diversion	280	500	143
	Harena-Buluk	Welmel Tika River Diversion	250	500	33
SNNPR	Daramalo	Masta River Diversion	200	400	21
	Oyida	Golla River Diversion	200	400	33
Locations where additional community consultations were held					
Amhara	Andabet	Zeragn Earth Dam	350	850	5
	Raya Kobo	Gollina River Diversion	170	200	2
Tigray	Enderta	Hiyana River Diversion	25	110	6
	Atsbi Wenberta	Geleb Hidaro I River Diversion	30	120	6
	Emba-Alaje	Adikerakiro River Diversion	26	104	5
Total			**1,731**	**3,644**	**327**

6.3 Issues Discussed during Consultations

6.3.1 Community Level

One of the key objectives of the community consultations conducted during the preparation of this ESMF was to establish the extent to which the identified schemes were community-driven. Detailed community consultations were held at the kebeles where the proposed SSI schemes are located: one consultation was held in each of the six woredas where schemes are proposed for inclusion in PASIDP-II. Despite the physical and socio-cultural diversity of the areas, all the communities consulted were dependent on crop cultivation as their main livelihood. Separate discussion on the basis of differences among interest groups - eg livelihoods, ethnic or other social grouping – were not conducted. Prior to the meetings, it was confirmed that in each case there were no cultural barriers to hold collective meetings jointly with women, men, youth, the elderly and key informants. In addition to relevant staff from woreda sector offices, key informants (eg. DAs, teachers and health extension workers) from the same kebeles were also invited in order to capture as wide a range of opinions as possible. For these consultations, a total of 303 community members participated in the detailed consultations held during the visits to the six schemes as indicated in Table 6.2 above.

Before each of the discussions commenced, participants were given brief introductions, indicating who is conducting the meetings, why the participants were invited and what will be discussed, and assurance to feel free to voice their opinions or raise issues of concern as the meetings were intended to shape their common future, which is also their constitutional right. To the extent possible, minutes of the discussions were recorded and signed by participants, and additional notes taken by the Community Consultation Facilitator.

There were a range of issues discussed during community consultations which are summarised here. The main topics covered at each of the consultations were:

- *Scheme selection process*: when by whom, whether consulted, types and level of community consultations involved, who benefits and who does not ;
- *Community's awareness of rights*: to give consent or deny projects being financed by IFAD, IFAD's respect of peoples' rights, what happens if they deny consent etc.;
- *Communities' perceptions*: the benefits and risks of the proposed small-scale irrigation schemes and what they might involve;
- *Scheme management*: perceived roles of the communities and support required;
- *Physical/economic displacement*: awareness about likely consequences, people to be affected, consent on relocation and compensation terms, cultural and/or historical heritage sites and social service facilities that may be affected etc.; and,
- *Resettlement and compensation plans*: under what circumstances, who will be affected, how, whether fair/reasonable, at what stage will it be done.

6.3.2 Woreda Level

At woreda level, based on their relevance to the proposed schemes, discussions were held with representatives from a selection of woreda sector offices including Agriculture, Environmental Protection, Land Administration and Utilisation; Water Resources/Irrigation, and Finance and Economic Planning. It should be noted that the way the various sectors are organised and their corresponding mandates varies from region to region, and thus the offices participating at the meetings held for the various discussions were not necessarily uniform. Nevertheless, those relevant to issues for discussion were present in each of the woreda level discussions. Most of the issues covered during community level consultations were also discussed at woreda level meetings. Nevertheless, these discussions were done with a different approach and perspective to those held with the communities. For example such issues as "community's rights to consent" or "resettlement

and compensation plans" were discussed with communities as open-ended queries in terms of what happens, or is perceived to happen; while discussions with woredas emphasised the existing regulatory and legal frameworks regarding these same issues and their practical applications on the ground.

In addition to the above, issues raised during woreda level discussions included:

- *Relevance of the initiative*: alignment of the proposed scheme with current developmental priorities and existing development constraints in the woredas;
- *Environmental management*: woredas' formal or customary laws governing environmental management (protection, conservation and harmonisation etc);
- *FPIC observance*: Legal and/or customary regulations and processes requiring/related to observance of FPIC;
- *Grievance redress*: legal provisions, what and how, mechanisms and procedures/processes;
- *Public disclosure of ESIAs*: Woreda level requirements and experience/existing practices for public disclosure of ESIAs;
- *Land acquisition and entitlements*: the rights of people over land territories and access to land and resources as encompassed within customary and national laws;
- *ESMF monitoring procedures*: woredas' current status with handling ESMF monitoring, existing institutional arrangements and practices of woredas (experience, challenges, capacity gaps, etc).

6.3.3 Regional Level

Regional level discussions were held with the PASIDP Regional Coordination Units in the four Regions, as well as the bureau responsible for environmental protection, land administration and use. These discussions focussed mainly the legal and regulatory frameworks within which the ESMF processes must operate. As noted above, different sectors are organised differently in the various regions, and therefore their mandates vary from region to region, hence the responsibility for environmental management lies with different sectors in the regions. While the regions had their own environmental protection laws and regulations, they are also required to comply with the federal proclamations on land expropriation, resettlement and compensation and environmental management, and use the EPA environmental and sector specific guidelines in guiding them in the review and approval of ESIAs and ESMPs.

6.4 Summary of Outcomes of Consultations

The key outcomes from the consultations are as follows:

- *Limited capacity for ESMF Monitoring:* the existing capacities of many woredas appears to be inadequate due to the limited/lacking appropriate experts, logistics and knowledge gaps. It was observed on several occasions that some of the assigned experts expected to monitor ESMF lacked adequate knowledge of relevant policies, proclamations and directives on environmental and social aspects of the development initiatives among the different sectors. This is a result of insufficient communication of, and sensitisation on, the requirements and implications of the various policy and regulatory documents so that the woreda level experts are able to internalise them. It is therefore important that government staff at all levels to have intimate knowledge and understanding of the policies and related regulatory aspects in order to ensure compliance and effectively monitor environmental and social aspects of projects on the ground.
- *Public disclosure of ESIAs:* the Woreda and Regional government staff believe that public disclosure of ESIAs would be beneficial to protect the environment and ensure sustainability.

However, nearly all the visited woredas complained about ESIA reports not reaching them. The consultants or regional experts come to their woredas and conduct the studies but never provide feedback, which is also the case with the SSI schemes planned under PASIDP-II.

- *Demand-driven initiatives:* in most of the community consultations held in all regions, participants have strongly indicated that the proposed small-scale irrigation schemes were their requests to the government owing to the growing challenges to sustain their livelihoods. They mentioned the diminishing land holdings and unreliability of the rainfall, which limited their harvests. The rainfall pattern has changed considerably over time, and, as one participant put it "…. only God know when it comes and goes". Not only is the onset of the rains unpredictable (early or late) but the rainy seasons now either end prematurely or are overly prevailing, which has challenged their crop husbandry practices. These altered rainfall patterns have always involved incidences of pests that have destroyed their crops. From their experiences of traditional irrigation[43] and observing the improvements gained by communities in neighbouring woredas[44] there appeared to be overwhelming support for PASIDP-II SSIs.
- *Previous consultations:* However, the communities complained about the delays in implementing the projects as they were consulted about the intended SSI schemes some years ago (and know the names of the officials that chaired/facilitated the discussions together with experts that conducted the relevant studies). In most of the cases, minutes of the community meetings were recorded and signed. However, copies of those papers were not available with the Kebele or Woreda Administration offices as the experts have taken them. The regional focal persons for PASIDP were requested to track those documents but there has not been any response as yet (still being waited). This implies that communities had expressed their demands, have been informed of the site selections and knew about the intended development.
- *Communities' awareness of rights:* nearly all discussions held with communities at the various SSI schemes indicated that they are generally aware of their rights to improved living standards and sustainable development including their rights to be consulted with respect to policies and projects affecting their communities as well as the right to a clean and healthy environment. While community members are well aware of the right of the state to expropriate private property for public use, they also know their rights that adequate compensation has to be provided, through their Kebele and Woreda administrations. It was learned that the usual tendency of Woreda administrations involves leaving such cases to Kebele administrations. So, for example, where loss of land occurs in cases involving SSI schemes, replacement land is given to the affected persons where land is available. Where there is no unoccupied land, the Kebele administrations might consider redistribution of holdings, given that, with the development of the SSI schemes, farmer holdings cannot exceed 0.5 ha, and thereby sufficient land would be available for distribution. An important observation regarding the losses due to the SSI development schemes is there are no/ minimal loss of land for river diversion schemes since generally the farmers live in the settlements and have farms on different land holdings. However, where earth dams or off river storage may be constructed, this may result in the inundation of arable lands or residences, and therefore community members will require replacement of land and compensation.

[43] At all the visited schemes, participants mentioned better status of community members adjacent to springs and seasonal streams because of their practicing traditional irrigation - get better income and more resilient.

[44] For example, participant community members at 2 schemes in Amhara Region (i.e. Abass and Waka micro-earth dams) mentioned their experience of observing the benefits of farmers from an earth dam near Debreberhan town, built some 20 years back.

6.5 Perceived Impacts of the Project

During the consultations, communities were asked to indicate what they felt would be the positive and negative impacts resulting from the small-scale irrigation schemes.

6.5.1 Positive Impacts

The communities indicated the positive impacts of the SSI schemes as being:

- Ability to produce 3 times a year (better income, food security, etc);
- Better health (improved nutrition, capable of paying for health services etc);
- Improved life standard (better housing, education, etc);
- Creation of employment opportunity (households need additional labour at peak times);
- Ability to produce high value crops;
- Ability to educate children;
- Opportunities for livelihood diversification (increased investment and purchasing capacity attracts service renders, artisans and traders);
- Better livestock production due to higher biomass production (stall feeding).

6.5.2 Perceived Negative Impacts

Negative impacts of the SSI schemes were mentioned as being:

- Community health and safety (eg. malaria, HIV/AIDS, other risks)
- Children and livestock falling into reservoirs (communities where earth dams are proposed)
- Pesticides used on farms kill bees (loss/reduced apiculture production and affecting pollination
- Reflection from water surface in earth dams could trouble surrounding inhabitants.

6.5.3 Other Issues and Concerns

Other issues that were raised during the consultations included:

- Current limitation at woreda level in terms of time and resources may incapacitate them to handle EMSF monitoring of PASIDP-II projects;
- Inability to provide reasonable treatment of project affected people resulting from loss of land/assets from schemes involving earth dams because of the limited land available to replace holdings (although some community members expressed their willingness to share holdings);
- Limited knowledge and skills among DAs to support farmers (as expressed by woredas) might limit attaining anticipated benefits.

6.6 Priorities for Improvement

The communities, kebele and woreda administrations highlighted the following areas as priorities for improvement:

- Enhancing capacities of woredas through training and logistics in order to be able to provide technical support to irrigation farmers and effectively manage the ESMF monitoring with the starting of project implementation.
- Formalising target communities consent to the level needed - i.e. in view of the lack of documented evidence to confirm FPIC, which can also be addressed by the preparations of FPIC implementation plan.

- Since FPIC processes are not formally institutionalised among the regional governments, there is need for its recognition and implementation within the PIM to be monitored as a continuous process.

7 Potential Environmental, Social and Climate-Related Impacts and their Mitigation

7.1 Benefits of the PASIDP-II

PASIDP-II will generate financial, social and environmental benefits by promoting investments and activities aimed at improving agricultural productivity in rain-fed and irrigated crop production systems, catchment improvement and linking farmers to markets for their produce. Specific benefits will include climate resilience, improved productivity, value-addition, and market opportunities, which will increase incomes and food and nutrition security for smallholder households. These benefits will result primarily from:

- Increased output and productivity (both in irrigated areas and rain-fed areas);
- Improved access to services, markets, and information;
- Improved product quality and increased producer returns;
- Reduced post-harvest losses;
- Value addition, processing and/or packaging; and
- Reduced land erosion and restored soil cover.

As a result of the Programme, it is expected that IWUA committees and local communities will be able to sustainably manage their watersheds, irrigation and road infrastructure investments; farmers' cooperatives will function effectively, linked to input and output markets and accessing next levels in the different value chains; and public and private sector operators will provide quality services that are demanded by smallholder producers and rural entrepreneurs to develop their value chains.

With regard to social benefits, it is anticipated that there will be a reduction in poverty rates in the Programme areas. This will be the effect of the increased financial returns for smallholder households emanating from Programme interventions and of improved and diversified employment opportunities in the agriculture sector thereby helping to reduce vulnerability. Other social benefits will include improved nutrition and increased food security through diversification of crop production or increased incomes which could be used to improve diets. Irrigation brings the possibility for farmers to diversify in vegetable crops, having a positive effect on the diet composition.

The Programme's support to climate resilient water management, including integrated watershed management and smallholder irrigation scheme construction, is expected to result in numerous economic and environmental benefits, including reduced production risk; reduced effects of drought; improved sediment retention and flood control; reduced yield losses from soil infertility and erosion; improved access to water; and strengthened community-based natural resources management to enable informed decision-making, which will also enhance community relationships and cohesiveness.

7.2 PASIDP-II Components with Potential Environmental and Social Consequences

While all the PASIDP-II components will include elements of environmental, social and climate change management, in this ESMF the assessment of environmental and social impacts from PASIDP-II's proposed activities is relevant mainly to Component 1 Investment in Irrigation Infrastructure, which comprises Irrigation Scheme Participatory Planning, Design and Preparation (Subcomponent 1.1) and

Participatory Infrastructure Development (Subcomponent 1.2), and to an extent Subcomponent 2.3 Watershed Development and Management.

Irrigation Infrastructure

Although the actual infrastructure for the proposed schemes has not been confirmed at this stage, it is likely that the schemes may have one or more of the following:

- Irrigation infrastructure: Diversion weirs; dams walls/embankments; shallow wells; boreholes; conveyance canals, secondary, tertiary and field canals; headworks; pipes; water storage facilities; pumps; pump houses and drainage lines.
- Access infrastructure: access roads, bridges and footpaths.
- Ancillary facilities: workshops, sheds, offices and fuel storage.

Watershed Management

Interventions for watershed management essentially include water conservation and soil conservation, as follows:

- Water conservation: water harvesting using contour bunds / benches, water spreading bunds, negarim micro-catchments; water storage facilities, such as small dams and sand dams;
- Soil conservation: contour bunds, terraces, and biological measures (planting of appropriate plant materials such as trees, including fruit trees, and different types of grasses); production techniques such as conservation agriculture for rainfed cropping, and fodder production and conservation using exotic species that are already well-used in Ethiopia.

7.3 Anticipated Adverse Environmental and Social Impacts of PASIDP-II

7.3.1 Irrigation

Typical environmental and social impacts that may be expected from the construction of the proposed irrigation schemes and their operation – or conditions which could affect the schemes - are tabulated in Table 7.1 below, together with some typical measures for mitigation. The most significant adverse ones are:

- Reduction in downstream flow as a result of diversion of water, which could compromise water availability downstream to satisfy human and livestock demand, and affect aquatic habitats and biodiversity;
- Inundation of the river upstream, caused by damming, which could result in physical and economic displacement, hinder access to grazing and water sources for livestock, and destroy vegetation and natural habitats;
- Soil erosion caused by scheme excavation works (including access roads, dams), and poorly managed upper catchment areas, leading to loss of cultivable land or siltation of canals;
- Soil degradation and salinization due to improper application of agrochemicals, overwatering and poor drainage;
- Reduction in water quality due to application of agrochemicals or oil spills, affecting water potability for domestic and livestock use downstream, as well as causing poisoning of aquatic fauna;
- Loss of biodiversity and ecological imbalances caused by poisoning of non-target species, particularly bees and other beneficial insects, and pest resurgence;
- Resistance to pesticides;
- Impacts on community health and safety from construction activities, but more seriously as a result of dam failure and storage, handling, use and disposal of agrochemicals;

- Reduction in water availability due to climatic events – prolonged dry seasons and subsequently drought – or diversion of water upstream for water supply or irrigation;
- Flooding due to climatic events resulting in loss of soil and crop damage; and
- Destruction of physical cultural resources, given that Ethiopia is blessed with a rich history and culture and these resources are abundant.

Well-designed schemes, diligent supervision during construction and proper management during operation will ensure that many of these adverse impacts are avoided or substantially mitigated. PASIDP-II focusses on climate resilience as climate-related impacts are unpredictable in terms of type of impact, timing and significance, and by incorporating climate resilient approaches into scheme designs, it is anticipated that the impact of these event(s) will be diminished.

In addition the Programme Implementation Manual (PIM) provides guidance for incorporating environmental mitigation measures at the various stages of the projects, as well as contractual clauses that will ensure certain mitigation measures are included in scheme design and during construction.

Table 7.1 Typical Environmental and Social Impacts of Irrigation and their Mitigation

Aspects/Causes of Impact	Environmental / Social Impact	Some Recommendations for Mitigation
ENVIRONMENTAL ISSUES		
Climate change resulting in reduced rainfall. Over-abstraction of water upstream. Degradation of catchment areas due to poor agricultural practices, overgrazing.	Unavailability of water for irrigation and downstream use, particularly in the dry season	- If feasible, design and install off river storage facilities, eg.dams, to capture spate water. - Design and install water harvesting techniques to capture run off and run on.
		- Install water abstraction monitoring infrastructure (gauges). - Install infrastructure to measure flow levels in the river or discharge rates for groundwater (boreholes, wells, springs). - Train IWUAs in keeping monitoring records for abstraction and river flow.
		- For rivers, determine and maintain environmental flow requirements taking into account human, livestock and ecological needs.
		- Train IWUAs to manage use of irrigation water requirements during dry seasons.
		- Implement watershed management interventions under PASIDP-II.
Soil erosion due to excavation and clearing activities for roads, canals, workshops, market centres. Removal of vegetation (including riparian vegetation) for clearing land. Pollution of water due to foulwater leaching into water sources (from pit latrines provided on schemes or at market centres).	Deterioration of water quality	- Minimise/prevent soil erosion by controlling earthworks, installing and maintaining drainage structures and erosion control measure; use zero-till/reduce till methods of land preparation.
		- Establish buffer zone along river bank; existing riparian vegetation should be maintained (not cleared). - Careful supervision of clearing activities so that only areas required for infrastructure and agricultural infrastructure are cleared.

Aspects/Causes of Impact	Environmental / Social Impact	Some Recommendations for Mitigation
Pollution due to leaching, seepage or transmission of agrochemicals through the soil into water sources		- Drains from the fields should lead to a collection pond where the water can be tested and treated before discharge to a river
		- Install proper sanitation facilities which include a form of treatment (eg.2-chamber latrines). - Latrine location and design should take into consideration distance from water sources, soil types, and estimated usage.
		- Minimise use of agrochemicals through adopting conservation agriculture techniques, explore organic/natural fertilizers, agrochemicals - Manual removal of weeds
Excavation and clearing activities during construction of roads, canals, dams Speeding construction vehicles	Air pollution – dust	- If water is available, keep dust down by watering exposed/ worked surfaces - If possible schedule earthworks such that they avoid the height of the dry seasons. - Controlling the speed of construction vehicles
Slash and burn methods to clear land for cultivation, or in preparation for new planting	Air pollution – particulates	- Develop kebele bylaws that prohibit clearing through slash and burn methods, and field burning - Create fire breaks - Train farmers on improved farming methods
Clearing of vegetation for land preparation for cultivation, and other scheme infrastructure (including canals, roads, market sheds) Tilling land releases carbon stored in soil. Excessive use of fertilizers where unabsorbed ammonia and nitrates may subsequently be released into the air.	Air pollution – GHG emissions	- Adopt zero tillage so carbon is stored in soils, and less carbon released to the air - Adopt best practices for soil management (aeration, careful application of inputs) to minimise emissions of ammonia and nitrates.
Oil spills from storing, handling and disposal of fuel, oils and lubricants	Oil pollution	- Where fuel is stored in bulk, the tank should be contained in a bund of 110% tank capacity - Where fuel drums are used, these should be stored on sump pallets.
		- Establish procedures for fuel delivery; decanting/draining; use, storage; spill response; disposal of waste oil; handling of oil products.
		- Minimise need for having fuel oil on site – explore options for solar powered pumps or connect to national grid.
Construction traffic, construction works. Pump houses where water from the river is being pumped to the schemes.	Excessive noise levels	- Provide PPE to personnel working in areas exposed to excessive noise levels

Aspects/Causes of Impact	Environmental / Social Impact	Some Recommendations for Mitigation
Generation of waste during construction, including debris and packaging. Waste generated during operation, eg. food waste, packaging, scrap metal, etc.	Proliferation of pests and vermin (snakes, rats, mosquitoes) posing health risks to communities	- Dispose of construction waste and solid waste as per EPA Solid Waste guidelines - Recycle, reuse, recover and reduce waste
Excessive rain, floods. Over-watering of fields.	Water logging, poor drainage	- Provide drainage for access roads - Fields should have slight gradients so as to allow drainage of excess water - Maintain drainage canals and other drainage structures
Excavation and clearing activities, including removal of vegetation during construction. Clearing for planting new crops. Erosion caused by rain, runoff and wind.	Soil erosion	- Control earthworks - Install and maintain drainage structures to regulate stormwater and runoff/run on - Install and maintain erosion control measures - Use zero-till/reduce till methods for land preparation
Excavation and clearing activities along the edge of riverbanks Removal of riparian vegetation during clearing	Riverbank erosion	- Establish buffer zone along river bank; existing riparian vegetation should be maintained (not cleared)
Poor cultivation practices, eg. tilling, excessive use of chemical inputs, mono-cropping for long periods of time.	Soil degradation	- Use best practices for growing crops recommended conservation agriculture techniques, such as zero tillage or reduced tillage, - Intercropping to strengthen soil structure; - Green fertilization and green harvesting to cover soil with crop residue. - Implement Integrated Soil Conservation and Nutrient Management systems
Poor application of, and/or excessive use of agrochemical inputs.	Chemical pollution of soils, groundwater and surface water Loss of biodiversity, ecological imbalances, caused by poisoning of non-target species, particularly bees and other beneficial insects Resistance to pesticides Pest resurgence	- Minimise use of agrochemicals through adopting conservation agriculture techniques, select natural organic alternatives - Careful supervision of application of agrochemicals - Use agrochemicals approved by MOA, WHO and FAO - Set up an Agrochemical Management system and draw up a Pesticide Management Plan - Train farmers in in proper use, handling, storage, and disposal of agrochemicals. - Ensure chemical containers are disposed of as hazardous waste - Keep records of chemicals used, application amounts.

Aspects/Causes of Impact	Environmental / Social Impact	Some Recommendations for Mitigation
Clearing of vegetation during scheme construction and for cultivation of crops.	Loss of biodiversity, soil erosion	- Careful supervision of clearing activities so that only areas required for infrastructure and agricultural infrastructure are cleared. - Assess impacts of inundation of dams (or alternative water storage facilities) on vegetation - Assess impacts of bridges or foot paths on riparian and other vegetation - Preserve/maintain woodland or forest areas to preserve biodiversity
	Carbon releases	- Green crop production including adopting conservation agriculture techniques - Woodlot afforestation - Reafforestation of riverine belt
Insufficient flow left in rivers downstream of schemes. Pollution of river water due leaching of agrochemicals into river.	Threat to aquatic ecology, including bio-magnification of toxins in tissues of aquatic fauna, and/or species die off	- Establish and maintain environmental flows - Careful application of agrochemicals – develop agrochemical management plan - Monitor water quality in rivers, downstream of diversion weirs and abstraction points. - For schemes with major diversions, establish aquatic ecological baseline - Monitor aquatic ecology periodically
Proximity of schemes to national parks and wildlife dispersal area.	Human-wildlife conflicts, including crop raiding Poaching	- Raise awareness raising among scheme communities.
Proximity of schemes to community or national forests – leading to illegal felling of trees for charcoal production.	Loss of biodiversity and ecosystem services	- Establish community fuelwood plantations - Preserve/maintain existing forest stands to preserve biodiversity
Sourcing of construction materials, excavation of borrow pits, quarries, sand.	Destruction of environment, changes in landscape and land use.	- Assess environmental impacts due to materials for construction - Restoration/ rehabilitation of land disturbed for purposes of acquiring materials. Requires proper management of quarries and borrow pits, and sand mining. - In some cases communities may request that quarries or borrow pits are left open to serve as water pans. In these cases the excavated areas should be landscaped in order to facilitate safe access to the water pans.
Setting up Workman's / Contractor's camp	Generation of solid and liquid waste	- Solid and liquid waste management plans to be developed for construction and operation phases. - Provide proper sanitation facilities to workforce -

Aspects/Causes of Impact	Environmental / Social Impact	Some Recommendations for Mitigation
SOCIAL/SOCIO-ECONOMIC ISSUES		
Grazing land being taken for agriculture, consequently less land available and large numbers of livestock. Access to water and pasture for livestock blocked (eg.by canals, or dams or cultivated irrigated fields). Livestock drinking water from canals damaging structures.	Land use conflicts arising between livestock keepers/pastoralists and farmers	- Develop kebele land use plans that provide land for livestock grazing and watering points. - Allow livestock access routes to river and water sources. - Alternatively provide watering points for livestock located along on existing livestock routes to water and pasture, and through consultations with the communities. - Establish local monitoring system for non-compliance to reduce conflicts and manage them at early stage.
Abstraction upstream (in highlands) resulting in insufficient flow left in rivers downstream.	Conflicts between highland and lowland farmers	- Install water abstraction monitoring infrastructure (gauges). - Install infrastructure to measure flow levels in the river. - Train IWUAs in keeping monitoring records for abstraction and river flow.. - For rivers, determine and maintain environmental flow requirements taking into account human, livestock and ecological needs. - Train IWUAs to manage use of irrigation water requirements during dry seasons. - Implement watershed management interventions under PASIDP-II.
In-migration due to potential job opportunities, and spin off employment activities.	Growth of kebeles due to induced settlement	- Plan for population increase and consequent demand on public utilities - Dialogue between local leadership, farmers and immigrants - Initiate educational campaigns for HIV/AIDS awareness, drug abuse prevention, security, etc - Give employment preference to members of local communities
	Insecurity concerns among host communities	- Dialogue between local leadership, farmers and immigrants - Give employment preference to members of local communities
Setting up Workman's / Contractor's camp.	Pressure on water sources, fuelwood /energy sources and other public services.	- Consult kebele authorities to identify camp location. - Develop clear specifications for camps with regard to sanitation facilities, accommodation, provision of water, health and safety, etc.
	Competition for local food	- Contractor to supply workforce with food ensuring that local food supplies are not compromised in times of food shortages.

Aspects/Causes of Impact	Environmental / Social Impact	Some Recommendations for Mitigation
	Risks of increased rates of STIs, including HIV/AIDS	- Contractor to conduct HIV/AIDS prevention and awareness campaign targeting his workforce as well as local communities.
Permanent acquisition of land for scheme infrastructure, roads and/or market centres.	Loss of land, (including agricultural land), structures, trees and crops	- Avoid physical or economic displacement if possible, or minimise as much as possible by changing siting of infrastructure - Develop land use plans to identify location of infrastructure and affected persons.
		- Verify identity of project affected people, particularly vulnerable people - Prepare RAP
		- Implement RAP. - Where land is available within the kebele, land for land to be given. Otherwise compensation to be paid for production for a period of 10 years, in accordance with the national laws. - Livelihood restoration activities to be implemented for severely affected PAPs
Temporary acquisition of land for construction camps	Loss of land, (including agricultural land), structures, trees and crops	- Compensation to be paid for all property on land to temporarily acquired for scheme works, including road construction and dam construction - Restoration/ rehabilitation of land acquired temporarily for construction purpose
Insufficient flow left in rivers downstream of schemes. Pollution of river water due leaching of agrochemicals into river	Threat to fisheries: loss of aquatic habitats, bio-magnification of toxins in tissues of aquatic fauna, and/or species die off	- Establish and maintain environmental flows
		- Careful application of agrochemicals, guided by an agrochemical management plan - Establish aquatic ecological baseline - Monitor water quality in rivers, downstream of diversion weirs and abstraction points.
Cash crops grown in preference to food crops – no provision made for growing food crops on schemes.	Food insecurity	- Promote production of food crops in parallel with cash crops - Provide support to farmers to improve food crop production - Introduce cash savings from crop sales for purchasing food especially during times of food shortages
Poor application and handling of agrochemicals resulting in farmers touching, inhaling or ingesting toxic chemicals	Health effects: respiratory, dermatological or gastric ailments, poisoning.	- Develop agrochemical management plan describing handling, storage, use and disposal of all agrochemicals used on the schemes. - Train farmers in the handling, storage, application and disposal of all agrochemicals.
Construction activities posing danger to site personnel (eg. working at heights, lifting, handling machinery, etc)	Occupational health and safety risks	- Ensure compliance with national OHS requirements and best practice - Provide appropriate PPE to all construction workers and enforce use

Aspects/Causes of Impact	Environmental / Social Impact	Some Recommendations for Mitigation
Presence of a large permanent water body (dam).	Community health and safety risks eg. waterborne diseases such as malaria, bilharzia; incidences of drowning	- Conduct awareness campaigns on prevention and cure of waterborne diseases - Erect warning signs at possible entry points into dam
Excavation of borrow pits and quarries, in which may water accumulate	Community health and safety risks eg. waterborne diseases, danger of children/livestock falling into borrow pits/quarries	- Cordon off all borrow pits/quarries to prevent children/livestock falling in - Materials sites should be excavated with specified entry and egress routes - Borrow pits and quarries should be excavated so that water drains out of them - Conduct awareness campaigns on prevention and cure of waterborne diseases
Failure of dam structures due to poor design and/or construction, excessive quantities of water stored behind them as a result of extreme rainfall events, or seismic movement	Community health and safety risks – loss of life, damage to property	- Ensure sound dam design, taking into account climatic, geological/seismic aspects. - Ensure dam maintenance – checking structures, desilting, etc - Prepare dam break analysis and emergency response plan
Transient and immigrant labour for construction and spin off employment opportunities. Increased incomes in local communities leading to promiscuity.	Increase in the prevalence of HIV/AIDS and other STIs	- Carry out situational analysis of HIV/AIDS in project area - Workplace HIV/AIDS prevention and awareness programme
Children working on the schemes or associated spin off activities - for money (and in violation of national labour laws).	Children dropping out of school as employment is more attractive than school or because their families need the money	- Sensitise parents - If possible introduce / strengthen provision of food in schools through PASIDP-II. - Schemes should develop a labour policy prohibiting child labour
Construction traffic, excavation activities, immigrant labour with surplus cash.	Disturbance to the public, disruption of livelihoods and routines, dust emissions, nuisance	- Sensitisation / awareness raising among communities on project details, timing etc. - Diligence on the part of contractor/ construction workers to minimise disturbance to communities
Construction traffic, and during operation tractors or carts for collection. More vehicular traffic due to improved roads/better access in the project area.	Increased number of road accidents causing injury or loss of live	- Prepare and implement road safety programme - Construct diversions road to reduce inconvenience to road users - Improve footpaths along construction traffic routes so that pedestrians need not use the roads
Disturbance of graves within scheme areas.	Personal / emotional stress to relatives of the deceased if graves are to be relocated	- As far as possible avoid disturbing graves. - Identification and relocation of graves as per local customs and national laws
Destruction of, or damage to, physical cultural resources near or within scheme areas	Loss of cultural heritage or item of traditional value	- As far as possible avoid disturbing physical cultural resources - Develop a procedure to manage “chance finds” of cultural and traditional significance.

Aspects/Causes of Impact	Environmental / Social Impact	Some Recommendations for Mitigation
Clearing of vegetation/woodlands and forest stands, resulting in destruction/loss of traditional plants, trees.	Loss of indigenous knowledge and cultural heritage	- Identify and preserve traditional plants and trees having indigenous value and sacred forests - Develop a procedure to manage "chance finds" of cultural and traditional significance. - Special plantations to grow and preserve indigenous tree/plant species of cultural value

7.3.2 Watershed Management

Table 7.2 presents typical impacts resulting from watershed management interventions.
While the overall intention of watershed management is to improve environmental conditions in catchment areas, some interventions could have adverse impacts. The most significant ones relate to:

- Denied or hindered access to natural resources or grazing areas;
- Use of exotic species for slope protection.

Table 7.2 Typical Impacts from Watershed Conservation Projects

Aspects/Causes of Impact	Environmental / Social Impact	Proposed Mitigation
ENVIRONMENTAL ISSUES		
Failure of structures due to poor design and/or construction (eg.small dams, check dams, catchwater drains)	Soil erosion, gully formation	- Ensure sound design of all structures, taking into account soil susceptibility to erosion - Ensure structures are continuously and routinely maintenance – checking structures soundness (cracks, erosion around edges), desilting, etc - For small dams, prepare dam break analysis
Soil erosion due to clearing activities before replanting for conservation Erosion caused by rain, runoff and wind.	Deterioration of water quality	- Minimise/prevent soil erosion by controlling earthworks, installing and maintaining drainage structures and erosion control measures
Clearing activities before replanting	Loss of native/endemic species	- Identify and preserve endemic plants and trees - Allocate special areas within watershed conservation areas to grow and preserve native/endemic tree/plant species
Use of exotic plant species in watershed management and soil conservation activities	Spread of invasive species	- Use only exotic species that are already commonly found and used in the project area - Manage the growth of exotic species so that they do not spread beyond the desired area and do not threaten native/endemic species - Avoid use of genetically modified forage crop

Aspects/Causes of Impact	Environmental / Social Impact	Proposed Mitigation
SOCIAL/SOCIO-ECONOMIC ISSUES		
Grazing land being taken for watershed protection activities. Watershed activities hindering access to pasture and water sources.	Land use conflicts arising between livestock keepers/pastoralists and farmers	- Develop kebele land use plans that provide land for livestock grazing and access to watering points. - Grow fodder as part of watershed conservation activities which can be sold or given to the livestock owners. - Allow livestock access routes to other grazing areas. - Establish local monitoring system for non-compliance to reduce conflicts and manage them at early stage
Permanent acquisition of land for watershed conservation area.	Loss of land, (including agricultural land), structures, trees and crops	- Avoid physical or economic displacement if possible, or minimise as much as possible by changing siting of watershed conservation area - Develop land use plans to identify location of watershed areas and affected persons within these areas. - Verify identity of project affected people, particularly vulnerable people - Prepare RAP - Implement RAP. - Where land is available within the kebele, land for land to be given. Otherwise compensation to be paid for production for a period of 10 years, in accordance with the national laws. - Livelihood restoration activities to be implemented for severely affected PAPs
Failure of structures due to poor design and/or construction	Community health and safety risks	- Ensure sound design of all structures, taking into account soil susceptibility to erosion - Ensure structures are continuously and routinely maintenance – checking structures soundness (cracks, erosion around edges), desilting, etc - For dams, prepare dam break analysis and response plan
Disturbance of graves within watershed conservation areas	Personal / emotional stress to relatives of the deceased if graves are to be relocated	- As far as possible avoid disturbing graves. - Identification and relocation of graves as per local customs and national laws
Destruction of, or damage to, physical cultural resources near or within watershed conservation areas	Loss of cultural heritage or item of traditional value	- As far as possible avoid disturbing physical cultural resources - Develop a procedure to manage “chance finds” of cultural and traditional significance.
Destruction/loss of traditional plants, trees.	Loss of indigenous knowledge and cultural heritage	- Identify and preserve traditional plants and trees having indigenous value - Develop a procedure to manage “chance finds” of cultural and traditional significance.

Aspects/Causes of Impact	Environmental / Social Impact	Proposed Mitigation
		- Allocate special areas within watershed conservation areas to grow and preserve indigenous tree/plant species of cultural value

7.4 Cumulative and Synergistic Impacts

Cumulative environmental and social impacts are those that occur when several developments of a similar or different nature, and within the same project/programme or from unrelated projects, result in a combined effect on the biological, physical or social environments. These combined results may be caused by past, current and future activities.

Thus for example, if there are several small irrigation schemes within one catchment, or along one river, this may reduce the amount of irrigation water available for all the schemes in the area. Similarly, if an agro-processing plant is releasing effluent into a river, and an irrigation scheme located downstream is using the same river, the quality of water downstream of the scheme will be affected by both the effluent agro-processing plant and leaching of agrochemicals from the irrigation scheme.

A synergistic impact occurs when two or more factors produces an effect greater than the sum of their individual impact. An example of a synergistic impact would be if a major road is being (or planned to be) constructed under an altogether different project and passes close to a proposed irrigation scheme, this may positively influence access to markets beyond the kebele or woreda or even region, and in the long run as transport of agricultural produce increases from the different parts of the broader project area, the road becomes economically more feasible.

ESIAs and ESMPs conducted for PASIDP-II projects will therefore have to consider other economic and development activities in the project areas to determine the types of cumulative as well as synergistic impacts that may result from such activities on the biological, physical and social environments.

8 Climate Risk Assessment

8.1 Introduction

Ethiopia has been repeatedly hit by climate-induced recurrent droughts and other extreme events, as witnessed most recently in 2015/2016, when an estimated 15 million people are exposed to drought and hunger. The country's ecological system is very fragile and vulnerable to climate change, in part due to stress on natural resources, where the key challenges include soil degradation, deforestation and loss of biodiversity. Poverty remains high in vulnerable, drought-prone regions, with the very poorest facing the increasing impacts of a changing climate. In addition, the agricultural sector still suffers from traditional, low-input, low-output farming practices. The ND-GAIN Index[45] summarizes a country's vulnerability to climate change and other global challenges in combination with its readiness to improve resilience. According to this index, in 2014 Ethiopia ranked 145th out of 180 countries. This indicates that Ethiopia therefore requires for investment and innovations to improve readiness to climate variability.

Climate change projections for Ethiopia indicate a significant increase in temperature and a likely increase in drought occurrences, heavy rains and floods, particularly in the lowlands[46]. Spatial patterns and temperature and rainfall amounts are projected to change through 2010–2039, and to result in more extreme events[47] . For the past four decades, the average annual temperature in Ethiopia has been increasing by 0.37ºC every ten years, with the majority of the temperature rise observed during the second half of the 1990s[48]. Future projections show that the mean annual temperature will increase in the range of 0.9 to 1.1ºC by 2030, in the range of 1.7 to 2.1ºC by 2050, and in the range of 2.7 to 3.4ºC by 2080 compared to the 1961 to 1990 normal[9], posing a sustained threat to agriculture and the economy. However, the biggest climate change impact is associated with limited water availability[49]. Although there is no significant change in annual rainfall amounts during last 30 years, increasing intra-seasonal variability caused significant damages in communities livelihoods, including in the year 2015/16. Drought in Ethiopia will continue to be regional in nature and commonly cover large areas and extend for long periods of time. In the last five years, about 80% of the farmers in the lowlands and 22% in the highlands had at least one crop failure[50]. During the time of high crop failure, farmers tend not to farm the next crop season, due to high uncertainty on the rainfall and high price of improved seeds. Crop failure causes some of these households not to meet their food needs and rely partly on food assistance.

For the *Belg* rains[51], rainfall declines are projected across the south-central and eastern parts of the country, and will negatively impact *Belg* harvests as well as pastoral rangelands during the summer and early fall. This may be particularly disruptive for drought-prone communities in southern Oromiya and The Great Rift Valley, which have been relying upon meager *Belg* rains for their livelihoods. As for

[45] http://index.gain.org/country/ethiopia
[46] Gummadi, S. etal, 2015. The changing climates of Ethiopia and its implication on agricultural systems. ICRISAT Research Paper, under review. Addis Ababa, Ethiopia
[47] USAID and USGS, 2012. A climate trend analysis of Ethiopia
[48] EEA, 2008.
[49] You and Ringler (2010) IFPRI.
[50] START, 2013.
[51] Belg rains are the short rains occurring between February, March and May and provide water to Ethiopia's southern, north-eastern, eastern and north-central parts. These rains are essential for long-cycle crops such as sorghum and maize, harvested in the meher season, i.e. from June to October. The *Belg* season is producing about 30% of the food and feed in the Ethiopian highlands.

the *Kiremt* rains[52], rainfall declines are projected to range across the western and southern parts of Ethiopia. Increasing temperature is expected to increase irrigation water demands, both in the drylands where irrigation is currently required but also in areas where the system is currently dependent on rain-fed agriculture. This scenario will exacerbate poverty, particularly in the vulnerable, drought-prone regions, with the very poorest facing the increasing impacts of a changing climate.

Since 2011, the Ministry of Environment and Forestry's efforts have been focused on implementing the Climate-Resilient Green Economy (CRGE) strategy that sets the target for the Ethiopia to become a middle-income carbon-neutral country by 2025. To this end, in April 2014, a project aimed at supporting the Reducing Carbon Emissions from Degradation and Deforestation (REDD) mechanism was launched. This will help Ethiopia access the carbon trade whereby developed countries offset their emissions by investing in emission-reduction projects in developing countries. Concerted effort has been geared towards rolling out and operationalizing the CRGE. In addition to preparing manuals and introducing monitoring and evaluation systems, these include the Sectoral Reduction Mechanism (SRM), which sets comprehensive actionable plans for the CRGE's goals of reducing vulnerability and emissions. In 2014, CRGE projects in agriculture, water, irrigation and energy, forestry, transport, industry and urban development were being implemented. Both up-front support and ex post payments are provided for carbon-reduction actions. Interventions including a large-scale reforestation campaign (with approximately 1 million trees planted per year) over the past decade have resulted in the forest cover dramatically increasing from 3% in 2000 to 11% of total land area in 2014. Since June 2013, re-afforestation has fallen under the remit of the Ministry of Environment Forestry and Climate Change.

8.2 Climate Risk Analysis

8.2.1 Key Considerations

Key considerations in determining climate risk are:

- Is the target group of the project dependent on climate sensitive natural resources?
- Has the project area been subject to extreme weather events in the past?
- Could changes in temperature, rainfall or extreme weather affect the project impact, sustainability or cost over its lifetime?
- Will climate variability likely affect agricultural productivity within the project or incidence of pests and diseases?
- Would weather-related risk or climatic extremes adversely impact upon key stages of identified value chains in the project (from production to markets)?
- Does the project have potential to integrate climate resilience measures without extensive additional costs?
- Would the project benefit from a more detailed climate risk and vulnerability analysis to identify the most vulnerable rural population improve targeting and identify additional complementary investment actions to manage climate risks?

8.2.2 Risk Classification

According to SECAP's climate risk classification guidelines, high, medium and low risk programmes/projects are described as:

[52] *Kiremt* rains are the long rains occurring between June and October across most of the country, apart from the southeastern parts. These rains lead to *meher* season and provide around 50-80% of annual rainfall totals.

High Risk: Projects that promote agricultural activity on marginal and/or highly degraded areas (such as on hillsides, deforested slopes or floodplains); projects that establish infrastructure in areas with a track record of extreme weather events, and projects in areas in which rural development projects have experienced weather-related losses and damages in the past are considered as high risk.

Medium Risk: Medium risk projects are those projects that make use of climate-sensitive resources, but do not focus on these resources as a main commodity (such as irrigated farming systems), projects which are investing in infrastructure not directly exposed to extreme weather events, but has potential to become more resilient through the adoption of green technologies (such as renewable energy, water efficiency, re-use/recycling of waste products); and projects which focus on institutional development and capacity building objectives for rural institutions (such as farmer groups, cooperatives) in climatically heterogeneous areas, where opportunities exist to strengthen indigenous climate risk management capabilities; and projects which focus on policy dialogue to improve agricultural sector strategies/policies, where opportunities exist to integrate climate resilience aspects.

Low Risk: Where a project/programme is not likely to be vulnerable to climate risks and thus voluntary measures could be incorporated into the detailed design (eg. development of a micro-finance institution).

Within the Programme area, climate change is likely to cause an increase in the intensity and frequency of extreme events, generating impacts and reducing the time available for recovery. During consultations, communities described both flood and drought events as having severe impacts on their livelihoods. Often times, floods have damaged homes, traditional irrigation infrastructure, roads/access ways, vegetation, crops and pasture, while drought has affected agricultural production, and livestock have perished due lack of food and water. PASIDP-II has therefore been designated as having high climate risk - primarily as a precautionary measure - and therefore according to SECAP assessment processes requires an in-depth climate risk analysis.

8.2.3 Risk Analysis

In order to assess the impact of PASIDP-II on climate change, gross fluxes (in tCO_2eq) need to be considered in terms of "with" and "without" project scenarios. The increase or decrease in greenhouse gas (GHG) emissions is indicated in Table 8.1 below for various the project activities.

At this stage of the Programme development, the locations and extents of the schemes to be included in the Programme are not known. Nor has the area and type of vegetation (woodlands, grasslands, forests) to be cleared been determined. Therefore it is not possible to carry out a detailed assessment of GHG emissions. So while Table 8.1 below may indicate a net decrease in GHG emissions as a result of programme activities as compared with the "no project" scenario, this can only be confirmed when actual figures for tonnes of carbon dioxide equivalent (tCO_2eq) are obtained.

Table 8.1 Comparison of Gross Fluxes in GHG Emissions with/without the Programme

Programme activities	Potential Gross Fluxes – GHG Emissions	
	Without Project	With Project
Land use changes		
Deforestation/clearing of vegetation	↑	↑
Afforestation	0	↓
Watershed management and conservation	↓	↓
Agriculture		
Annual crops	0	↓
Perennial crops	0	↓
Cash crops	0	↑
Grassland	↑	↓
Livestock	↑	↑
Soil degradation (soil erosion, salinisation)	↑	↓
Inputs (eg.fertilizers, agrochemicals)	↑	↑

Legend: ↑ likely increase in GHG emissions
↓ likely decrease in GHG emissions

8.3 Climate Risk Resilience Measures

Since 2011, the Ministry of Environment and Forestry's efforts have been focused on implementing the Climate Resilient Green Economy (CRGE) strategy that sets the target for the Ethiopia to become a middle-income carbon-neutral country by 2025. Improving crop and livestock production practices for higher food security and farmer income while reducing emissions, and protecting and re-establishing forests for their economic and ecosystem services, including as carbon stocks, are key pillars through which the CRGE's intends to reduce climate vulnerability. PASIDP-II is well-aligned with the CRGE strategy goals, as it aims to enhance climate resilience through sustainable irrigation development and improved watershed and landscape management. PASIDP-II recognizes the need for developing climate resilient communities through employing a combination of institutional and climate-smart technological interventions along with creating local capacity to identify best-bet agricultural enterprises and adaptation strategies fitting into changing climates and market needs. It is also about enabling communities to supply the desired quantity of water for the preferred agricultural commodity in the right amount and timing to efficiently produce more food and income per unit of water investments.

Climate change adaptation measures are integrated into PASIDP-II activities to address the inherent risks resulting from a changing climate and the potential multiplication of effects, such as damage to landscapes and infrastructure, and recurrent droughts. To this end PASIDP-II will focus on five key issues to improve climate resilience:

- Improve local knowledge: conduct scheme-based climate analysis and to develop targeted adaptation strategies, helping communities to understand climate change scenarios;
- Promote longer-term adaptive agronomic practices: supporting watershed management activities, organizing and facilitating farmers research groups (FRGs) to experiment and innovate on various climate smart and profitable options on behalf of the wider community, including more efficient and equitable use of irrigation water;

- Establish water monitoring instrumentation in close collaboration with key players, to provide improved information flow between upstream and downstream farmers and woreda administrations; and,
- Knowledge management: document evidence of profitable water-saving strategies and climate-smart agriculture, and facilitate knowledge exchanges between farmers to scale-up adoption of these practices.

9 Preparation of a Resettlement Action Plan

At this stage of the Programme, the schemes to be included under PASIDP-II have not been determined, and thus the number of people likely to be physically or economically displaced by PASIDP-II activities is not known. However, the Programme will endeavour to avoid schemes that have high probability of physical resettlement and economic displacement of communities – these schemes will not proceed past the first screening tier in the project selection process (see Section 10.3.1). But in the event that schemes that pass Tier 1 screening are subsequently found to cause physical resettlement or economic displacement, a Resettlement Action Plan (RAP) will be prepared as a pre-condition to scheme financing and implementation. The RAP will be finalised as a supplementary document to the Environmental and Social Impact Assessment report. The RAP will provide a set of binding actions to be taken in order to avoid, mitigate and compensate the affected people as needed. This chapter is therefore intended to guide the preparation of a Resettlement Action Plan (RAP) for any scheme that may result in physical resettlement and economic displacement.

9.1 Approach to the Preparation of a Resettlement Action Plan for PASIDP

SECAP (2015) contains a guidance statement on Physical and Economic Resettlement (Guidance Statement 13). The preparation of RAPs that may be required for any PASIDP-II scheme should take direction from the principles of free prior and informed consent and "do no harm". IFAD's Land Policy requires involuntary resettlement to be avoided wherever possible. IFAD's Land Policy specifies that "while working on 'doing good', IFAD will adhere to a 'do no harm' principle at all times, so as to minimize physical and potential economic impacts". The policy requires all viable alternative project designs to be explored in order to address risks of physical and economic displacement, and it also stipulates the need to restore livelihoods to improve the standards of living of affected persons. The approach and level of measures taken should be proportional to the range of IFAD's operations.

The RAP should also align itself with the RPF documents prepared for AGP-II in order to be consistent in methodologies and procedures contained in ESMFs developed within the agricultural sector at Federal, as well as at Regional, Woreda and Kebele levels. Therefore guidance should be sought from the World Bank's OP 4.12 on Involuntary Resettlement which sets out the framework for compensation and resettlement requirements and IFC's Handbook for Preparing a Resettlement Action Plan (IFC/WB April 2002). The principles of Involuntary Resettlement as stipulated in these documents are primarily that:

- Involuntary resettlement should be avoided where feasible, or minimized, exploring all viable alternative project designs;
- Where it is not feasible to avoid resettlement, resettlement activities should be conceived and executed as sustainable development programs, providing sufficient investment resources to enable the persons displaced by the project to share in project benefits.
- Displaced persons should be meaningfully consulted and should have opportunities to participate in planning and implementing resettlement programs.
- Displaced persons should be assisted in their efforts to improve their livelihoods and standards of living or at least to restore them, in real terms, to pre-displacement levels or to levels prevailing prior to the beginning of project implementation, whichever is higher.

The objectives[53] of the RAP will be to:

[53] IFC (2012); IFC Performance Standards: Performance Standard 5 – Land Acquisition and Involuntary Resettlement

- To avoid, and when avoidance is not possible, minimize displacement by exploring alternative project designs;
- To avoid forced eviction;
- To anticipate and avoid, or where avoidance is not possible, minimize adverse social and economic impacts from land acquisition or restrictions on land use by (i) providing compensation for loss of assets at replacement cost and (ii) ensuring that resettlement activities are implemented with appropriate disclosure of information, consultation, and the informed participation of those affected;
- To improve, or restore, the livelihoods and standards of living of displaced persons;
- To improve living conditions among physically displaced persons through the provision of adequate housing with security of tenure at resettlement sites.

9.2 Steps for RAP Preparation

The general steps in preparing a RAP are as follows:

1. Initial Meetings / Consultations

Meetings will be held with the PASIDP PCMU in order discuss the approach to the RAP, and to obtain relevant information and documentation, as well as to set up meetings with the relevant Federal, Regional and Woreda authorities and arrange the necessary field visits.

Meetings will be held with key sector Federal, Regional, Zonal and Woreda authorities to establish national/regional processes for compensation and resettlement and procedures for identifying project affected people, as well as natural the resources that may be affected (such as water resources, woodlands/forests or national parks).

2. Review of Existing Information

Familiarisation with the programme context, components and implementation modalities will be done through review of various documentation, such as the Socio Economic studies conducted as part of the Feasibility and Design. Maps and drawings will be referred to where available.

3. Legal Framework

A number of policy legal instruments, which govern issues pertaining to compensation and resettlement, will be reviewed. Among the most important is the Constitution of Ethiopia, which has provisions regarding land tenure, expropriation, compensation, public consultation, gender and environmental issues. The Environmental Policy of Ethiopia (EPE) aims to promote sustainable social and economic development through the sound management and use of natural, human-made and cultural resources and the environment as a whole. Other legal documents pertinent to the RAP are:

- The Ethiopian Civil Code;
- The Federal Rural Land Administration Proclamation No. 89/1997;
- The Environmental Protection Re-establishment Proclamation No. 295/2002;
- Proclamation on Expropriation of Landholdings for Public Purposes and Payment of Compensation: Proclamation No. 455/2005
- Regulation for the payment of Compensation for property Situated on Landholdings Expropriated for Public purposes: Regulation No. 135/2007.

In addition, regional proclamations on Rural Land Use and Administration, Environmental Protection and Agricultural Development will be referred to.

The RAP will explain the requirements of these policies and proclamations in the context of the project.

4. Differences in GOE and IFAD Approaches to Compensation and Relocation

There are a number of differences between the Ethiopian legal framework for resettlement and compensation and IFAD's Guidance Statement for physical and economic resettlement, Land Policy and FPIC requirements. These differences will be described and proposals will be made for addressing the differences so that both GOE and IFAD requirements are satisfied.

5. Scope of the Compensation and Resettlement

The scope of resettlement will be described in terms of geographical scope, processes for identification of PAPs, estimated of numbers of households and assets affected, a general description of the total acreage of land affected and types of assets and structures affected; general description of physical cultural resources (PCR) or sites of personal value (such as graves and graveyards) and public services that may need to be relocated.

6. Screening Checklist

A screening checklist will be developed with the aim of establishing whether the project will:

- Reduce access to economic and natural resources, such as land, pasture, water, public services;
- Result in resettlement of individuals or families;
- Require the acquisition of land (public, usufruct, temporary or permanent) for its development;
- Result in the temporary or permanent loss of perennial or annual crops or fruit trees;
- Affect household infrastructure such as the main residence, outside toilets, granaries, kitchens;
- Affect commercial premises such as shops, coffee houses;
- Affect institutional premises such as churches, mosques or schools;
- Affect physical cultural resources;
- Affect vulnerable people (elderly, poor, orphans, women headed households, widows or physically challenged).

7. Environmental and Socio Economic Profile of the Programme Regions

In order that the context of the programme is understood, the RAP should present a brief description of the environmental and social setting of the PASIDP regions. The bio-physical baseline could include topics such as topography, climate, soils, water resources, forests, wetlands, national parks, flora and fauna. The social baseline should describe, among other things, household characteristics, poverty levels, health status/nutrition levels and economic activities. This information can be availed from socio-economic and environmental and social impact assessment studies carried out during the feasibility and design phases.

8. Consultations

With Regional, Zonal, Woreda and Kebele Authorities

A second round of consultations with the regional, zonal, woreda and kebele authorities will be required to:

- Confirm their commitment (written, signed and stamped) from the local authorities for the entire resettlement and compensation process, and to inform the public accordingly;
- Confirm that the kebele authorities will assist in the identification of PAPs, and in confirming the eligibility of listed PAPs;
- Agree on the "cut off" date for compensation, for example if it should be set as the starting date of the PAP survey;
- Specify the responsibilities of the kebele and woreda authorities regarding the monitoring of the compensation and resettlement process;
- Establish the mechanisms for redress of grievances that will be most appropriate for the affected communities; and
- Identify existing social networks and social support systems that can help persons affected by the project, and ways in which support can be provided.

Minutes and details from the consultations with the local administrations and the PAPs will be recorded.

With Communities

These meetings will focus on issues such as land acquisition, compensation, entitlement, institutional arrangements for implementing and monitoring the RAPs, grievance redress mechanisms. The meeting will also establish how the communities can be involved in the RAPs at all stages – from PAP identification, surveys, valuation, entitlements, implementation, monitoring and evaluation. Of importance is the need to inform the PAPs of the cut-off date.

9. Grievance Redress Mechanisms

Based on discussions and consultations, the RAP will develop a grievance redress mechanism indicating the ways in which grievances can be registered, and processes, timescales and stages for responses, redress and appeal.

10. Cut Off Date

The RAP will develop a methodology for determining the cut off date. This is the date beyond which persons occupying the project area are not eligible for compensation and/or resettlement assistance. Similarly, fixed assets (such as built structures, crops, fruit trees, and woodlots) established after the cut off date will not be compensated. The cut off date is determined in consultation with local authorities, and is usually the date of completion of the census and assets inventory, or any other mutually agreed date.

11. Eligibility Criteria

Eligibility criteria will be defined in order to identify PAPs and affected structures and assets. This will be based on Ethiopian laws, but will also take into account those with no formal legal rights over their land holdings, in accordance with IFAD and other development partner requirements.

12. Entitlement Matrix

An Entitlement Matrix will be prepared indicating the types of impacts on agricultural land, commercial land, residential land, buildings and structures, standing crops, trees, and temporary acquisition of land, types of persons affected, and to establish types of compensation, entitlements and benefits that will be accorded.

13. Land and Asset Surveys

The RAP will assess and inventories land and property/assets affected by the proposed schemes. A land/property assessment form will be developed for use during the survey, and may include information such as:

- Location of the affected plot/house/structure;
- Category of the land (public/private/institutional);
- Property characteristics (types of structures affected, quality of structure, type of construction, roof type);
- Measurements of the structure/compound, and value of affected area;
- Occupancy details (tenant/squatter/owner);
- Affected area under cultivation (crop type, area under cultivation);
- Affected area not under cultivation (current land use, area affected); and
- Affected trees.

In addition, sites for the relocation of the PAPs will be identified together with the kebele authorities, should this be necessary.

14. PAP Socio Economic Survey

The RAP will develop detailed baseline surveys for each project affected person/household. Information that will need to be collected for the PAP survey will include:

- Personal data (name/age/sex of respondent, residency, occupation, ethnic group, religion);
- Household composition and education levels (number of adult men and women, boys and girls, education levels of each);
- Household activities and income (main source of income, other income sources, bartering);
- Household expenditure (amount spent on basic goods);
- Health status (main illnesses suffered);
- Relocation options (extent of affectation, current use of property/land, preferred options for resettlement, preferred time for relocation, types of assistance required, other support needs, perceived problems during and after relocation).

15. Valuation Methodology

The RAP will describe methodologies used for valuing affected structures, assets, crops and trees. Where land is to be acquired, methodologies for valuation and compensation in kind or cash will be described. The rate of compensation for lost assets must be calculated at full replacement cost, ie. the market value of the assets plus transaction costs. Other infrastructure that may be affected includes water pipelines, power lines, fences, hedges, which must also be considered in the valuation methodology.

16. Compensation and Resettlement Measures

Based on the entitlements and valuation methodology, the RAP will determine compensation payment and resettlement processes. Cultural preferences will be borne in mind. There is also need to address the treatment of vulnerable groups, such as living below the poverty line, the landless, the elderly, women and children, indigenous peoples, ethnic minorities, or other displaced persons who may not be protected through national land compensation legislation.

The RAP will develop detailed livelihood restoration plans for severely affected PAPs.

The RAP will also stress that, in accordance with IFAD policies, programme activities can only begin once compensation has been fully paid and resettlement completed.

17. Site Selection, Site Preparation and Relocation

The RAP will describe the process for identification and preparation of relocation sites, and will describe the institutional and technical arrangements for identifying and preparing relocation sites to ensure that these sites selected are comparable to those that have been lost. It will present an outline of procedures for physical relocation, including the timetables for site preparation and transfer.

18. Housing Infrastructure and Social Services

The RAP will describe the process of providing housing for resettled persons, and their access to infrastructure and social services, and any assistance required by the PAPs for accessing these services.

19. Environmental Protection and Management

There may be environmental impacts as a result of any resettlement. The RAP will propose means to assess the impact of the relocation process on the bio-physical and social environment. The roles of the different stakeholders, and specifically of the displaced and host communities will be specified in terms of environmental protection.

20. RAP Implementation and Schedule

The RAP will describe the institutional framework for the implementation of the RAP. It will also describe the various implementation activities that must be undertaken by the RAP. The RAP implementation schedule should be sensitive to seasonal and cultural demands of the affected persons and communities (eg. rainy season, planting and harvest seasons, lent).

21. Budget for RAP Implementation

The RAP will determine the cost of compensation and relocation activities and activities related to other forms of assistance as may be required. This will include allowances for inflation, and will indicate sources of funds, and flow of funds.

22. Monitoring and Evaluation

Procedures for internal monitoring - which will include tracking of the RAPs - will be developed. Monitoring indicators should be specified so that progress of the RAPs can be evaluated.

The RAP will also propose how impact monitoring should be done to assess the effectiveness of the RAP and its implementation with respect to meeting the needs of the PAPs and in terms of, for example, appropriateness of the relocation sites, practicality of the implementation schedule; the effectiveness of grievance mechanisms and mechanisms for assisting vulnerable groups.

23. Disclosure of the Resettlement Action Plan

The RAP will be made available to the regions, woredas and kebeles so that the affected communities may comment or seek clarification on any issues of concern prior to preparation of individual RAPs where these may be required. Interested or affected parties may therefore submit their comments, verbally or in writing, to the kebele or woreda councils. The RAP will also be disclosed on the IFAD website as required by IFAD's Disclosure Policy.

10 Environmental and Social Management Procedures for PASIDP-II

10.1 Overview

For reasons of maintaining consistency in developing and implementing ESMFs within the MOANR, the environmental and social management procedures for PASIDP-II closely follow those developed by AGP-II and SLMP-II.

Projects are identified by the local communities and submitted to the Kebele Development Agents (DAs) and Kebele Development Committees (KDCs) for consideration. The DAs and KDCs take the project through a first screening process to establish the schemes' eligibility for funding under PASIDP-II based on a set of eligibility criteria. If the project clears this stage, it then proceeds to the Woreda level for further screening, where the need for additional precautionary measures, further studies, and extent of environmental and social investigation is determined. At this point impact rating is done, and the project is categorised as Category A (requiring an ESIA) or Category B (requiring an ESMP). ESIAs and more complex ESMPs (Category B projects that raise some concerns as determined by the screening criteria) will be prepared by consultants, while for projects with no issues of concern, ESMPs can be prepared by the Woreda PASIDP Coordination Team. Approvals for ESIAs and complex ESMPs will be done by Regional (or in the case of Oromiya and SNNP Regions, Zonal) BOEPLAUs but other ESMPs will be approved by the Woreda Office of EPLAUA.

10.2 Programme Coordination and Implementation

The management, coordination and implementation of PASIDP-II will involve various government institutions and partners as well as private entities that will play different roles at various levels for effective delivery of the Programme to the intended beneficiaries. The process will be governed by four main principles: a) alignment with GOE systems and procedures, especially those governing public expenditure management and procurement, and integration of Programme implementation into relevant institutions in decentralized government structure; b) greater empowerment of beneficiaries to take lead role through their grassroots institutions in Programme implementation; c) cooperation with private agricultural service providers and various players in priority commodity value chains; and d) stronger partnerships and harmonization with other development partners and other stakeholders in the sector. The implementation arrangement for all PASIDP-II components will be provided in a detailed Programme Implementation Manual (PIM).

Federal Level

The Ministry of Agriculture and Natural Resources (MOANR) will be the lead executing agency for PASIDP-II. The Minister of State for Agriculture and Natural Resources will be responsible for coordinating implementation with support from the Directorate of Small Scale Irrigation. The Federal Programme Coordination Management Unit (FPCMU) established during the first phase of the Programme will continue to provide day to day management and supervision of PASIDP-II. The FPCMU will be under the leadership of a National Programme Coordinator who would report to the Minister of State for Agriculture and Natural Resources. Environmental, Social and Climate (ESC) Safeguards Specialists (1 environmentalist + 1 sociologist) will be recruited within the FPCMU, and will report directly to National Programme Coordinator. The Federal ESC Safeguards Specialists will be responsible for ensuring that the processes stipulated in the ESMF are followed, and for ensuring that

Programme activities are in compliance with GOE environmental, social and climate-related policies, proclamations and directives as well as IFAD's safeguards requirements.

At the Federal level, the Federal Programme Steering Committee (FPSC) established during PASIDP will continue to provide oversight with regard to policy and strategic guidance on Programme focus, priority setting and institutional strengthening to ensure that PASIDP-II achieves its development objective and contributes to the higher level sector policy and strategic goals under GTP II. The current NPSC membership will be revised to include other State Ministers from key ministries, such as the Ministry of Water, Irrigation and Energy, the Ministry of Marketing and Trade and Ministry of Environment and Forestry. Consideration will also be given to the inclusion of senior executives from relevant institutions, including the Federal Cooperative Agency (FCA), Ethiopia Agricultural Research Institute (EARI), and others as deemed necessary. The committee will be chaired by the State Minister of Agriculture and Natural Resources. A PASIDP multi-sectoral Federal Technical Committee (FPTC) will also be established in order to provide technical backstopping and supervision, and provide technical advice to the FPSC.

Regional Level

At the Regional level, the Programme will continue to be managed by the respective Regional governments with the Heads of the Bureaux of Agriculture and Natural Resources providing overall leadership. The Regional level coordination and management structure under PASIDP will be strengthened to ensure that the Regions have adequate capacity to implement PASIDP-II in accordance with the overall strategic priorities and contribute to the achievement of Programme objectives. The existing Regional Programme Steering Committees (RPSCs), chaired by the respective Heads of Bureaux of Agriculture and Natural Resources, will be expanded to include Heads of the relevant Bureaux and other representatives from market and trade, cooperative agency, Environmental Protection, Land Administration and Use Agencies (BOEPLAU), Agricultural Research Institutes, etc. As at the Federal level, Regional Programme Coordination and Management Units (RPCMUs) will be responsible for the day to day management of the Programme. Regional Technical Committees (RPTCs) will be established to provide technical advice to the RPSCs, and backstopping and technical supervision at the regional level. Regional ESC Safeguards Specialists (1 environmentalist and 1 sociologist per region) will be based within the RPCMUs. They will be responsible for preparing ESIAs and ESMPs (the latter for projects that may have issues of concern but do not fall into Category A), ensuring that the processes stipulated in the ESMFs are followed. They may seek assistance from the Federal ESC Safeguards Specialists in preparing the ESIAs, or may hire consultants to do this. The ESIAs and ESMPs are then submitted to the BOEPLAU for approval/clearance. They will also monitor compliance of Programme activities in accordance with the ESMPs that are prepared as part of the ESIA documents.

Zonal Level

In Amhara and Tigray Regions, the Zonal administrations form a communication link between Regional level and Woreda level, particularly in administrative terms. However in Oromiya and SNNP Regions, the Zones are autonomous and the Zonal authorities have much greater roles and responsibilities in terms of administering their duties, coordination and monitoring sectoral activities. Thus at the Zonal level, a designated Zonal Coordinator will work with a team of technical experts and coordinate the required technical support, capacity building activities, experience sharing, and provide the link between Woredas and RPCMUs. In Oromiya and SNNP Regions, an Environmental/Social Expert will be based at each of the zones (and one special woreda). They will be responsible for preparing ESIAs and ESMPs (for projects that may have issues of concern but do not fall into Category A), ensuring that the processes stipulated in the ESMFs are followed. They may seek assistance from the Regional ESC

Safeguards Specialists, or may hire consultants to do this. The ESIAs and ESMPs are then submitted to the Zonal BOEPLAU for approval/clearance. The Zonal Environmental/Social Experts will also monitor compliance of Programme activities in accordance with the ESMPs that are prepared as part of the ESIA documents.

Woreda Level

At the Woreda level, a Woreda PASIDP Coordinator will work with a team of three Development Agents to oversee Programme activity implementation. The skill mix of the Development Agents will depend on priority interventions in a given Woreda. The Woreda DAs will together carry out further screening to determine whether there are environmental or social issues of concern and their significance (Tier 2 Screening). ESMPs for projects with no significant environmental or social issues of concern (usually Category B projects) are prepared by the Woreda Natural Resources Management DA or by consultants, and will be submitted to the Office of the Woreda EPLAUA for approval/clearance. The Woreda Natural Resources Officer will supervise the implementation of ESMPs. However, the responsibility for monitoring the implementation of the ESMPs at this level will be done by the Office of EPLAUA.

In addition, where issues of compensation and resettlement arise, the Woreda Compensation and Resettlement Committees will ensure the implementation of the RAPs in line with national and IFAD (and other development partner) requirements. They will also monitor the status of PAPs after RAP implementation is completed.

Kebele Level

The Kebele Development Committees (KDCs) and kebele and sub-kebele levels will supervise the implementation of the ESMF. They will also be responsible for initial environmental and social screening to establish the eligibility of the schemes for funding under PASIDP-II (Tier 1 Eligibility Screening). The kebele Natural Resources Management Development Agent will be responsible for ensuring that ESMF processes are followed and that ESMPs are implemented on the ground.

Compensation and Resettlement Committees at kebele level will be responsible for ensuring that the RAPs are implemented in line with national and IFAD requirements, and for monitoring the compensation and resettlement process.

In addition, Physical Cultural Resources Committees at kebele level will be responsible for dealing with any chance finds that may occur during scheme construction in line with national requirements.

Scheme Level

At the scheme level, the Programme will work with three key grassroots institutions each with a distinctive role but their roles wills be correlated to ensure the effective attainment of the set objectives. These organizations, where they do not already exist, will be formed, recognized and enabled to perform their mandates through various legal proclamations, policy instruments, strategies and guidelines. The first of such organisations are the IWUAs. IWUAs will be supported variously to develop and implement the ESMPs, as well as business plans that will include collection of fees from members that would be used for routine operation and maintenance (O&M) and longer-term investments to keep the irrigation schemes operating efficiently. They will actively participate in the entire process of scheme establishment. The second are the multi-purpose cooperatives. These will largely perform as the 'commercial arms' of the smallholder farmers with responsibility of availing inputs to the farmers and helping farmers to market their surplus produce in a more organised

manner. The last of such organisations are the watershed management teams; these will play a pivotal role in improving land and water management through watershed/catchment rehabilitation and management activities.

10.3 ESMF Process

10.3.1 Screening

Tier 1 Screening - Eligibility

When a potential irrigation scheme is first proposed by a community, it will be screened at the Kebele level by Development Agent and the Kebele Development Committee. The purpose of eligibility screening (Tier 1 Screening) is to determine whether there is a possibility that the identified project will be funded through PASIDP-II, bearing in mind SECAP screening criteria. For this purpose, an Eligibility Checklist needs to be completed. This checklist is presented below:

Table 10.1 Eligibility Checklist

Will the Project/Scheme result in or involve:	YES	NO
Loss of critical natural habitats, biodiversity and/or environmental services provided by a natural ecosystem – for example natural primary forests or significant areas of wetlands		
Surface-water or groundwater-based development where it is believed that significant depletion due to climate change or overutilization has occurred		
Risk of destruction and pollution as a result of climatic/geophysical hazards (storms, flooding, landslides, earthquakes)		
Conversion and loss of important nationally recognised physical cultural resources or a World Heritage Site		
Significant social adverse impacts on indigenous and underserved groups		
High probability to have physical resettlement or economic displacement		
Development of a large-scale irrigation schemes >3000 ha		

If the answer to the above is “YES” in one or more instances, then the project will be rejected, unless the issues triggering these concerns are avoided through alterations in design or location. If all the answers are “NO”, then the project can proceed to the next step, and the project is submitted to the Woreda Implementing Agencies (IAs) such as the Office of Agriculture, Natural Resources, Rural Development and/or Water and Irrigation, for further screening.

Tier 2 Screening for Environmental and Social Concerns

The purpose of Tier 2 Screening is to identify whether further precautions, mitigation measures, or studies are required in order that adverse impacts from the proposed project can be avoided or mitigated. As mentioned above, screening will be done by the Woreda PASIDP Coordination Team.

The Tier 2 Screening Checklist is presented in Table 10.2 below. If the project triggers any of the criteria, then it is considered to be a project of environmental or social concern and additional safeguards documentation will be required depending on the significance of the issues.

Table 10.2 Tier 2 Screening Checklist

CRITERIA **Will the Project:**	**NO**	**YES**	**IF YES, ADDITIONAL SAFEGUARDS DOCUMENTATION AND MEASURES REQUIRED**
Require the acquisition of land, loss of assets, structures, trees, crops, and access to assets			• RAP to be prepared and implemented. • Livelihood restoration plan to be prepared and implemented.
Affect physical cultural resources other than nationally or internationally recognised sites of importance – eg. religious sites, graveyards and graves			• ESIA or ESMP to include chance find procedures, recommending actions to be taken in the event of a PCR find, including restoration and protection if necessary.
Hinder or prevent access to livestock grazing areas or watering points			• ESIA or ESMP to recommend specific locations to allow access to grazing areas and watering points.
Require the use of agrochemicals (fertilizers, herbicides, pesticides, etc)			• Pesticide Management Plan to be developed and implemented.
Be located adjacent to, or within 20 km, of protected areas (eg. national parks, wildlife/nature reserves, biosphere reserves, priority forests, national or community forests), dispersal areas and buffer zones			• Biodiversity Action Plan appropriate to the scale of expected impact to be prepared and implemented.
Be located in an area that is highly eroded, or is susceptible to severe erosion			• Integrated Soil Conservation and Nutrient Management Plan to be developed and implemented
Involve construction/rehabilitation in hazard-prone areas, ie. areas most vulnerable to climate change and variability			• Conduct climate risk analysis and propose appropriate resilience measures.
Large-scale dam/reservoir construction (more than 15m high, or 5-15 m high with a reservoir exceeding 3 million m^3)			• Full ESIA required, and should include a dam safety plan and emergency response plan. • RAP to be prepared and implemented. • Livelihood restoration plan to be prepared and implemented.
Drainage or training of natural water bodies (eg. dykes, river training)			• Full ESIA required, impacts upstream and downstream of drainage/training infrastructure to be analysed thoroughly.

Preliminary Significance Rating of Impacts

In order to determine the significance of impacts, the likelihood of an impact occurring is considered against the consequence or magnitude of the impact if it was to occur. Likelihood is defined as the frequency of an impact occurring.

The definitions of consequence are presented in Table 10.3 below:

Table 10.3 Definitions of Consequence

Consequence	Definition
No Impact / No change	• No impacts on biophysical and social environments / livelihood / health / gender • No public concerns • No legal issues
Negligible	• Low/minor impact on environment / livelihood / health / gender • Minor social impacts • No legal issues
Intermediate	• Some level of impact on environment / livelihood / health / gender • Social issues apparent • May have legal implications
Severe	• High level impacts on environment / livelihood / health / gender • High public concerns or perceptions • Legal non- compliance
Unknown	• Extent of the impact cannot be determined at this point • Apply precautionary principle

Thus the chart below can assist to make a quick visual assessment of the significance of particular impacts, as well as the intervention as a whole.

Likelihood	Consequence			
	No Impact/No change	Negligible	Intermediate/ Moderate	Severe
Unlikely				
Possible / less than annually				
Occasional / at least annually				
Frequent / at least monthly				
Continuous, inevitable, daily irreversible				

Legend:

Rating

Low significance

Medium significance

High significance

Screening and Rating Forms are contained in Annexes 2 and 3, respectively.

Regardless of significance, in all cases where an adverse impact may occur, mitigation measures should be proposed. In most cases, it is possible to incorporate mitigation measures into the design, so designs may have to be changed/altered to allow for this.

Projects that have impacts of low to medium significance require ESMPs to be prepared. In some cases where an impact of high significance occurs, the development of appropriate plans may suffice to manage the severity of the impacts. For example if a project necessitates the resettlement of about 150 people, this is a severe impact, but by preparing and implementing a Resettlement Action Plan in a timely, efficient and fair manner, the severity of the impact can be mitigated. Similarly all the irrigation schemes will use pesticides or agrochemicals; but by preparing and ensuring the proper implementation of a Pesticide Management Plan, the impacts of pesticide use can be mitigated.

However, if there are several impacts having high significance, and it is deemed that the nature of these impacts are more complex and therefore require detailed additional analysis, then an ESIA is required to be prepared.

10.3.2 Environmental, Social and Climate Safeguards Documentation

The basic purpose/requirements of various safeguards instruments are described below.

Environmental and Social Impact Assessment (ESIA)

An ESIA enables both environmental, climate change and social issues to be taken into account during all stages of project design and implementation. It identifies, predicts, evaluates and communicates the potential environmental, climate, and social impacts and risks of projects in a systematic and objective way. It also recommends appropriate preventive actions and mitigating measures, and maximizes environmental opportunities where possible.

The ESIA Report must cover, among others:

- Administrative and institutional arrangements required for environmentally sound implementation of the environmental management, applicable national and international environmental legal and policy frameworks and their relevance to the project;
- A detailed description of the proposed project components, as well as all ancillary works including location, technologies to be used, materials and their quantities, construction period, etc ;
- A detailed description the biophysical and socio-economic baseline conditions, bearing in mind that these provide the basis for impact analysis and monitoring;
- A description of other ongoing or planned developments in the project area that could have cumulative or synergistic effects on the project outcome;
- Outcome of stakeholder consultations and public participation;
- Identification and analysis of potential adverse and beneficial impacts;
- Analysis of alternatives, including project sites, access options, technologies, construction methodologies, etc, and a 'no project' alternative;
- Preventative, mitigation and enhancement measures;
- Environmental and social management plan (ESMP – which includes climate risk resilience proposals);
- Monitoring and auditing requirements and procedures;
- Costs for environmental and social management and monitoring.

As ESIAs and ESMPs are done in tandem with design development, it is important that:

- Stakeholder concerns – particularly those of the communities and project affected persons - are addressed in the ESMPs, and if they are not, reasons for doing so should be explained;
- Stakeholder concerns should be communicated to the design team; and
- The project design should be presented to the communities.

The ESIAs are prepared by Regional ESC Safeguards Specialist at the RPCMU, who may request assistance from consultants, or from relevant Regional Bureau (eg. Water and Irrigation, Community Development).

Reference should be made to EPA's EIA Guideline Document (2000), EIA Procedural Guideline (2003) and Environmental Assessment Reporting Guide (2004). SECAP provides a model terms of reference for undertaking ESIAs, and recommends a format for the ESIA Report. Annex 4 provides a checklist of key issues by chapters that should be addressed/considered in the preparation of an ESIA.

Environmental and Social Management Plan (ESMP)

For projects that have no major environmental and social issues, and usually those that are categorised as Category B, an environmental and social management plan is required to be prepared. This document is similar in content to an ESIA report, but does not require as detailed an analysis of significant impacts. However, an ESMP must contain:

- A detailed description of the project components;
- A baseline which focuses on baseline information required for the analysis of impacts and also for the purposes of monitoring;
- An analysis of positive and negative environmental, social and climate-related impacts;
- Mitigation measures for negative impacts;
- Details on the implementation of mitigation measures, including at what stage/when they should be incorporated, responsibilities for implementing mitigation, cost of mitigation;
- Details on monitoring requirements, including responsibilities for monitoring during construction and operation, monitoring indicators, monitoring baseline, frequency and means of monitoring, costs of monitoring.

The environmental and social management plans are prepared by the Woreda PASIDP Team. It may be that the team does not have the capacity to do this, in which case they may hire a consultant to prepare the ESMP. The Woreda PASIDP Team may seek assistance from the Regional ESC Safeguards Specialist in the preparation of the ESMP, and guidance from the Woreda EPLAUA.

Again, stakeholder concerns must be addressed in the ESMPs, and the project design should be presented to the communities.

The EPA Guidelines on the Preparation of ESMPs as well as SECAP's ESMP formats should be closely followed.

Pesticide Management Plan (PMP)

Agrochemicals (mainly fertilizers and pesticides) may be necessary to achieve higher yields, but they must be carefully applied as they have various adverse environmental and social impacts as noted in Section 7.3 above. In order to properly manage the use of pesticides, a Pesticide Management Plan (PMP) must be prepared. The PMP should evaluate the impact of potential pests prior to programme implementation, identify the type of pests and assess the magnitude of impacts likely to be caused by those pests. In assessing the hazards of pesticide use, the toxicity of the pesticide and exposure to it are key elements. Therefore as a minimum, the PMP should:

- Screen the types of pesticides for toxicity by ensuring: they are effective against the target species, have negligible adverse impacts on human health and non-target species, will not precipitate resistance in pests, and do not fall into WHO class 1A or 1B;
- Aim to reduce exposure time or degree of exposure.
- Propose alternative non-pesticide management options (physical, mechanical and biochemical), as well as any available less toxic varieties of the pesticides.

The PMP may be developed as part of the ESIA or ESMP or it can be a stand-alone document. The Regional ESC Safeguards Specialist in the RPCMU should be responsible for preparing the PMP, which can then be fine-tuned by the Woreda PASIDP Team as required and appropriate to the types of agrochemicals used in the schemes within the woredas.

In developing the PMP, reference should be made to the Pesticide Registration and Control Proclamation: Proclamation No. 674/2010, EPA's Guidelines on Crop Production, SECAP's Guidance Statement #2, the World Bank's OP 4.09 Pest Management, and IFC's EHS Guidelines on Crop Production (revised 2015).

Annex 6 presents guidelines for the development of a Pesticide Management Plan.

Dam Safety Plan

The overarching dam safety objective is to protect people, property and the environment from the harmful effects of mis-operation or failure of dams and reservoirs. To ensure that dams and reservoirs are operated and that activities are conducted so as to achieve the highest standards of safety that can reasonably be achieved, measures have to be taken to achieve the following three fundamental safety objectives:

- to control the release of damaging discharges downstream of the small dam;
- to restrict the likelihood of events that might lead to a loss of control over the stored volume and the spillway and other discharges;
- to mitigate through onsite accident management and/or emergency planning the consequences of such events if they were to occur.

The three major factors that trigger small dams to fail in Ethiopia are:

- Sedimentation behind dam (sediments deposited clog outlet and intake structures);
- Seepage loss through foundation and embankment; and
- Low catchment yield and low volume of stored water in dams.

These situations come about as a result of inadequate design (hydrological, geotechnical, hydraulic); very limited site investigations and consequently poor understanding of site conditions; substandard embankment placement methods (eg. soil compaction methods); lack of watershed management practices; and inadequate maintenance or inspection frequencies are inadequate.

To avoid or minimize the occurrence of dam failure, the dam owner (in this case PASIDP/MOA) has the responsibility to inspect dam safety aspects periodically during all phases of the dam design, construction, and operation and maintenance. Key considerations are:

- Dam hazard classification – which is assessed depending on the probable loss of human life and economic and environmental losses.

- Dam site investigations:
    - Selection of dam site so that in the event of failure there will be minimal impact;
    - technical considerations such as catchment, topography, embankment conditions and foundation, spillway locations, and watershed activities;
    - environmental considerations including reservoir slope stability, seismic activity, groundwater changes, sediment trapping, impacts on flora and fauna upstream and downstream, the need to maintain an environmental flow, and social demands downstream;
- Dam design – taking into account potential for overtopping of the embankment; potential for extreme events such as earthquakes or unprecedented high flows; sedimentation rates.
- Dam construction – the need for qualified and experience contractors and supervisors; meticulous design review;
- Safety surveillance – surveillance programme specifying regular and frequent inspections, checklists of factors to be inspected; special inspections; problem solving; and instrumentation and monitoring.
- Operation and maintenance - effective and ongoing operation, maintenance and surveillance procedures; maintenance systems.

Guidelines for Small Dams Safety are presented in Annex 7.

Resettlement Action Plan (RAP)

Where involuntary physical displacement (relocation or loss of shelter) and economic displacement (loss of assets or access to assets that leads to loss of income sources or other means of livelihood) occur as a result of a project-related land acquisition and/or restrictions on land use or access to resources, a resettlement action plan must be prepared. The approach to a project should first be to do no harm, and adhere to the principle of free, prior and informed consent – that is to first avoid, then minimise displacement. But this may not always be possible. Therefore the RAP aims to ensure that all persons affected by the project are treated equitably, and are compensated fully and fairly for lost assets, and that the mitigation of adverse effects as well as the benefits of resettlement are appropriate and sustainable. The RAP must identify the full range of people affected by the project and justify their displacement after consideration of alternatives that would minimize or avoid displacement. All people affected by involuntary resettlement should be consulted and involved in resettlement planning. The RAP establishes eligibility criteria for affected parties, and rates of compensation for lost assets, as well as levels and types of assistance for relocation and reconstruction of affected households. The RAP includes a grievance mechanism through which affected people can raise concerns, and it provides guidance on mechanisms for monitoring the performance of the resettlement and compensation program.

Depending on the number of persons or households affected, a full RAP or abbreviated RAP (ARAP) should be prepared by a consultant or by the Woreda PASIDP Team, respectively.

Chapter 9 presents a methodology for the preparation of a Resettlement Action Plan (RAP) in the event schemes to be considered under PASIDP-II cause physical resettlement or economic displacement.

In addition, reference should be made to SECAP's Guidance Statement #13 on Physical and Economic Resettlement.

Climate Risk Analysis

The climate risk analysis should be undertaken prior to the full design of a project in order to inform the design and decision-making processes.

The purpose of climate risk screening is to determine the exposure of the project to climate-related risks (High, Moderate or Low) based on available information about historic climate hazard occurrences, current climate trends and future climate change scenarios, as well as to assess the likelihood of the project increasing the vulnerability of the expected target populations to climate hazards. It provides an opportunity to integrate climate issues into project design and therefore increase project resilience and hence sustainability.

Table 10.4 Climate Risk Screening

Climate Categorisation	Types of Projects
High Risk	Projects that promote agricultural activity on marginal and/or highly degraded areas (such as on hillsides, deforested slopes or floodplains).
	Projects that make investments in low-lying coastal areas or glaciated mountain areas.
	Projects that establish infrastructure in areas with a track record of extreme weather events (eg. a cassava processing plant in a landslide-prone area; a dairy plant in a floodplain; a grain storage silo in a zone that is prone to tropical storms).
	Projects in areas in which rural development projects have experienced weather-related losses and damages in the past.
Medium Risk	Projects that make use of climate-sensitive resources, but do not focus on these resources as a main commodity (eg. irrigated farming systems, projects which have temperature-sensitive crops in a larger, diversified bundle of commodities).
	Projects which are investing in infrastructure which is not directly exposed to extreme weather events, but has potential to become more resilient through the adoption of green technologies (such as renewable energy, water efficiency, re-use/recycling of waste products).
	Projects which focus on institutional development and capacity building objectives for rural institutions (such as farmer groups, cooperatives) in climatically heterogeneous areas, where opportunities exist to strengthen indigenous climate risk management capabilities.
	Projects which focus on policy dialogue to improve agricultural sector strategies/policies, where opportunities exist to integrate climate resilience aspects.
Low Risk	These projects generally focus on investments which do not have a direct physical or geographical interface with climate hazards (such as the development of a micro-finance institution).

Source: IFAD (2015), SECAP

High risk projects are those that are highly vulnerable to climate-related hazards. In this case it is recommended that an in-depth Climate Risk Analysis as part of design or initial implementation stage,

which may include an analysis of GHG emissions. The analysis should recommend practical climate risk management measures that can be integrated into the project design and implementation phases.

The project which is moderately sensitive to climate risks requires a basic integration of climate issues to be undertaken during the project design phase. This includes practical adjustments under the project to reduce losses and damages from climate hazards to the project, and capitalize on opportunities to strengthen local risk management capacities.

If a project is not likely to be vulnerable to climate risks – ie. categorised as low risk – voluntary measures may be incorporated into the detailed design and implementation phases.

Other Environmental and Social Management Plans

Depending on the scale and complexity of the proposed scheme/project and issues that arise, other management plans may need to be developed to ensure environmental protection, community and occupational health and safety and other risks and hazards. If necessary, these may include:

- Traffic Management Plan;
- Waste Management Plan;
- Health and Safety Management Plan;
- Pollution Contingency Plan;
- Erosion Management Plan;
- Agrochemicals Management Plan;
- Emergency Preparedness and Response Plan;
- Cultural Heritage Management Plan.

10.3.3 Review and Approval of ESMP, ESIA, PMP and RAP

For projects that have no significant environmental or social issues, the ESMPs will be reviewed and approved/cleared by the Woreda Environmental Protection, Land Administration and Use Agency (EPLAUA) or its equivalent (as different regions have different agencies responsible for environmental protection).

ESIAs and ESMPs for projects with issues of concern will be reviewed and given clearance by the Regional (or Zonal) Bureaus of Environmental Protection, Land Administration and Use (BOEPLAU) or the equivalent Bureau dealing with environmental protection. If the ESIAs and ESMPs are prepared by consultants, these will be reviewed by the Regional (or Zonal) ESC Safeguards Specialist, and if acceptable, they will be submitted to the BOEPLAU for approval.

PMPs and RAPs will be reviewed by the Regional ESC Safeguards Specialist and then submitted for approval to the BOEPLAU at Regional Level.

10.3.4 Disclosure of the ESIAs and ESMPs

The schemes selected for PASIDP-II support will have been identified by the local communities in the first place, who then put in a written request to the Kebele Development Committee (KDC) for assistance. In developing ESIAs and ESMPs, consultations must be held with all levels: at community, kebele, woreda, and regional levels. During these consultations, the processes for disclosure of the documents should be communicated. IFAD's SECAP procedures also require that sufficient

consultations are carried out with key stakeholders (ie. the communities) in order to satisfy its requirements for Free Prior and Informed Consent (FPIC).

Prior to approval of the projects, the ESIAs and ESMPs, Pesticide Management Plans (PMPs) and RAPs where these are required, will be disclosed at regional, woreda and kebele levels at a location accessible to the general public, and in a form and language that the communities are able to understand, so that they may comment on any aspects/issues contained in the reports prior to their approval. The ESIAs, ESMPs, IPMPs and RAPs may therefore have to be updated to reflect these comments and indicate how the comments have been accommodated in project design and implementation procedures. If the comments have not been taken on board, the reason for doing so must be provided.

It is also important that the scheme designs are provided to the woredas and kebeles for comment and approval.

10.3.5 Grievance Redress Mechanisms

A grievance redress mechanism (GRM) is a process for receiving, evaluating and addressing project-related concerns of, and complaints by, project affected communities or persons.

The Proclamation on EIA No. 299/2002 provides that any person dissatisfied with the authorisation or monitoring or any decision of the environmental authority or relevant regional environmental agency may submit a grievance notice to the authority or regional agency. IFAD's Grievance Redress Mechanism allows affected complainants to have their concerns resolved in a fair and timely manner through an independent process. IFAD's GRM requires: working proactively with the affected parties to resolve complaints; ensuring that the complaints procedure is responsive and operates effectively; and maintaining records of all complaints and their resolutions.

The principles of GRM are to[54]:

- Protect beneficiaries/project affected persons and communities' rights to comment and complain;
- Ensure neutrality and equity while handling complaints;
- Ensure grievances are handled in a timely manner;
- Ensure transparency in the receiving and handling of grievances;
- Maintain confidentiality with regard to complainants and their grievances;
- Ensure the GRM is accessible to all people within the project communities as well as other stakeholders;
- Establish mutual responsibility between PASIDP-II and complainants to ensure fair, accurate and responsible behaviour.

The key steps for grievance management are[55]:

i. Publicising grievance management procedures so that the mechanism is accessible to everyone;
ii. Receiving (ie. collecting, recording and registering) and keeping track of grievances;
iii. Reviewing and investigating grievances to assess the nature of the grievance, its severity and legitimacy;

[54] Adapted from MOA (2015); AGP-II Environmental and Social Management Framework
[55] IFC (2009); Good Practice Note – Addressing Grievances from Project-Affected Communities, Guidance for Projects and Companies on Designing Grievance Mechanisms

iv. Developing resolution options commensurate with the nature of grievances and preparing and communicating a clear response, and closing out cases when agreement with the complainants is reached
v. Monitoring grievances through tracking to ascertain effectiveness, adapting the mechanism to correct inefficiencies, using the results of monitoring for feedback and lessons learned.

GRM for PASIDP Projects

The following GRM follows the national grievance processes and has been adapted from the AGP-II Grievance Redress Mechanism for the purposes of consistency.

A member of the project community or any project-affected person may lodge a project-related complaint with the Woreda EPLAUA. The Woreda EPLAUA verifies the complaint – this could involve consultations with other members of the community and carrying out field investigations – after which the Woreda EPLAUA provides a response in a timely and transparent manner (15 days).

If the complainant is not satisfied with the response, they may take their complaint to the Regional BOEPLAU. In Oromiya and SNNP Regions, complaints may be taken to the Zonal BOEPLAU. The Woreda EPLAUA may also refer any case that it is not able to resolve to the Regional (or Zonal) BOEPLAU.

The Regional/Zonal BOEPLAU deals with cases that are not resolved at Woreda Level or cases that have been referred from the Woreda, and also with complaints that emanate from PASIDP projects that are implemented by the PASIDP Regional PCMU. The Regional/Zonal BOEPLAU conducts a full investigation of the complaint, and responds to the community or affected/interested parties within 15 days of receiving the complaint.

If the complainant is still not satisfied with the response, the complaint is passed on to the Federal PASIDP Federal PCMU. For Oromiya and SNNP Regions, the complaint will be passed on to the Regional PCMU, prior to being forwarded to the Federal PCMU. The FPCMU will conduct further investigations, and is required to give a response within 30 days of receipt of the complaint.

If the complainant is not satisfied at this stage, then he/she may pursue their case through the courts of law.

IFAD's Complaints Procedure

IFAD has recently established a complaints procedure entitled: "IFAD Complaints Procedure for Alleged Non-Compliance with its Social and Environmental Policies and Mandatory Aspects of its Social, Environmental and Climate Assessment Procedures" (PB/2014/06). The procedure came into effect in January 2015, and provides a means for any person who is not satisfied that an IFAD supported development is complying with IFAD's social and environmental policies to lodge a complaint. This can be done by email on SECAPcomplaints@ifad.org.

10.3.6 Monitoring

Performance Monitoring

Performance monitoring requires that:

- The various safeguards instruments (ESIA, ESMP, PMP, RAP) have been prepared to the required standard, within the required timelines;
- The safeguards instruments have been reviewed and approved by the responsible entities;

- Environmental and social mitigation measures have been/are being implemented and that mitigation measures are effective;
- The community is participating in all stages of the environmental and social management and monitoring processes;
- Relevant Federal, Regional, Woreda and Kebele level officers have been trained in accordance with the capacity building proposals;
- Reports are prepared and delivered as required.

Performance monitoring is done by the IWUAs, WMTs, Kebele DA, Woreda PASIDP Team and the PASIDP RPCMU ESC Safeguards Specialist, overseen by the FPCMU Safeguards Specialist.

Examples of typical monitoring parameters and indicators are shown in Table 10.5 below:

Table 10.5 Typical Performance Monitoring Indicators

Monitoring Parameter	Monitoring Activity/Indicators	Baseline	Responsibility for Monitoring
Safeguards Instruments			
Approvals and Implementation	% of ESIAs/ESMPs approved %. of PMPs approved %. of RAPs where implementation completed	100% ESIAs/ESMPs approved 100% PMPs approved 100% RAPs completed implementation	RPCMU ESC Specialist
Safeguards training	No. of Federal, Regional, Woreda and Kebele level officers trained	All relevant Federal, Regional, Woreda and Kebele level officers trained	FPCMU ESC Specialist
Reporting	No. of quarterly reports received No. of annual reports received	4 quarterly reports received 1 annual report received	FPCMU ESC Specialist RPCMU ESC Specialist
Scheme Level Monitoring			
Water availability	No. of days water not available for irrigation	Zero days water not available	IWUAs
	Abstraction rates	As stipulated in Scheme Water Use Permit	IWUAs
Soil erosion	No. of gullies formed	Zero number of gullies	IWUAs, WMTs
	No. of erosion control measures functioning	All erosion control measures functioning	IWUAs, WMTs
Soil quality	Area of scheme where salinization is present and evident	No salinization present	IWUAs
Compensation and resettlement	No. of PAPs compensated	All eligible PAPs compensated	Woreda PASIDP Team, Kebele DA
	No. of PAPs relocated	All PAPs eligible for relocation are relocated	Woreda PASIDP Team, Kebele DA
	No. of compensation/resettlement-related grievances received	Zero complaints received	Woreda PASIDP Team, Kebele DA

Results Monitoring

Results monitoring involves monitoring compliance and effectiveness of the safeguards instruments, and also assesses the overall environmental, socio-economic and climate-related impacts of the Programme's interventions in relation to its development objectives. Results monitoring will be done on an annual basis by the RPCMU ESC Safeguards Specialist with support from the FPCMU ESC Safeguards Specialist IFAD's Environmental, Social and Climate Safeguards team. This will also contribute to the PASIDP-II Mid Term Review. Results monitoring will be critical in providing feedback and lessons learned for future PASIDP phases.

Typical parameters for results monitoring are shown in Table 10.6 below:

Table 10.6 Typical Results Monitoring Parameters

Monitoring Parameter	Monitoring Activity/Indicators
Water quality in rivers	Water quality at given sites downstream of abstraction points
Agrochemical releases into irrigation drains/rivers	Water quality at given sample sites along drainage network, and point of discharge to river
Agrochemical concentrations in aquatic fauna	Levels of pollutants from agrochemicals in fish
Soil quality	Nutrient depletion and loss in structure
	Agrochemical contamination
Economic activity in project area	Changes in agricultural production and marketing
Socio-economic status	Changes in poverty levels
	Changes in nutrition status
	Changes in employment levels for women, men and youth
Food security	Impacts of crop production on food security in the kebeles

10.3.7 Quarterly and Annual Reviews

Quarterly and annual reviews will be undertaken by the Regional ESC Safeguards Specialist, under the supervision of the Federal ESC Safeguards Specialist. These reviews are necessary to:

- Ensure that projects are complying with the processes established in the ESMF;
- Ensure that projects are compliant with the conditions and requirements stipulated in ESMPs, PMPs and RAPs,
- Identify challenges and opportunities in order to learn lessons and thereby improve Programme performance; and
- Be able to determine the cumulative impacts of the Programme to establish attainment of the Programme Development Objectives.

The reviews will produce a Quarterly and Annual Review Reports which will cover all four Programme regions. Copies of the report will be distributed to all zones and woredas where PASIDP-II activities

are being undertaken. It is recommended that each year, the workshops are held where Federal, Regional, and Woreda level management teams will review and discuss the findings of the annual review and make recommendations for improved Programme performance.

The Quarterly and Annual Review reports will be presented to the Regional and Federal Programme Steering Committees on a quarterly and annual basis in order to ensure that the Programme activities are achieving Programme objectives. IFAD will participate in these presentations.

10.3.8 Environmental and Social Auditing

The purpose of auditing is to establish the level of compliance with national policy objectives and regulatory requirements and whether the conditions of approval attached to the environmental impact assessment report are being implemented satisfactorily. The responsibility for conducting audits lies with the Regional BOEPLAU and Woreda EPLAUA. Audits will be done during project construction and operation and can be done once or twice a year, depending on the complexity of the project.

Audit reports will be sent to the FPCMU, RPCMU and the Woreda PASIDP Coordinator.

10.3.9 Reporting

The Woreda PASIDP Coordinators will submit quarterly and annual performance reports to the RPCMU ESC Safeguards Specialists. The RPCMU ESC Safeguards Specialists in will turn submit quarterly and annual performance reports covering all the woredas in their regions to the FPCMU ESC Safeguards Specialist. And the FPCMU ESC Safeguards Specialist will submit quarterly and annual reports to IFAD.

10.3.10 Summary of ESMF Processes and Responsibilities

Table 10.7 below summarises the processes described in this ESMF in terms of responsibilities at each administrative level.

Table 10.7 ESMF Processes and Responsibilities

Administrative Level	ESMF Process	Responsibility
Kebele Level	Project identification	Communities
	Tier 1 Screening - Eligibility	Kebele DA and Kebele Development Committee
	Implementation of ESMP and PMP	IWUAs, Kebele Natural Resources Officer
	Implementation of RAP	Kebele Development Committee
Woreda Level	Tier 2 Screening – Environmental and Social Concerns	PASIDP Coordinator, Woreda Natural Resources Officer
	Preparation of ESMP for projects with no issues of concern	Woreda PASIDP Team or consultants
	Fine tuning PMP to suit scheme requirements	Woreda PASIDP Team
	Review and approval of ESMP	Woreda EPLAUA
	Implementation of ESIA	Woreda PASIDP Team

Administrative Level	ESMF Process	Responsibility
	Supervision of implementation of ESMP	Woreda Natural Resources Officer
	Supervision and monitoring of the implementation of RAP	Woreda Compensation and Resettlement Committee
	Supervision of the implementation of PMP	Woreda Natural Resources Officer
	Monitoring implementation of ESMP and PMP	Woreda EPLAUA
	Performance monitoring of ESC activities of PASIDP in kebeles	Woreda PASIDP Team
	Environmental and social audits of projects with no significant ES concerns	Woreda EPLAUA
	Grievance receipt, verification, investigation, resolution, communication with complainant and referral to Regional BOEPLAU if necessary	Woreda EPLAUA
Zonal Level	Preparation of ESIAs and ESMPs for projects having significant environmental and social concerns.	Zonal Safeguards Specialist
	Review of ESIAs and ESMPs prepared by consultants	Zonal Safeguards Specialist
	Approval of ESIAs and ESMPs	Zonal BOEPLAU
	Review of PMPs and RAPs for projects with significant concerns	Zonal Safeguards Specialist
	Approval of PMPs and RAPs for projects with significant concerns	Zonal BOEPLAU
	Disclosure of safeguards documents	Zonal Safeguards Specialist
	Performance monitoring of ESC activities of PASIDP in woredas	Zonal Safeguards Specialist
	Annual review	Zonal Safeguards Specialist
	Environmental and social audits of projects with significant ESC concerns	Zonal BOEPLAU
	Receipt of referred grievance, verification, investigation resolution and communication with complainant, and referral to FPCMU	Zonal BOEPLAU
Regional Level	Preparation of ESIAs and ESMPs for projects having significant environmental and social concerns.	RPCMU ESC Safeguards Specialist
	Review of ESIAs and ESMPs prepared by consultants	RPCMU ESC Safeguards Specialist
	Approval of ESIAs and ESMPs	Regional BOEPLAU

Administrative Level	ESMF Process	Responsibility
	Review of PMPs and RAPs for projects with significant concerns	RPCMU ESC Safeguards Specialist
	Approval of PMPs and RAPs for projects with significant concerns	Regional BOEPLAU
	Disclosure of safeguards documents	RPCMU ESC Safeguards Specialist
	Performance monitoring of ESC activities of PASIDP in woredas	RPCMU ESC Safeguards Specialist
	Annual review	RPCMU ESC Safeguards Specialist
	Environmental and social audits of projects with significant ESC concerns	Regional BOEPLAU
	Receipt of referred grievance, verification, investigation resolution and communication with complainant, and referral to FPCMU	Regional BOEPLAU
Federal Level	Ensuring safeguards requirements meet MOEFCC and SECAP standards	FPCMU ESC Safeguards Specialist
	Disclosure of safeguards documents	FPCMU ESC Safeguards Specialist
	Overseeing all PASIDP environmental and social management requirements in all regions	FPCMU ESC Safeguards Specialist
	Overseeing performance monitoring	FPCMU ESC Safeguards Specialist
	Results monitoring	FPCMU ESC Safeguards Specialist
	Supervision of annual review	FPCMU ESC Safeguards Specialist
	Receipt of referred grievance, verification, investigation resolution and communication with complainant	FPCMU ESC Safeguards Specialist
IFAD	Review of ESIAs/ ESMPs for projects with significant ESC concerns. Also RAPs if developed	Environment and Climate Division and Policy Technical Advisory division
	Disclosure of safeguards documents	Country Programme Director, Communications Division
	Support to FPCMU for conducting results monitoring	Country Programme Director
	Review of quarterly and annual reports	Country Programme Director

11 Capacity Building

11.1 Existing Capacity

In order that the ESMF process and requirements are properly followed, it will be necessary to build capacity at all levels: kebele, woreda, zonal (in Oromiya and SNNPR), regional and federal.

From the discussion of ESMF processes and proposed responsibilities presented in Chapter 10 (summarised in Table 10.7), it is apparent that responsibility for ensuring that ESC management issues are considered at all stages of the ESMF process lies with various agencies at the different administrative levels. Lessons learned from AGP-II revealed that there were some serious shortcomings in the abilities of Kebele, Woreda and Regional level implementers to effectively apply the requirements in the ESMF process. The identification of capacity building requirements has been based on discussions held with implementing agencies on the existing federal, regional, woreda and kebele capacities to manage environmental and social impacts and risks and to implement national laws and SECAP requirements. During these discussions it was established that apart from the woreda EPLAUA and regional BOEPLAU, most of the staff of the implementing agencies (for agriculture, natural resources, water) had little or no training in managing environmental and social issues, while others had some knowledge of environmental and social issues, but not enough to enable them to implement ESMPs, PMPs and RAPs to the required standards. However, it was observed that at kebele level, most of the DAs had a diploma qualification, and some even had university degrees. At woreda level, all staff dealing with environmental and social issues had university degrees and had a good grasp of environmental issues. But again, their capacity to practically implement or monitor environmental, social and climate related management was limited. This finding was confirmed by both the AGP-II and SLMP-II Environmental Safeguards Specialists.

In order to ensure that safeguards requirements are wholly integrated into scheme construction, operation and management, it is proposed that various types of training is conducted at various levels.

11.2 Training Topics

Training will be delivered according to the level at which implementation of specific activities and actions is required.

- Requirements of the national environmental, social and climate policies, legislation and administrative frameworks;
- Requirements of IFAD's SECAP and ERNM, Climate, Land and Disclosure Policies;
- ESMF processes, procedures and institutional arrangements to develop and implement required safeguards documents;
- Screening and rating as prescribed in the ESMF;
- Environmental, social and climate impact assessment, PMP, RAP, PCR assessment approaches and requirements;
- Preparation, implementation and monitoring of ESMPs, ESIAs, PMPs and RAPs;
- Reporting and monitoring implementation of ESMPs, PMPs and RAPs;
- Environmental and social best practices – including proper application of chemical inputs, pest management, water saving agronomic practices, soil fertility management, and labour saving techniques;
- Participatory mapping;
- Watershed management;

- Conservation agriculture techniques.

Other training and capacity building activities will also be undertaken under other components of PASIDP-II. Of note in this context is the training to be provided under Subcomponent 2.3 Watershed Management and Development Subcomponent which will cover participatory mapping, watershed management and conservation agriculture techniques (IFAD PASIDP-II PDR, May 2016).

11.3 Target Audience

The target audiences for training are intended to be:

- Federal and Regional Programme Steering and Technical Committees;
- FPCMU and RPCMU ESC Safeguards Specialists;
- Woreda PASIDP Team;
- Irrigation Water Users Associations (IWUAs) at the scheme level;
- Kebele Development Committee;
- Kebele Development Agents;
- Watershed Management Teams at the Woreda, Kebele and Community levels (WMTs).
- Regional, Zonal, Woreda and Kebele staff in the relevant implementing agencies (namely Agriculture, Environmental Protection and Land Use, Water and Irrigation)
- Federal and Regional Programme Steering Committees

11.4 Training Approach

Training will in the first instance be provided to the PASIDP Federal, Regional PCMUs, representatives from the agriculture, water and environmental protection bureaus at Regional level as well as the Federal Programme Steering and Technical Committee (FPSC and FPTC) and Regional Programme Steering and Technical Committees (RPSC and RPTC). In addition, the RPCMU ESC Safeguards Specialists will undergo training of trainers, so that they can roll out training to the Zonal and Woreda PASIDP Team and sector experts with regard to ESMF process, requirements and approvals, including preparation of safeguard documents and their implementation. The Woreda PASIDP Team will roll out training to the Kebele Development Committee and Development Agents. The Kebele DAs will in turn roll out training to the IWUAs, focusing on the on-the-ground implementation of ESC mitigation and management measures, with special attention on water management and agrochemical application, handling, storage and disposal. Independent consultants will be hired to carry out specific training, and resource persons from IFAD, FAO, MOANR, Authority of Research and Conservation of Cultural Heritages (ARCCH) will be invited to participate (eg.in advising on the preparation and implementation of the PMP, climate risk assessment, PCR assessment).

Table 11.1 PASIDP-II Training Summary

Training Topics	Target Audience	Training Methods
National environmental, social and climate policies, legislation and administrative frameworks requirements	FPCMU ESC Safeguards Specialist RPCMU ESC Safeguards Specialist Zonal IAs Woreda PASIDP Team Woreda IAs KDC Kebele DAs	Training workshops at Federal and Regional levels Roll-out training for Zonal, Woreda and Kebele levels

Training Topics	Target Audience	Training Methods
	IWUAs	
IFAD's SECAP and ERNM, Climate, Land and Disclosure Policies	FPCMU ESC Safeguards Specialist RPCMU ESC Safeguards Specialist Zonal IAs Woreda PASIDP Team Woreda IAs	Training workshops at Federal and Regional levels Roll-out training for Zonal and Woreda levels
ESMF processes, procedures and institutional arrangements to develop and implement required safeguards documents	FPSC, FPTC RPSC, RPTC FPCMU ESC Safeguards Specialist RPCMU ESC Safeguards Specialist Zonal IAs Woreda PASIDP Team Woreda IAs KDC Kebele DAs	Training workshops at Federal and Regional levels Roll-out training for Zonal, Woreda and Kebele levels
Screening and rating as prescribed in the ESMF	FPCMU ESC Safeguards Specialist RPCMU ESC Safeguards Specialist Zonal IAs Woreda PASIDP Team Woreda IAs KDC Kebele DAs	Training workshops at Federal and Regional levels Roll-out training for Zonal, Woreda and Kebele levels
Environmental, social and climate impact assessment, PMP, RAP, PCR assessment approaches and requirements	FPCMU ESC Safeguards Specialist RPCMU ESC Safeguards Specialist Zonal IAs Woreda PASIDP Team Woreda IAs	Training workshops at Federal and Regional levels Roll-out training for Zonal and Woreda levels
Preparation, implementation and monitoring of ESMPs, ESIAs, PMPs and RAPs	FPCMU ESC Safeguards Specialist RPCMU ESC Safeguards Specialist Zonal IAs Woreda PASIDP Team Woreda IAs KDC Kebele DAs	Training workshops at Federal and Regional levels Roll-out training for Zonal, Woreda and Kebele levels
Reporting and monitoring the implementation of ESMPs, PMPs and RAPs	FPCMU ESC Safeguards Specialist RPCMU ESC Safeguards Specialist Zonal IAs Woreda PASIDP Team Woreda IAs	Training workshops at Federal and Regional levels Roll-out training for Zonal, Woreda and Kebele levels
Environmental and social best practices – including proper application of chemical inputs, pest management, water saving agronomic practices, soil fertility management, labour saving techniques	FPCMU ESC Safeguards Specialist RPCMU ESC Safeguards Specialist Zonal IAs Woreda PASIDP Team Woreda IAs Kebele DAs IWUAs WMTs	Training workshops at Federal and Regional levels Roll-out training for Zonal and Woreda IAs, IWUAs and WMTs

Training Topics	Target Audience	Training Methods
Participatory mapping	RPCMU ESC Safeguards Specialist Woreda PASIDP Team Kebele DAs WMTs IWUAs	Practical training sessions
Watershed management	RPCMU ESC Safeguards Specialist Woreda PASIDP Team Kebele DAs WMTs IWUAs	Practical training sessions
Conservation agriculture techniques	RPCMU ESC Safeguards Specialist Woreda PASIDP Team Kebele DAs WMTs IWUAs	Practical training sessions

11.5 Technical Assistance

Technical assistance (TA) will be provided at various levels in order to ensure that all levels from communities, kebeles, woredas, regional and federal levels. While the FPCMU and RPCMU ESC Safeguards Specialists will give general technical assistance to the woreda and kebele implementing agencies, at the start of the project there will be a need for specific technical assistance to assist the FPCMU and RPCMU ESC Safeguards Specialists to be able to carry out their responsibilities. It is therefore recommended that a Safeguards Technical Assistant is recruited for a period of 6 months to train and support the FPCMU and RPCMU ESC Safeguards Specialists.

The Watershed Development and Management Subcomponent is also providing technical assistance. This expertise will be tapped to support roll out training to WMTs and IWUAs.

12 ESMF Implementation Budget

Table 12.1 below presents an estimate for the implementation of the ESMF, including training, annual reviews, annual audits, and ESC management and monitoring at Federal, Regional and Woreda level.

Table 12.1 ESMF Implementation Budget (USD)

	Budget Item	Preparation	Year 1	Year 2	Year 3	Year 4	Year 5	Total Budget USD
1	Updating existing /preparation of new ESIAs/ESMPs/RAPs[a]	250,000	200,000					450,000
2	Salaries[b]		255,000	255,000	255,000	255,000	255,000	1,275,000
3	Capacity Building and Training[c]	268,000	200,000	274,000	484,000			1,226,000
4	Annual ESC Review Workshops[c]		70,000	73,000	77,000	82,000	86,000	388,000
5	Programme ESC management and monitoring[d]		300,000	250,000	200,000	200,000	250,000	1,200,000
6	Technical Assistance[e]	75,000						75,000
7	Annual Independent Audits[c]		19,000	21,000	23,000	25,000	25,000	113,000
	TOTAL ESTIMATED BUDGET	**593,000**	**1,044,000**	**873,000**	**1,039,000**	**562,000**	**616,000**	**4,727,000**

Notes on Estimated Budget:

a Assuming 100 studies to be updated/prepared @ USD 4,500 per study

b Federal level: 1 Environmental Safeguards Expert + 1 Social Safeguards Expert.
Regional level: 1 Environmental Safeguards Expert + 1 Social Safeguards Expert at each of the 4 Regions.
Zonal level: 1 Environmental/Social Expert (dealing with both Social and Environmental Issues) at each of 19 Zones and 1 Special Woreda.
Salaries based on proposed revised salaries for PASIDP-II.

c Pro-rata calculation based on AGP-II ESMF training, workshop and audit budget.

d Implementation of ESMF, monitoring ESMPs, logistics, communications, per diems, stationery, etc.

e Technical assistance for 6 months @ USD 12,500 per month.

Annexes

Annex 1: **References**
Annex 2: **Screening Checklists**
Annex 3: **Impact Rating Checklist**
Annex 4: **ESIA Key Issues Checklist**
Annex 5: **FPIC Implementation Plan**
Annex 6: **Guidelines for a Pesticide Management Plan**
Annex 7 **Guidelines for Small Dam Safety**
Annex 8: **Gap Analysis Report**
Annex 9: **List of Persons Consulted**
Annex 10: **Minutes of Community Consultations**

Annex 1: References

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Annex 2: Screening Checklists

Eligibility Screening

Scheme Name: _____

Region: _____ Zone:_____ Woreda_____ Kebele:_____

Tier 1 Eligibility Screening Checklist

Will the Project/Scheme result in or involve:	YES	NO
Loss of critical natural habitats, biodiversity and/or environmental services provided by a natural ecosystem – for example natural primary forests or significant areas of wetlands		
Surface-water or groundwater-based development where it is believed that significant depletion due to climate change or overutilization has occurred		
Risk of destruction and pollution as a result of climatic/geophysical hazards (storms, flooding, landslides, earthquakes)		
Conversion and loss of important nationally recognised physical cultural resources or a World Heritage Site		
Significant social adverse impacts on indigenous and underserved groups		
High probability to have physical resettlement or economic displacement		
Development of a large-scale irrigation schemes >3000 ha		

Recommendation:

Scheme is not eligible and rejected ☐

Scheme is eligible and approved ☐

Eligibility Screening Done By:

	Name	Signature
1		
2		
3		
4		
5		
6		

ESC Issues Screening Checklist

Scheme Name: _____

Region: _____ Zone:_____ Woreda_____ Kebele:_____

Tier 2 Screening Checklist

CRITERIA Will the Project:	NO	YES	IF YES, ADDITIONAL SAFEGUARDS DOCUMENTATION AND MEASURES REQUIRED
Require the acquisition of land, loss of assets, structures, trees, crops, and access to assets			• RAP to be prepared and implemented. • Livelihood restoration plan to be prepared and implemented.
Affect physical cultural resources other than nationally or internationally recognised sites of importance – eg.religious sites, graveyards and graves			• ESIA or ESMP to include chance find procedures, recommending actions to be taken in the event of a PCR find, including restoration and protection if necessary.
Hinder or prevent access to livestock grazing areas or watering points			• ESIA or ESMP to recommend specific locations to allow access to grazing areas and watering points.
Require the use of agrochemicals (fertilizers, herbicides, pesticides, etc)			• Pesticide Management Plan to be developed and implemented.
Be located adjacent to, or within 20 km, of protected areas (eg. national parks, wildlife/nature reserves, biosphere reserves, priority forests, national or community forests), dispersal areas and buffer zones			• Biodiversity Action Plan appropriate to the scale of expected impact to be prepared and implemented.
Be located in an area that is highly eroded, or is susceptible to severe erosion			• Integrated Soil Conservation and Nutrient Management Plan to be developed and implemented
Involve construction/rehabilitation in hazard-prone areas, ie. areas most vulnerable to climate change and variability			• Conduct climate risk analysis and propose appropriate resilience measures.
Large-scale dam/reservoir construction (more than 15m high, or 5-15 m high with a reservoir exceeding 3 million m^3)			• Full ESIA required, and should include dam break analysis and emergency response plan. • RAP to be prepared and implemented. • Livelihood restoration plan to be prepared and implemented.
Drainage or training of natural water bodies (eg. dykes, river training)			• Full ESIA required, impacts upstream and downstream of drainage/training infrastructure to be analysed thoroughly.

Recommendation:

Scheme needs special attention (has issues of ESC concern)	☐
Scheme does not need special attention (does not have issues of ESC concern)	☐

Annex 3: Impact Rating Checklist

Scheme Name: _____

Region: _____ Zone:_____ Woreda_____ Kebele:_____

Rating Methodology

The significance of an impact is a function of the likelihood of it occurring and its consequence.

Definitions of Consequence

Consequence	• Definition
No Impact / No change	• No impacts on biophysical and social environments / livelihood / health / gender • No public concerns • No legal issues
Negligible	• Low/minor impact on environment / livelihood / health / gender • Minor social impacts • No legal issues
Intermediate	• Some level of impact on environment / livelihood / health / gender • Social issues apparent • May have legal implications
Severe	• High level impacts on environment / livelihood / health / gender • High public concerns or perceptions • Legal non- compliance
Unknown	• Extent of the impact cannot be determined at this point • Apply precautionary principle

The chart below can assist to make a quick visual assessment of the significance of particular impacts, as well as the intervention as a whole.

Likelihood	**Consequence**			
	No Impact/No change	Negligible	Intermediate/ Moderate	Severe
Unlikely				
Possible / less than annually				
Occasional / at least annually				
Frequent / at least monthly				
Continuous, inevitable, daily irreversible				

Legend:

Rating

Low significance

Medium significance

High significance

Impact Rating Checklist

Project Infrastructure	None	Low	Medium	High	Unknown
Rural Access Road Construction Projects					
Soil erosion and initiation of flooding, gully erosion, farm land degradation					
Loss of biodiversity through cut and fill activities					
Destruction of natural habitats and ecologically sensitive habitats					
Sediment loading in water sources and reservoirs					
Damage to cultural, religious and historical sites					
Excavation of quarry/borrow sites resulting in sediment loading in water sources, vector borne diseases, loss of productive land, and aesthetic impacts.					
Land acquisition, loss of property/assets and access to assets					
Others (specify)					
Small Scale Irrigation Projects					
Significant deforestation resulting in biodiversity loss					
Clearing of woodlands/shrubland/bushland/grassland resulting in biodiversity loss					
Competing claims for water and social tension between the upstream and downstream community					
Disturbance to wildlife habitats or wildlife populations					
Disrupt ecologically sensitive areas					
Disturbance to cultural or religious sites					
Land acquisition, loss of property/assets and access to assets					
Water logging and increased soil salinity due to inefficient water application, saline irrigation water, and soil salinity					
Risk of vector borne 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 dams/reservoirs resulting in increased siltation and loss of storage capacity					
Others (specify)					
Market Centres					
Soil erosion and flooding					
Sediment loading in water sources and reservoirs due to construction works					
Disturbance to or loss of ecologically sensitive habitats					
Damage to cultural, religious and historical sites					

Project Infrastructure	None	Low	Medium	High	Unknown
Excavation of quarry/borrow sites resulting in sediment loading in water sources, vector borne diseases, loss of productive land, and aesthetic impacts.					
Land acquisition, loss of property/assets and access to assets					
Contamination of soil and water from improperly located/designed sewage system/toilet and solid waste					
Generation of solid from the market Center leading to proliferation of vermin					
Others (specify)					
Watershed Management Projects					
Restriction of human and livestock mobility					
Restriction of access to communal lands					
Risk of introduction of invasive exotic species affecting local biodiversity					
Land acquisition and loss of assets (including trees, crops)					
Flooding and erosion due to breach of the physical structures					
Others (specify)					
Pest Management					
Destruction of crop pollinators leading to poor crop yields					
Elimination of natural enemies of crop pests					
Development of resistance to pesticides, encouraging further increases in the use of chemical pesticides					
Contamination of the soil and water bodies which results toxicity to non-target aquatic and terrestrial species					
Pesticide poisoning of farmers and deleterious effects on human health as a result of improper storage, handling, application and disposal of spent/expired agrochemicals and their containers.					
Levels pesticide residues in harvested produce and in the food chain exceed acceptable levels					
Other (specify):					

Source: Adopted from MOA (2015), AGP-II ESMF

Recommendation:

Scheme approved with no special requirements	☐
Full ESIA required	☐
ESMP required (Partial ESIA)	☐
RAP required	☐
PMP required	☐
Other Plans required:	☐
Scheme rejected:	☐

Reasons for rejection: _____

_____

_____

Completed by: _____

Position: _____

Date: _____

Reviewed by: _____

Position: _____

Date: _____

Annex 4: ESIA Key Issues Checklist

Chapter	Topic	Key items that need to be addressed/included
Introduction	Context Project Overview	• National / regional strategies / development goals • Links with IFAD (and other IFI) Country strategies/goals • Location (including map)
	Rationale for ESIA	• Screening outcome • Safeguards triggered
	Approach and Methodology	• Desk and field studies • Public consultations • Climate vulnerability assessment
	Assumptions and Knowledge Gaps	• Baseline data
Policy, Legal and Administrative Framework	Policies	• Environmental/NRM • Climate • Water Resources • Agriculture • Labour
	Legal framework	• Promulgations, masterplans, water catchment basin plans, applicable standards, approvals and permitting for: • Environmental/NRM • Climate • Resettlement • Water Resources • Agriculture • Labour
	Administrative framework	• National, regional, zonal, woreda level administrative structures who have an influence or will be involved directly or indirectly in project activities or whose sectors may be affected by the project.
	International conventions and IFI safeguards requirements	• UN treaties • IFAD Safeguards
Project Description	General information	• Description of location of offtake and scheme layout – including map • Project area of influence • Total command area (No. of hectares irrigated) • Population/HH in area of influence • No. of HH involved in the scheme • Crops to be grown
	Project Components	• Type, purpose and location of irrigation infrastructure to be erected/constructed • Dam/weir description including dam wall/weir height, storage, inundation area • Irrigation methodology

Chapter	Topic	Key items that need to be addressed/included
		• Irrigation water quantities, management • Crops to be grown, estimated yields • Agrochemicals to be used, application methods and amounts • Ancillary infrastructure (access roads, sheds, offices, sanitation facilities, power supply)
	Other details to be provided	• Excavation volumes • Construction materials sources (water, sand, hardstone, aggregate, gravel, etc, permits required for mining) • Labour requirements (numbers, sources of labour, housing/facilities for labour force, management) • Wastes and waste management • OHS / risk and hazard management • Construction methodology • Construction period
Baseline data	Physical environment	• Topography – hilly, mountainous terrain (potential for landslides) • Geology and soils – fragility of soils (prone to erosion), soil quality (contamination status), seismic stability • Climate –climatic changes, trends, flood/ drought occurrence • Hydrology – hydrological characteristics, water flows/flow duration, environmental flow (incl. how this is determined) • Water Resources (sources, quantity, quality)
	Natural environment	• Vegetation –changes over time, and present day (dominant species, IUCN red list species and status) • Forests – protected, community, natural, plantations. (dominant species, IUCN red list species and status) • Fauna/wildlife – covering terrestrial and aquatic ecology (species, IUCN red list species and status) • Protected areas – national parks, reserves • Wetlands
	Social/ socio-cultural / socio-economic environment	• Demographic characteristics of scheme area • Land tenure • Land use • Health status of scheme communities (morbidity, mortality, disease prevalence, nutritional status) • Education status of scheme communities • Access to services – power, water and sanitation, telecommunications (access to networks) • Water sources – type, location, access • Economic activities – main livelihood activities (agriculture: crops grown, average acreage, average yield) employment status • Household income/expenditure • Physical cultural resources
	Gender aspects	• Participation in decision making • Participation in scheme management and operation

Chapter	Topic	Key items that need to be addressed/included
		• Access to schemes • Access to markets, inputs, training, extension services
	Other development projects / activities in the project area	• Links between other developments in the area and the project. Potential cumulative and/or synergistic effects.

Stakeholder Consultations / Public Participation		• Outcome of discussions with institutions, agencies, and key informants consulted
		• Outcome of discussions with communities
		  ○ Project Perceptions
		  ○ Concerns
		  ○ Recommendations/way forward
		• Public disclosure

Anticipated impacts and mitigation measures. Recommendations to the design	Environmental impacts	• Soil erosion, land slides, effects of seismic activity • Soil quality /contamination due to use of agrochemicals • Climate – probability of impacts on water availability due to climatic events • Hydrology – impacts on flow downstream of diversion weir/dam/scheme. Requirements for maintenance of environmental flow • Water Resources – impact on water quality due to use of agrochemicals, sedimentation/siltation and its effects on weir/dam, effects on downstream uses/users • Vegetation / Forests/ Fauna, wildlife/ protected areas • Effects on these in terms of land take, construction activities, scheme operation activities, or indirect effects (eg.due to settlement around the scheme)
	Social Impacts	• Settlement – in-migration (for construction and to participate in the schemes) • Physical and economic displacement: Land take – permanent and temporary; Loss of crops, trees; numbers of people affected, types of structures affected • Impacts on health (HIV/AIDS/STDs, malaria, bilharzia, sanitation) • Community health (accidents, other risks, risks to project from ablutions/defecation in canal) • Socio-economic activities (impacts on main livelihood activities, lifestyle changes, knock on effects) • Socio economic benefits derived from other project components • Physical cultural resource • Occupational health and safety
	Other Impacts	• Risks and hazards (floods, drought, fire, landslides) and coping mechanisms

Chapter	Topic	Key items that need to be addressed/included
	Cumulative and synergistic impacts and mitigation	• Environmental, social and socio-economic impacts if the scheme is one of several in the same watershed or micro catchment. • How other developments in the project area may affect the scheme (positive and negative)
RAP Summary or Resettlement Action Framework		• Where there is physical and economic displacement provide estimated numbers and indicative costs
Analysis of alternatives		• Location – scheme and associated infrastructure • Irrigation technologies • Construction methodologies • Agrochemicals
Complementary measures		• Project activities that are not directly part of the project components that would contribute to the success of the project • Existing/ongoing programmes/initiatives in the project area, eg.catchment protection, soil conservation, marketing systems, which will enhance the project value.
Environmental and Social Management Plan		• Details of management of impacts, responsibilities, timing • Details of monitoring and auditing project components, effectiveness of mitigation measures, monitoring indicators • Institutional Arrangements • Grievance Mechanisms • Specific management plans/SOPs (dam break, labour, EPR, traffic management, oils and spills management, waste management, OHS plans, hazardous chemicals management plans, IPMP, soil management plans, etc)
Conclusions		• Recommendations for design and implementation

Annex 5: FPIC Implementation Plan

Background

The International Fund for Agricultural Development (IFAD) supported a Participatory Small-Scale Irrigation Development Programme (PASIDP) in Ethiopia from 2007 to 2015. Following successful completion of the first phase, the Government of Ethiopia (GoE) and IFAD have agreed to design and implement a second phase of the Programme, PASIDP-II. The anticipated PASIDP-II aims to contribute to increased prosperity and improved resilience to climate-induced shocks in food insecure areas of Ethiopia. It will provide improved income and improved food security for poor rural households on a sustainable basis, helping them build their prosperity while mitigating the implicit risks that have direct impact on productivity and rural assets, through for example, the inclusion of climate change resilience measures.

Consultation with the public and stakeholders is considered an important as it provides valuable input to develop acceptable and sustainable project design and implementation plans. Most importantly, it allows the concerned communities opportunities to voice their aspirations, concerns and preferences regarding the intended development project, including their stance to give or withhold their consent to the proposed initiative, entirely or partly. This operational principle of empowering local communities to give or withhold their consent to proposed investment and development programmes that might affect their land access and use rights, territories, natural resources and livelihoods, etc, is ensured through seeking Free, Prior and Informed Consent (FPIC) of concerned communities prior to planning a development intervention. Consultations with the concerned communities in good faith are believed to constitute soliciting FPIC, which ensures that they participate in decision-making processes concerning the development project, in line with IFAD Policies.

There are many advantages to seeking FPIC:

- FPIC improves the relevance and quality of investments;
- Community ownership of the investment and its results and sustainability are enhanced;
- Partnership between local communities, government institutions and financing organizations is strengthened;
- The recognition and support of local communities' aspirations for their own development minimizes or prevents conflicts with other resource users; and,
- FPIC minimizes reputational, operational and fiduciary risks for the government, company or donor carrying out activities that may affect the land, resources and rights, and livelihood of the local communities.

At this stage of the Programme development, some 69 feasibility, design and ESIA studies have been prepared by the Regional PASIDP Coordination and Management Unit (PCMU) for proposed small-scale irrigation schemes (ranging from 25 to 800 ha) to be considered for inclusion into PASIDP-II. While an FPIC Implementation Plan was not prepared for those schemes, preliminary consultations were undertaken to establish that these schemes were indeed initiated and proposed by the communities themselves – in other words that they were community-driven from the start – and to gain an idea of the level of consent from the target communities. The process and findings are documented here. For all selected schemes, the feasibility studies and ESIAs (and RAPs where required) will be updated during programme implementation, consultations leading to FPIC conducted and Consent Agreements formalized with the concerned communities before any investment is made at community level.

An FPIC Implementation Plan is presented here to guide on the consultations leading to FPIC for the selected schemes, and for the remaining schemes that are yet to be identified, and for which feasibility, design and ESIA studies are yet to be undertaken.

Guidance and Legal Frameworks for FPIC

IFAD is among the first international financial institutions to adopt FPIC as an operational principle in its policy documents, including its policies on Improving Access to Land and Tenure Security (2008); Engagement with Indigenous Peoples (2009), Environment and Natural Resource Management (2011), and Social, Environmental and Climate Assessment Procedures (2014). IFAD-funded projects are people-centred, and, for IFAD, FPIC is not only a safeguard principle, rather a proactive approach to identify development pathways with local communities and build ownership on project initiatives[56].

It should be noted here that the FPIC concept is not clearly recognised in the working procedures of the local governments. Yet, people's right to full consultation, participation and expression of views with respect to policies and projects affecting their community, individual citizens etc are clearly stipulated in the Constitution of the Federal Democratic Republic of Ethiopia of 1995 (FDRE, 1995) (for example in Articles 40, 41, 43, 44, 88-92) which are also amplified by subsequent constitutions of the regional states as well as relevant policies and proclamations (such as the Environmental Policy, EIA Proclamation, etc). The major Constitutional provisions of relevance to the FPIC process are summarised in Table A.5.1 below.

Table A.5.1: Provisions of FDRE's Constitution Relevant to the FPIC Process

Article/Title	Sub-Article	Statement
39 Rights of Nations, Nationalities, and Peoples	**2**	Every Nation, Nationality and People in Ethiopia has the right to speak, to write and to develop its own language; to express, to develop and to promote its culture; and to preserve its history.
40 The Right to Property	**4**	Ethiopian peasants have right to obtain land without payment and the protection against eviction from their possession. The implementation of this provision shall be specified by law.
	5	Ethiopian pastoralists have the right to free land for grazing and cultivation as well as the right not to be displaced from their own lands. The implementation of this provision shall be specified by law.
43 The Right to 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.
44 Environmental Rights	**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.
88 Political Objectives*	**1**	Government shall respect the identity of Nations, Nationalities and Peoples. Accordingly Government shall have the duty to strengthen ties of equality, unity and fraternity among them.
89 Economic Objectives*	**4**	Government shall provide special assistance to Nations, Nationalities, and Peoples least advantaged in economic and social development.
	5	Government has the duty to hold, on behalf of the People, land and other natural resources and to deploy them for their common benefit and development.

[56] See IFAD (2015). How To Do: Seeking free, prior and informed consent in IFAD investment projects.

Article/Title	Sub-Article	Statement
	6	Government shall at all times promote the participation of the People in the formulation of national development policies and programmes; it shall also have the duty to support the initiatives of the People in their development endeavours.
	7	Government shall ensure the participation of women in equality with men in all economic and social development endeavours.
91 Cultural Objectives*	**1**	Government shall have the duty to support, on the basis of equality, the growth and enrichment of cultures and traditions that are compatible with fundamental rights, human dignity, democratic norms and ideals, and the provisions of the Constitution.
	2	Government and all Ethiopian citizens shall have the duty to protect the country's natural endowment, historical sites and objects.
92 Environmental Objectives*	**1**	Government shall endeavour to ensure that all Ethiopians live in a clean and healthy environment.
	2	The design and implementation of programmes and projects of development shall not damage or destroy the environment.
	3	People have the right to full consultation and to the expression of views-in the planning and implementation of environmental policies and projects that affect them directly.

*N.B.: These objectives are part of the National Policy Principles and Objectives (Ch. 10) of the Constitution, Article 85-92, which describe the Political, Economic, Social, Cultural, Environmental and other objectives.

Preliminary Consultations

During PASIDP-II Design Mission in April 2016, consultations were held with local government agencies and communities regarding development interventions intended under PASIDP-II. The community consultations were held at selected newly proposed SSI scheme sites in Amhara, Oromiya, SNNP and Tigray regional states. The selected schemes visited for Woreda-level discussions and community consultations conducted during the mission are summarised in Table A.5.2 below.

Table A.5.2: Schemes Visited for Community Consultation Purposes

Region	Woreda	Scheme Name / Structure Type	Est. Area (Ha)	No. of HHs (Beneficiaries)	No. of Persons Consulted
Locations where detailed community consultations were held					
Amhara	Menzmama-Midir	Waka Micro-Earth Dam	70	300	37
	Angolelana-Tera	Abass Micro-Earth Dam	130	160	36
Oromiya	Dolomena	Welmel River Diversion	280	500	143
	Harena-Buluk	Welmel Tika River Diversion	250	500	33
SNNPR	Daramalo	Masta River Diversion	200	400	21
	Oyida	Golla River Diversion	200	400	33
Locations where additional community consultations were held[57]					
Amhara	Andabet	Zeragn Earth Dam	350	850	5
	Raya Kobo	Gollina River Diversion	170	200	2
Tigray	Enderta	Hiyana River Diversion	25	110	6
	Atsbi Wenberta	Geleb Hidaro I River Diversion	30	120	6
	Emba-Alaje	Adikerakiro River Diversion	26	104	5
Total			**1,731**	**3,644**	**327**

[57] Discussions at these locations were held with key informants in the project areas.

A range of issues were discussed during community consultations, the main topics covered being:

- *Scheme selection process*: when by whom, whether consulted, types and level of community consultations involved, who benefits and who does not ;
- *Community's awareness of rights*: to give consent or deny projects being financed by IFAD, IFAD's respect of peoples' rights, what happens if they deny consent etc.;
- *Communities' perceptions*: the benefits and risks of the proposed smale-scale irrigation schemes and what they might involve;
- *Scheme management*: perceived roles of the communities and support required;
- *Physical/economic displacement*: awareness about likely consequences, people to be affected, consent on relocation and compensation terms, cultural and/or historical heritage sites and social service facilities that may be affected etc.; and,
- *Resettlement and compensation plans*: under what circumstances, who will be affected, how, whether fair/reasonable, at what stage will it be done.

Consultative discussions were also held in each of the four regions with the relevant agencies/bureaux at Regional level, and with key sector offices of the local governments in woredas where the proposed schemes were located. The main issues covered at the consultations held with the representatives/key informants of the communities are summarised below:

- *Relevance of the initiative*: alignment of the proposed scheme with current developmental priorities and existing development constraints in the woredas;
- *Environmental management*: woredas' formal or customary laws governing environmental management (protection, conservation and harmonisation etc);
- *FPIC observance*: Legal and/or customary regulations and processes requiring/related to observance of FPIC;
- *Grievance redress*: legal provisions, what and how, mechanisms and procedures/processes;
- *Public disclosure of ESIAs*: Woreda level requirements and experience/existing practices for public disclosure of ESIAs;
- *Land acquisition and entitlements*: the rights of people over land territories and access to land and resources as encompassed within customary, national laws and international standards;
- *ESMF monitoring procedures*: woredas' current status with handling ESMF monitoring, existing institutional arrangements and practices of woredas (experience, challenges, capacity gaps, etc).

Regional level discussions were held with the PASIDP Regional Coordination Units in the four Regions, as well as the bureau responsible for environmental protection, land administration and use. These discussions focussed mainly the legal and regulatory frameworks within which the ESMF processes (including FPIC) must operate.

The key outcomes from these preliminary consultations were as follows:

- *Limited capacity for ESMF Monitoring:* the existing capacities of many woredas appears to be inadequate due to the limited/lacking appropriate experts, logistics and knowledge gaps. It was observed on several occasions that some of the assigned experts expected to monitor ESMF lacked adequate knowledge of relevant policies, proclamations and directives on environmental and social aspects of the development initiatives among the different sectors. This is a result of insufficient communication of, and sensitisation on, the requirements and implications of the various policy and regulatory documents so that the woreda level experts are able to internalise them. It is therefore important that government staff at all levels to have intimate knowledge and understanding of the policies and related regulatory aspects in order to ensure compliance and effectively monitor environmental and social aspects of

projects on the ground. Provisions and adequate budget need to be included in the project to strengthens project staff's capacity.

- *Public disclosure of ESIAs:* the Woreda and Regional government staff believe that public disclosure of ESIAs would be beneficial to protect the environment and ensure ownership and sustainability of the schemes. However, nearly all the visited woredas complained about ESIA reports not reaching them. The consultants or regional experts come to their woredas and conduct the studies but never provide feedback, which is also the case with the SSI schemes planned under PASIDP-II.
- *Demand-driven initiatives:* in most of the community consultations held in all regions, participants have strongly indicated that the proposed small-scale irrigation schemes were responding to their requests to the government. They mentioned the growing challenges to sustain their livelihoods, such as diminishing land holdings and unreliability of the rainfall, which limited their harvests. The rainfall pattern has changed considerably over time, and, as one participant put it "…. only God know when it comes and goes". Not only is the onset of the rains unpredictable (early or late) but the rainy seasons now either end prematurely or are overly prevailing, which has challenged their crop husbandry practices. These altered rainfall patterns have always involved incidences of pests that have destroyed their crops. From their experiences of traditional irrigation[58] and observing the improvements gained by communities in neighbouring woredas[59] there appeared to be overwhelming support for PASIDP-II SSIs.
- *Previous consultations:* However, the communities complained about the delays in implementing the projects as they were consulted about the intended SSI schemes some years ago (and know the names of the officials that chaired/facilitated the discussions together with experts that conducted the relevant studies). In most of the cases, minutes of the community meetings were recorded and signed. However, copies of those papers were not available with the Kebele or Woreda Administration offices as the experts have taken them. The regional focal persons for PASIDP were requested to track those documents but there has not been any response as yet (still being waited). This implies that communities had expressed their demands, have been informed of the site selections and knew about the intended development.
- *Communities' awareness of rights:* nearly all discussions held with communities at the various SSI schemes indicated that they are generally aware of their rights to improved living standards and sustainable development including their rights to be consulted with respect to policies and projects affecting their communities as well as the right to a clean and healthy environment. While community members are well aware of the right of the state to expropriate private property for public use, they also know their rights that adequate compensation has to be provided, through their Kebele and Woreda administrations. It was learned that the usual tendency of Woreda administrations involves leaving such cases to Kebele administrations. So, for example, where loss of land occurs in cases involving SSI schemes, replacement land is given to the affected persons where land is available. Where there is no unoccupied land, the Kebele administrations might consider redistribution of holdings, given that, with the development of the SSI schemes, farmer holdings cannot exceed 0.5 ha, and thereby sufficient land would be available for distribution. Relocation and compensation processes are clearly stipulated in the relevant proclamations and

[58] At all the visited schemes, participants mentioned better status of community members adjacent to springs and seasonal streams because of their practicing traditional irrigation - get better income and more resilient.

[59] For example, participant community members at 2 schemes in Amhara Region (i.e. Abass and Waka micro-earth dams) mentioned their experience of observing the benefits of farmers from an earth dam near Debreberhan town, built some 20 years back.

regulations[60]. An important observation regarding the losses due to the SSI development schemes is there will be no - or minimal - loss of land for river diversion schemes since generally the farmers live in the settlements and have farms on different land holdings. However, where earth dams or off river storage may be constructed, this may result in the inundation of arable lands or residences, and therefore community members will require replacement of land and compensation.

Thus for the schemes that were visited and where consultations were held, it was established that the requests for the small-scale irrigation schemes had originated at the community level. In addition, it was clear that the communities were adequately aware of their rights to be consulted and provide consent in projects that directly affect them, as well as the authorities' obligations in the event that they may be relocated.

FPIC Implementation Plan

The FPIC process requires the following steps:

1. Socio-Cultural and Land Assessments

Decisions and follow up actions regarding PASIDP-II would be impeded in the absence of adequate information on the sociocultural and land tenure aspects of the proposed schemes. Therefore, it would be essential to carry out assessments on the sociocultural and land tenure conditions of the proposed schemes in the project area as a priority activity by the beginning of PASIDP-II implementation and before any investment is made at community level. The socio-cultural and land tenure assessments will establish:

- The community stakeholders, landowners and users in the project area (including transient resident populations such as pastoralists, as well as neighbours) who might be affected and who can gain more rights through careful scheme design based on FPIC process, and who have the right to give or withhold consent;
- Customary laws, informal rules and organizing practices, and claims on land ownership, occupation and use;
- Types of livelihoods and resources communities depend upon;
- Land use mapping indicating existing land use and land use as proposed by the communities to accommodate the project, and as agreed with the Kebele administrations;
- Institutions, governance systems and decision-making roles;
- Existing dimensions of traditional leadership (roles and status) and traditional mutual support and solidarity/reciprocity mechanisms etc.;
- Social, economic, cultural and spiritual relations with lands and territories; and,
- Possible consequences for local communities resulting from the change on the status of land, territories and resources emerging from the proposed schemes.

Participatory mapping can be a useful tool in the preparation of the socio-cultural and land tenure assessment. A critical dimension will be rights of transient populations, such as pastoralists, who access land and natural resources for some months in a year, yet must be included in the FPIC process.

[60] Rural land Administration and Use Proclamation, No.456/2005, Proclamation on Expropriation of Landholdings for Public Purposes and Payment of Compensation: Proclamation No.455/2005, and Regulation for the payment of Compensation for property Situated on Landholdings Expropriated for Public purposes: Regulation No. 135/2007

2. Identification of Decision Making Institutions and Representatives

In line with the Government of Ethiopia's decentralization policy, the key institutional actors involved with issues of resettlement, property and land rights, access to resources, etc, are the local governments at the Woreda and Kebele levels. This has been described in the Rural Land Administration and Use Proclamation (No.456/2005); and, the Proclamation on Expropriation of Landholdings for Public Purposes and Payment of Compensation (No.455/2005). According to Proclamation No. 455/2005 (Article 3), the power to expropriate landholdings for a development project belongs to a Woreda administration. The implementing agency (ie. the relevant sector office within the Woreda administration responsible for gathering data on the land needed and works, and sending this to the appropriate officials for permission. It is also required to compensate affected landholders as stated under Article 5 of the Proclamation No. 455/2005.

The concerned sector office within the Woreda administration, in this case, is the Woreda Environmental Protection, Land Administration and Use Office (WEPLAUO). The PASIDP Woreda Coordinator will work closely with the Environmental and Social Specialists of WEPLAUOs, as well as the Kebele Compensation and Development committees to facilitate consultations leading to FPIC with concerned communities /project affected persons (PAPs). In the case of PASIDP-II, depending on the size of the development initiative (based on criteria such as resources involved, physical area covered &/or people involved and affected), the PASIDP Worede Steering Committee and Woreda Technical Committee will oversee the facilitation and coordination of the project-related processes and work with Kebele administration, Kebele Development Committed and community leaders, as appropriate. At national level, the MOANR is the lead executing agency for PASIDP-II. At Regional and Woreda levels, however, the institutional arrangements vary by region. For example, in Amhara and Tigray regions the institutional arrangements for PASIDP-II mirror those at national level, ie, they are located within the Bureaus of Agriculture and Natural Resources, while in Oromiya and SNNP regional states PASIDP-II is hosted by Bureaux of Water, Irrigation and Energy and its subsidiaries at Woreda level.

The practical timing for identifying decision-making institutions and representatives at community level would be at the beginning of PASIDP-II implementation, during preliminary consultations with the communities undertaken for the ESIAs for newly proposed schemes as well as during the updating of ESIA studies already prepared, or can be done in tandem with the socio-cultural and land tenure assessment.

3. Consultations leading to FPIC

Subsequent to the socio-cultural and land tenure assessments and the identification of key decision making institutions, consultations will be held with the scheme communities during programme implementation – when individual scheme ESIAs and designs are being updated or prepared, as the case may be. Consultations will be conducted by the regional and/or woreda PASIDP offices, or by an independent facilitator/advisor hired by these offices[61].

The use of participatory mapping will be instrumental for the consultation process leading to FPIC. This is because of the advantages of participatory mapping and accompanying participatory enquiry techniques allow the assessment of ownership, occupation and use of land territories and resources as well as the social dynamics (eg. movements and relationships among the different social groups) and right holders.

[61] For a sample of terms of reference for facilitators supporting the FPIC process in IFAD-funded projects, see Annex 3 of IFAD How to do Note on Seeking Free Prior and Informed Consent in IFAD Investment Projects https://www.ifad.org/topic/consent/overview

Given that the schemes are initiated by the communities and proposed to the Kebele Development Committees, the consultations will:

- Confirm that the scheme is a community-driven initiative;
- Share the objective and scope of the proposed scheme with the communities directly or communities' representatives (existing or elected by the communities in the process);
- Clearly inform the communities' representatives on the actors financing and implementing the project and their respective responsibilities;
- Provide clear and transparent information on the benefits and risks of the project;
- Share the findings of the socio-cultural, land tenure and environmental assessment and reality check/confirmation of findings;
- Engage selected community members or communities' representatives in the resources and social mapping activities, in order to assess ownership, occupation and use of land territories and resources as well as the social dynamics (relationships among the different social groups);
- Share the objective and scope of the mapping exercise with the communities;
- Ensure inclusive participation - men, women, young people, the elderly, representatives of different communities present on the same land and territory, and neighbouring villages - and provide for multiple maps by the different communities;
- Share the maps with all stakeholders and actors; and,
- Formalise ownership of the land use maps by the communities that have developed them.

It is important that:

- Where there is universal consent to the proposed scheme, communities' consent is formalized through a consent agreement between the communities and the PASIDP Woreda Office. The consent agreement will be the outcome of the collective decision-making process by the local communities. The process will be adequately documented;
- Where there are doubts on consent, or where concerns are raised during consultations, these doubts and concerns are documented, and the communities are requested to propose means/solutions to overcome concerns;
- Feedback is provided to the scheme design engineers and project staff on concerns/doubts raised by the communities;
- Feedback is provided to the communities on how their concerns have been accommodated in the scheme design.

The usual practice for IFAD-funded projects is to use independent, qualified[62] facilitators supporting the FPIC process. The selection of suitable facilitators for the FPIC process is critical to the success of the process. In the selection process, consideration should be given to the cultural context the facilitator will work in, to language skills, ethnicity, gender, experience in consultation and participatory processes, age (eg. elders prefer to speak to older facilitators), technical knowledge of the proposed project and knowledge of IFAD policies and FPIC requirements. Where the Woreda Coordinators and their teams are not are not familiar with consultations leading to FPIC, the facilitator will have a double role, in facilitating the process and building capacity, while applying relevant provisions, hence supporting the local and national governments to fulfil the requirements of internal and external policies. If the right people to facilitate these exercises are selected, they can play a role as facilitators and at the same time build the capacities of project staff, as well as of communities.

[62] Minimum requirement for the facilitator is rights sensitivity and knowledge of the cultural context they will operate, together with technical knowledge of the issues under consideration. The facilitator must be neutral, trustworthy and mutually accountable to IFAD, the borrower government and the community (HTDN-IFAD, 2015).

Communities' representatives who participate in the mapping should be identified by the communities as their representatives in the FPIC process.

4. Formalise the Consent Agreement

Once project activities and project sites requiring FPCI agreement are identified , this will be formalised in a written form in Amharic as well as the locally prevalent written language. The effective time the consent agreement would be formalised will be agreed upon during the consultation process and needs to be formalised before any investment is made.

The consent agreement will be prepared by the Regional PASIDP Office. The format for a consent agreement would, among others, include:

- Project activities on which consent is provided
- Respective expectations
- Proposed project duration, expected results and activities
- Participatory monitoring and verification plan and procedures
- Identification of grievances procedures and mechanisms
- Terms of withdrawal of consent
- Record of process through means and languages accessible to all stakeholders and parties involved.

The FPIC Agreement and record of process will be made available through means and languages that are accessible to all stakeholders and parties involved. The FPIC Implementation Plan will be included in the Annex to the PDR and will be confirmed and/or revised at the beginning of project implementation phase (during start-up workshop, beginning of consultations leading to FPCI, beginning of participatory mapping exercise).

5. Assess FPIC Implementation

In order to assess FPIC implementation, the appropriate indicators for measuring progress towards and/or attainment of agreed terms will be defined and linked with a timeframe in the FPIC agreement. Subsequent workshops and stakeholders reviews of the FPIC plan may also amend the various indicators to be established in the FPIC agreement. Joint supervision missions assessing project progress will also assess implementation of FPIC agreements on regular basis.[63] Whenever possible, supervision and evaluation missions would include experts of relevance.

6. Summary of PASIDP-II FPIC Implementation Plan

Table A.5.3 below presents a summary of the FPIC Implementation Plan.

[63]IFAD Policy on Engagement with Indigenous Peoples, 2009:16

Table A.5.3: Summarised PASIDP-II FPIC Implementation Plan

Description/Activity	Responsible	Timeframe
1. Conduct sociocultural and land tenure assessment: ***Identify:*** • Customary laws, informal rules and organizing practices on land ownership • Institutions and governance systems • Types of livelihoods • Mutual support and solidarity mechanisms • Community stakeholders, land users and assess who has the right to give or withhold the consent ***Assess:*** • Consequences from the proposed project that may result in the change of the status of the lands, territories and resources	Regional PCMU (who may hire consultants to carry out the scheme specific socio-cultural/land tenure assessments	At the beginning of programme implementation phase. This could be part of the participatory mapping exercise
2. Identify decision-making institutions and representatives • Conduct preliminary consultations with the community and explain the nature of the proposed project • Allow time for communities to discuss and decide on their representatives for the consultation process leading to FPIC • Clarify responsibilities of representatives • Agree on the process leading to FPIC • Identify signatory parties for the consent agreement	Regional PCMU, possibly through an independent facilitator, supported by IFAD as part of project implementation support, as required.	At the beginning of programme implementation phase (this could be done in tandem with the socio-cultural and land tenure assessment and mapping exercise)
3. Conduct consultation leading to FPIC on the proposed project/specific component/activities • Share objective and scope of the project with the representatives identified by the communities and identify project component(s) requiring FPIC • Inform them on the actors financing and implementing the project and their respective responsibilities • Provide clear and transparent information on the benefits and risks of the project • Share the findings of the sociocultural, land tenure and environmental assessment • Formalize consent agreement	Regional PCMU possibly through an independent facilitator, supported by IFAD as part of project implementation support, as required.	At the beginning of programme implementation phase and before individual scheme construction
4. Formalize the consent agreement ***Formalize the consent agreement*** *(written or in other form if so requested by the community)* ***The format for a consent agreement*** *would include:* • Respective expectations • Proposed project duration, expected results and activities • Participatory monitoring and verification plan and procedures	Regional PCMU possibly through an independent facilitator, supported by IFAD as part of project implementation support, as required.	Programme implementation phase. Timing agreed upon the during consultation process and before individual scheme construction begins

Description/Activity	Responsible	Timeframe
• Identification of grievances procedures and mechanisms • Terms of withdrawal of consent ***Record*** the process through means and languages accessible to all stakeholders and parties involved ***Annex the FPIC agreement*** *and documented process to the PDR*		
5. Assess FPIC implementation		
Assess FPIC implementation as part of the M&E exercise during the project life. ***Appropriate indicators*** for measuring progress towards and/or attainment of agreed terms will be defined and linked with a timeframe in the FPIC agreement	CPM and Federal PCMU, IFAD implementation support and joint supervision missions	Programme implementation phase - before individual scheme construction begins and throughout the project cycle

Loan Agreement

FPIC requirements will be included in the Loan Agreement as a condition to disbursement for programme implementation.

Disclosure

IFAD's Policy on the Disclosure of Documents enables project design documents to be disclosed prior to the Executive Board session at which the project is to be considered. Thus, this FPIC Implementation Plan will be disclosed together with the Programme Design Report (PDR), Environmental and Social Management Framework (ESMF), and other documents to be submitted to the Executive Board (and Evaluation Committee).

Documenting the FPIC Process

FPIC process will be documented through minutes of consultations, mapping documents prepared by the communities, videos where feasible, and FPIC agreements/formalisation documents.

Annex 6: Guidelines for a Pesticide Management Plan

These Guidelines for a Pesticide Management Plan has been adopted from the AGP-II ESMF (MOA, 2015).

1. Introduction

Farmers use pesticides (herbicides, insecticides, fungicides 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 smallerholder 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). There are parks, water bodies, flora and fauna of different species found in the PASIDP intervention areas. Unsafe use and management of pesticide will affect these biophysical environments.

2. Policy, Regulatory Frameworks and Institutional Capacity in Ethiopia Related to Pest Management

Overview

Ethiopia has no standalone crop protection and IPM policy. However, it has rural development trategies and policies that clearly indicated the development should ensure sustainable development in which the appropriate use crop protection work is one. The environmental policy of Ethiopia in its agriculture sector policy also state that to base, where possible, increased agricultural production on sustainably improving and intensifying existing farming systems by developing and disseminating technologies which are biologically stable, appropriate under the prevailing environmental and socio-cultural conditions for farmers, economically viable and environmentally beneficial. This is one demonstration the country has policy direction to use environmentally safe crop protection measures for the sustainable agriculture.

To manage both regular and migratory pests, the Ministry of Agriculture has established plant health general directorate and crop protection directorate under it. The MOA has also been recruiting additional staffs for the directorates. In this regard, the ministry has been providing comprehensive crop protection training at different levels including farmers. Agricultural Universities have also been giving specialized graduate level program in crop protection related disciplines.

Recognizing the intolerable magnitude of losses due to pests and the need to introduce ecologically preferable, socially acceptable, cost effective, rational and sustainable pest management technologies to farmers, IPM has been accepted in Ethiopia as a strategy for tackling the problem. The Ministry of Agriculture, through its Plant Health Regulatory Directorate, has drafted Guideline on the Implementation of IPM for Small-Scale Irrigation. This guideline is prepared based on the legal frameworks that are enacted in Ethiopia related to pesticide management in particular, and to environmental and social issues in general.

Currently, the MOA has been promoting IPM based crop protection. It has been implementing projects like Pesticide Risk Reduction protects and African Stockpile Project. The government of Ethiopia has been working to put in place a sustainable pest management support service with a clear focus in promoting IPM, and the policy direction/focus on reach in at a stage to implement fully ecologically based IPM. Farmer Field School, which is community based decision making approach to solve agricultural problems on a daily bases, has been accepted as an approach to facilitate pest management in the smallholder agriculture in the country at large.

Ethiopian Institute of Agricultural Research (EIAR), Regional Agricultural Research Institutes and Agricultural Universities have been working in crop protection technologies generation, and adaptation. The MOA, regional bureaus of agriculture through the regional plant health clinics, and NGOs have been providing farmers with pest management related trainings and promotion of IPM has been the central focus of all recently provided trainings. Currently in Ethiopia, there are no private extension service providers and we don't foresee such service to be privatized for some years to come due to a number of reasons.

National Policies and Legal Frameworks

The Federal Democratic Republic of Ethiopia has developed policies and legal frameworks related to safe production and use of pesticides. Ethiopia has also accepted different international agreement related to pesticides. The following is highlights of major policies and legal frameworks, which required considerations in safe management of pesticides.

Pesticide Registration and Control (Proclamation No. 674/2010)

To minimize the adverse effect of pesticide use to 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. Though the proclamation was enacted in 2010, still the directive and guidelines to enforce the proclamation is not yet finalized. The MOA, under its Plant Health Regulatory Directorate (PHRD) is working on the development of the directive and guidelines and it is its final stage. The pesticide regulation is enacted and enforced by the government through registration and monitoring. The distribution of the pesticide is done by the registrant, whereas, the MOA monitor the marketing and use of pesticides. The registration of pesticide is functioning effectively, but the regulation of the application and storage of pesticides has been very much limited. There is a functioning pesticide licensing system for traders, mass importers, local dealers and retailer. All are licensed and the system regularly tries to monitor the stocking and the sale of pesticide by the different dealers. As much as possible, the government is working to avoid accumulation of obsolete pesticide.

Guidelines are produced and distributed to the grass root 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.

Environmental Policy of Ethiopia

In the sectoral environmental policies that relates to Soil Husbandry and Sustainable Agriculture the emphasis is on:

- The use of biological and cultural methods in an integrated manner to control pest and diseases,

- To safeguard human and environmental health by adequately regulate the agricultural chemicals.

The other policies, proclamation and guidelines that address the safe use and management pesticide and chemicals include *the Agricultural Policy, Environmental impact assessment guideline on pesticide, the Environmental Pollution Control proclamation (No 300/2002), labor proclamation (42/93),* and *Public health proclamation (200/2000) among others.*

International Conventions

Ethiopia has ratified four international conventions that have importance in pesticides managements. Consideration of these conventions is therefore essential when managing pests and pesticide products. These conventions include: *Rotterdam convention, Prior Informed Consent (PIC), Basel convention, Stockholm convention (POPs), and Bamako Convention (1991).*

The country has proclamation and regulation for the registration and control of pesticide. The MOA through its plant health regulatory directorate is responsible for the registration and control of pesticide. The pesticide regulation is enacted and enforced by the government through registration and monitoring. The distribution of the pesticide is done by the registrant, whereas, the MOA monitor the marketing and use of pesticides. The registration of pesticide is functioning effectively, but the regulation of the application and storage of pesticides has been very much limited. There is a functioning pesticide licensing system for traders, mass importers, local dealers and retailer. All are licensed and the system regularly tries to monitor the stocking and the sale of pesticide by the different dealers. As much as possible, the government is working to avoid accumulation of obsolete pesticide. Guidelines are produced and distributed to the grass root 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.

Impacts of Pesticides

Table A.6.1 below summarises typical impacts resulting from pesticide use.

Pesticide impact on	Potential impact
Water	• the death of fish and also have other ecological impacts • change in the organoleptic properties of water (its odor, taste) • negative effect on the process of oxygen formation by phytoplankton, on the vital activities of the inhabitants of the water ecosystems • impacts that transmitted along the food chains, and accumulate in food products • direct toxic action (acute or chronic toxicity) and indirectly (dimensioning of the content of oxygen dissolved in the water, a change in the chemical composition of water, extermination of water insects, etc) • disturbing aquatic ecology • Adverse effects on wetlands aquatic flora, etc.
Air: pesticides related air pollutants and their effects on health	• Respiratory illness, including chronic bronchitis and asthma; heart diseases • Heart diseases; respiratory problems including pulmonary emphysema, cancer, eye burning, headache, etc. • Pneumoconiosis, restrictive lung diseases, asthma, cancer, etc. • Lung irritation, viral infection, airway resistance, chest tightness, etc. • It causes immunotoxicity, carcinogenicity, asthma, anemia, unconsciousness etc. • Impaired lung function, chest pains, coughing, irritation of eyes, nose etc. • CO poisoning cause cherry lips, unconsciousness, death by asphyxiation etc. • It causes decreased hemoglobin synthesis, anemia, damage the nervous and renal (kidney) systems etc.
Soil	• Kill and severely reduce the essential soil macro- and microorganisms, including earthworms, insects, spiders, mites, fungi, essential mycorrhizae, and bacteria, thus reducing or stopping important nutrient cycling • Accidental spills on soil, which are usually associated with pesticide mixing and loading operations, can result in localized but severe soil contamination if not contained and dealt with rapidly and adequately
Human health	• Acute poisoning (death, light to severe sickness, respiratory problems, etc.) • Chronic poisoning (cancer, birth defects, reproductive disorders, skin problems, impairment of immune system capabilities, etc.)
Wild life and livestock	• population decline through the use of pesticides over large areas • Reproductive effect such as egg shell thinning , deformity and birth defects

Pesticide impact on	Potential impact
(non-target species)	• Metabolic changes • tumors and cancer • behavioral changes • abnormally functioning thyroid glands • Sub-lethal or lethal poisoning of mammals and other vertebrate • through extinction of the pest population -losses of food sources for many birds; particularly migratory species • toxicity to bees which are pollinators, with adverse effects on the production of certain crops • long-term negative effects on the reproductive processes of birds of prey and aquatic species of certain insecticides eg DDT) • high mobility and biological amplification of persistent pesticides
Socio-Economic Impact	*Positive impacts* • increased income and/or security of yield for farmers • Increased employment opportunities and • Improved food supply *Negative impacts* • Risk of human contamination to dealers, formulators, applicators and farmers • Health risks and associated economic impacts from contamination of surface; and ground potable water supplies contaminated by pesticides containing wastes • Acute health effects resulting from contamination of food and water stored in pesticide containers, from the transportation of pesticide and food stuffs in the same transportation means • Health risks from pesticide residues remaining on a crop after application • Loss of revenue from cash crops if these cannot be sold on world markets because of illegal residue levels • Crop losses due to the emergence of new and/or more resistant pests (insects, plant pathogenic fungi, bacteria), spread of disease vectors and emergence of a 'pesticide treadmill', whereby farmers obliged to pay more and more for a control program that does less and less good • In general short term benefit long term side effect

Source: MOA, AGP-II ESMF (2015)

3. Potential Mitigation Measures

The Government of Ethiopia supports the use of integrated pest management approach (IPM) to reduce reliance on agricultural chemicals. Integrated Pest Management (IPM) refers to a mix of farmer-driven, ecologically based pest control practices that seek to reduce reliance on synthetic chemical pesticides. It involves (a) managing pests (keeping them below economically damaging levels) rather than seeking to eradicate them, (b) relying, to the extent possible, on nonchemical measures to keep pest populations low; and (c) selecting and applying pesticides, when they have to be used, in a way that minimizes adverse effects on beneficial organisms, humans, and the environment. Integrated pest management (IPM) is being promoted throughout the world as an alternative approach to pest management. Core elements of all IPM approaches are minimizing pesticide use and minimizing health and environmental risk when pesticides are used.

4. Pest Management Approach

The key steps in developing a pesticide management are:

- Evaluate pests' impact before control programs are implemented, to identify pests, size of problems and possible natural controls. This includes describing:
    - Common pest problems and estimated economic impact, 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 sufficient information about IPM approaches that reduce reliance on chemical control?
    - Relevant IPM experience within the project area, Woreda, region or country, existing IPM practices, projects/programs, research
    - Discrepancies where the current or proposed practices are not consistent with the principles of an IPM

    - approach, to be able to propose a strategy to bring pest management activities into line with IPM.
- 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.

5. Pesticide Management

a) 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, reference is made to the World Health Organization's *Recommended Classification* of *Pesticides* by *Hazard and Guidelines to Classification.* The following criteria apply to the selection and use of pesticides:

i. They must have negligible adverse human health effects.
ii. They must be shown to be effective against the target species.
iii. 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.
iv. Their use must take into account the need to prevent the development of resistance in pests.
v. They do not fall in WHO classes **IA** and IB, 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.

b) Reduce exposure time or the degree of exposure

Before using *(transporting, packaging and storing)*

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

- Continuous training for farmers on, application, protective equipment and clothing, mixing of chemicals, etc

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. Replace any items that are worn or missing
- 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.
- Check that weather conditions are satisfactory, particularly to avoid excessive wind speeds and consequent spray drift
- Ensure the safe disposal of empty containers, tank washings and surplus pesticides

During application

- Do not apply agrochemicals without adequate training
- Wear appropriate protective clothing as prescribed on the label or information sheet for handling concentrated products
- Avoid blow-back from granule or powdered materials when transferring container contents into the application unit. A slow, steady release causes least disturbance of air and reduces the risk of particles becoming airborne and being inhaled
- Mix only the correct amount of agrochemical required for a particular task so as to avoid the need to dispose of any surplus.
- Handle containers carefully to prevent gurgling or spillage during pouring into an applicator.
- Pour correctly from large containers with the spout uppermost so as to allow air to flow into the container at the same rate as the contents flow out
- If two or more agrochemicals have to be mixed, ensure that they are compatible and without risk of a chemical reaction that would cause a "tank mix" operator hazard Do not eat, drink or smoke while applying agrochemicals
- Ensure that dangerous practices such as putting a blocked nozzle to the mouth to blow it clear are prohibited. Clean the nozzle with water or a soft probe, such as a grass stem
- Do not allow other workers in the field, particularly when pesticides are being applied.
- Take particular care to observe that children are neither allowed to spray nor are exposed to pesticides
- Take notice of changing weather conditions, such as an increase in wind speed. This would cause drift and could blow the spray towards sensitive areas such as a drinking water supply, resulting in health hazards. It may also blow the spray towards the operator, causing an inhalation hazard.

After use

Know, respect and 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 of; and develop a workable monitoring and evaluation system). The following precautions have to be followed after applying the pesticide:

- Thoroughly wash hands, face and neck as well as other parts of the body which may have become contaminated. If gloves have been worn, wash them before removal
- Return unused pesticide to safe storage and safely dispose of empty containers and any surplus in the application equipment

- Decontaminate application equipment by washing it thoroughly. The washings should be drained into a soak-away or similar chamber to be safely confined and without risk to the environment.
- Decontaminate protective clothing by thoroughly washing items such as apron, boots and face shield. Launder the work clothing each day after spraying. Gloves should be washed inside and out and allowed to dry. Respiratory protection equipment should be wiped clean
- Bathe or wash thoroughly again after completing the above four actions.

c) 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.

The management plan has to be prepared when there is the 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.

6. In Summary

The PMP should include:

i. Description of 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).
vii. Description of activities that require local monitoring during implementation.
viii. 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).
ix. Monitoring and supervision plan, implementation responsibilities, required expertise and budget.

Annex 7: Guidelines for Small Dam Safety

These Small Dam Safety Guidelines have been adopted from those prepared for the AGP-II ESMF (MOA, 2015).

1. Introduction

Benefits which will accrue from the promotion and achievement of adequate dam safety practices include environmental protection, public confidence, and the commercial benefits to the owner of constructing and maintaining in a safe and insurable condition, what is usually a significant investment.

The owner of a dam is responsible for:

- safely operating and maintaining the dam;
- giving appropriate warnings if the operation or failure of the dam could cause damage;
- compensating damage caused by the operation or failure of the dam.

The overarching dam safety objective is to protect people, property and the environment from the harmful effects of mis-operation or failure of dams and reservoirs. To ensure that dams and reservoirs are operated and that activities are conducted so as to achieve the highest standards of safety that can reasonably be achieved, measures have to be taken to achieve the following three fundamental safety objectives:

- to control the release of damaging discharges downstream of the small dam;
- to restrict the likelihood of events that might lead to a loss of control over the stored volume and the spillway and other discharges;
- to mitigate through onsite accident management and/or emergency planning the consequences of such events if they were to occur.

These fundamental safety objectives apply to dam and activities in all stages over the lifetime of a dam, including planning, design, manufacturing, construction, commissioning and operation, as well as decommissioning and closure.

2. Parties Involved

The main parties that are involved in dam are the owner or developer, the supervising body, the technical adviser/engineer, the contractor, and the public, who may be affected directly or indirectly by the dam.

The dam owner for small dams to be constructed by PASIDP-II is the Bureau of Agriculture. Small Dam owners are responsible for the safety and the liability of the dam and for financing its upkeep, upgrade, and repair. The common legal understanding is that the dam owner is the developer of the dam, and is therefore responsible for the potential impacts, which the impoundment of water may have on upstream or downstream life, property and environment. It is the owner who holds the various legal permits for the dam and is legally responsible for maintaining the dam in a safe condition and for operating it safely. For the detail of the parties involved and their roles and responsibilities, please consult the dam safety guideline.

3. Legal and Regulatory Framework

Ethiopia does not have specific dam and dam safety legislation or administration as some other developed countries do. These legislations require that all dams be periodically inspected to ensure that their continued operation and use does not constitute a hazard to life and property downstream. Rather, there are some broader legal obligations under Ethiopian law which owners need to appreciate. The policies and legislations which are somehow related to dams and dam safety issues are listed described below:

- Ethiopian Water Resources Management Policy (1999)
- Ethiopian Water Resources Management Proclamation (Proclamation No. 197/2000)
- Water Resources Management Regulations
- Environmental Laws. The environmental laws related to the dam construction are: Environmental Policy of Ethiopia (1997), National Conservation Strategy, Environmental Pollution Control (No.295/2002), Environmental Impact Assessment (No 299/2002), EIA Assessment Guideline Document in 2002 and EIA Procedural Guideline in 2003.
- Occupational Health and Safety law (Proclamation No.42/1993)

4. Dam Failure and Dam Hazard Classification

Dam Failure

If a dam fail, the owner is likely to be held legally liable for all associated damage. To minimize the possibility of failure and the attached liability, the owner should use the services of a suitably qualified engineer to design and construct the dam; make periodic visual inspections of the dam; monitor conditions that may affect the safety of the dam; perform regular maintenance; carry out repairs where and when required to meet current design and construction standards; and have an experienced dam engineer investigate any unusual conditions which could result in partial or total failure.

The three major failures modes of small dams in Ethiopia are:

- Sedimentation behind dam : sediments deposited clog outlet and intake structures
- Seepage loss through foundation and embankment
- Low catchment yield and low volume of stored water in dams.

The most common causes for failure of small dams in Ethiopia would be as follows:

a) Design is not adequate (hydrological, geotechnical, hydraulic).
b) Very limited site investigations are undertaken and consequently understanding of site conditions is poor.
c) Embankment placement methods are substandard eg. soil compaction methods.
d) Lack of watershed management practices
e) Maintenance or inspection frequencies are inadequate.

To avoid or minimize the problem, the dam owner has the responsibility to inspect safety of the dam periodically during all phases of the dam design, construction, and operation and maintenance.

Dam Hazard Classification

The destructive force unleashed by an uncontrolled escape of water stored behind a dam has the potential to harm people, property and the local environment. The consequential losses can include loss of life, socio-economic, financial and environmental losses. Measures can be taken to reduce the risk to an acceptable level and that is what dam safety is about. For this ESMF, three dam hazard

classification levels are adopted as low, significant, and high, listed in order of increasing adverse incremental consequences.

Dams assigned the low hazard potential classification are those where failure or mis-operation results in no probable loss of human life and low economic and/or environmental losses. Losses are principally limited to the owner's property. Dams assigned the significant hazard potential classification are those dams where failure or mis-operation results in no probable loss of human life but can cause economic loss, environmental damage, disruption of lifeline facilities, or can impact other concerns. Significant hazard potential classification dams are often located in predominantly rural or agricultural areas but could be located in areas with population and significant infrastructure. Dams assigned the high hazard potential classification are those where failure or mis-operation will probably cause loss of human life. The small dam safety guideline is intended for the owner of dams with hazard potential classification of Low.

5. Planning of Small Dams

There are some fundamental principles which should be applied through the investigation, design, construction and commissioning stages to achieve an adequate level of safety. The principles are:

i. the competence and experience of the owner's agents relative to the nature and dam
ii. hazard category of the dam, must be appropriate in all areas;
iii. there must be a cooperative and trusting relationship between the owner and technical advisers, and the designers must be given full control over decision making in critical areas;
iv. the owner must agree to apply the appropriate level of funding for investigations, design and construction to reduce the chances of critically important issues (particularly related to foundations) being not sufficiently well assessed or under protected;
v. the designer/technical adviser has a duty not to compromise unduly due to financial pressures from the owner, developer or contractor;
vi. continuity of key technical advice should be maintained throughout all stages of the dam from development, through design, construction and commissioning, to reduce chances of critical points of design philosophy and intent being misinterpreted during construction or commissioning.

Dam Site Investigation

Selecting the Dam Site
When choosing the location and size, the dam owner should also take into account what would happen if the dam failed suddenly and whether it would result in loss of life, injury to persons or livestock, damage to houses, buildings, roads, highways or railroads. The owner of the dam should ensure to avoid locating the dam where run-off from houses, dairies or septic systems can pollute the water.

Considerations at Investigation Stage

Technical Consideration
Site selection and site investigations are critical components to the success or failure of a dam. Regarding the technical consideration the following important aspects should be considered:

a) The catchment is the area of land from which run-off is to be collected. If it is the main source of water supply, make sure that it is capable of yielding enough water to maintain both, the supply in the dam and the required releases over all periods of intended use. The catchment area however should not be too large, as it will then require a big and expensive

overflow system (or spillway) to safely pass excess run-off from heavy rainfall without overtopping the dam.

b) Topographical features such as slope, width and height of dam, as well as reservoir capacity will influence construction costs.
c) Conducting site tests to establish the material properties for the embankment and foundation.
d) A good location for a spillway that will effectively handle runoff and minimize erosion.
e) Watershed activities that can affect the water quality or quantity of runoff.

Environmental Considerations

Dams with their associated reservoirs can have substantial environmental effects and any existing dam or new project must comply with the Ethiopian environmental and environmental legislations and associated licensing or permit requirements. It should be recognized at the outset that dam developments have effects extending beyond the immediate confines of the dam and inundated areas. For example:

- Reservoir slope stability may become a dam safety issue due to the risk of overtopping caused by large volumes of reservoir water being displaced by slope failures.
- Siting of the dam/reservoir must take into consideration the local earthquake and faulting activity which may cause breaching of the dam
- Groundwater level changes may affect stability and land use around the reservoir margins and possibly adjacent to the downstream river, as a result of changed water levels.
- Trapping of sediments in the reservoir can result in upstream shoaling and loss of reservoir storage.
- Flora/fauna effects may occur in storage basin, downstream, and in passage around and through the dam.
- Minimum flow maintenance downstream of the dam to ensure the survival of flora and fauna, and to reduce causes of stream bed deterioration.
- Social development/changes to downstream use given the changed flood situation.

Dam Design

Embankment Dam Design

The single most common cause of earthen dam failures is overtopping of the embankment. An undersized spillway will lead to overtopping; therefore spillway design is critical to reservoirs. The spillway must be located such that discharge will not erode or undermine the toe of the dam. If the banks of the spillway are made of erosive material, provision must be made for their protection. Consideration must be given to the hazard to human life and potential property damage that may result from the failure of the dam or excessive flow rates through the spillway. Further consideration must be given to the likelihood of downstream development that may result in an elevation of the hazard classification.

Extreme Events

Large earthquakes, storm/flood activity and failure of upstream dams can be considered extreme events. The risk of failure from these events is minimized by using engineering design standards and relevant guidelines incorporating adequate margins of safety. Emergency preparedness set up well in advance is the only available measure of reducing the impact when a dam failure is about to happen.

Sedimentation

The effective life of many of small dams is reduced by excessive siltation – some small dams silt up after only a few years. This issue is poorly covered in the many small dam design manuals that are

available, as they mostly focus on the civil engineering design and construction aspects. Appropriate methods/tools have to be chosen to predict, and where possible reduce, siltation rates in small dams.

6. Construction of a Dam

The quality of construction is all-important to dam safety. As far as construction is concerned, the following requirements are necessary from the dam safety viewpoint:

- the contractors must be suitably experienced and committed to achieving the standards of work specified;
- the level of supervision of the works, quality assurance procedures and designer continuity, must be appropriate to the scale and complexity of the dam;
- the owner must recognize that inherent uncertainties may remain after design investigations and only be revealed during construction, and have funding in place to deal with costs arising from additional requirements identified during construction;
- any area identified in the design process as requiring confirmation by the designer during construction, must be totally under the designer's control, and no design change, however small, shall be made without the designer's review and formal approval;
- a suitably detailed design report and drawings showing the as-built structure of all components of the dam and foundation shall be developed as an on-going and integral part of the construction supervision process, and be prepared after completion of each component so that there is a reliable record to refer to at all times in the future.

Therefore, the dam owner should ensure all the above mentioned requirements are fulfilled and complied.

Selecting the contractor

The use of inexperienced contractors and/or inadequate supervision can develop into an expensive liability. Nothing can take the place of a reputable contractor, using appropriate equipment and experienced machine operators and working under supervision of an experienced engineer.

Construction Supervision

Construction supervision is an important phase of dam construction. Supervision is meant to ensure that the design factors and specification requirements have actually been included in the final product.

If foundation preparation, material selection, outlet/spillway installation and embankment compaction are not properly carried out then the safety of the dam will be compromised. So, for all small dam types (both earthen and rock fill) expected to be constructed, all the dam safety requirements applicable should be considered accordingly.

7. Safety Surveillance

Purpose of Regular Inspection

The purpose of a dam safety surveillance program is to avoid failure of the dam, by giving early warning of any kind of symptom of trouble as early as possible. It is the most economical and effective means an owner has of maximizing the long-term safety and survival of the dam. Its primary purpose is to monitor the condition and performance of the dam and its surroundings.

Frequency of Inspections

The frequency of inspection required for an effective program of surveillance depends on a variety of factors including:

- Size or capacity of the dam;
- Condition of the dam; and
- Potential for damage resulting from failure of the dam (represented by the hazard category).

Adoption of the inspection frequency for a particular dam is the responsibility of the owner, though professional advice should be sought for large dams or those categorized under significant and high hazard dams.

The suggested inspection frequencies for small dams of less than 15 m height for the two levels surveillance (quick visual inspection and comprehensive examination) is presented in the table below and should be followed critically.

Quick Visual Inspection	
Dam Hazard Potential classification	
High	twice weekly
Significant	weekly
Low	fortnightly
Comprehensive Examination	
Dam Hazard Potential classification	
High	monthly
Significant	3-monthly
Low	twice-yearly

Special Inspections

Special inspections will be required after unusual events such as earthquakes, major floods, rapid drawdown or volcanic activity. Special inspections should enable the dam owner to become aware of faults before partial or total failure occurs. Times when inspections additional to those above are recommended are:

- before a predicted major rainstorm (check embankment, spillway and outlet pipe);
- during and after severe rainstorms (check embankment, spillway and outlet pipe);
- after any earthquake, whether directly felt on the owner's property or reported by local news media (check all aspects of the dam).

Inspections should be made during and after construction and also during and immediately after the first filling of the storage.

Dealing with Problems

A systematic program of safety surveillance should maximize the likelihood that any developing conditions likely to cause failure would be found before it is too late. Surveillance will also help early detection of problems before they become major repair bills. As identified earlier typical problems (many of which are treatable if found early enough) are most likely to fall into one of the following categories: seepage/leakage; erosion; cracking; deformation/movement; concrete structure defects; and spillway blockage.

Instrumentation and Monitoring

Instrumentation at a dam furnishes data to determine if the completed structure is functioning as intended, provides a continuing surveillance of the structure, and is an indicator of developments which may endanger its safety. Typical items instrumented or monitored include:

- profiles and condition, deformations, seepages or damp areas (visual)
- reservoir water levels which relate to dam loads and flood behaviour
- local rainfall which relates to background seepages
- drainage and distinguishable seepages which relate to control of leakage water flow
- Clarity of seepage flow which relates to potential erosion of embankment or foundation material.
- water pressures within the dam and foundations which relate to structural behavior
- movement or deformation of the dam surface and internal structure which relates to structural behavior
- stresses within the dam which relate to structural behavior
- seismic acceleration which relates to structural behavior

8. Operation and Maintenance of Dams

Effective and ongoing operation, maintenance and surveillance procedures are essential to ensure the continued viability and safety of a dam and its appurtenant structures. Poor operation, maintenance and surveillance will invariably result in abnormal deterioration, reduced life expectancy and possibility of failure. The proper operation, maintenance and surveillance of a dam provide protection for the owner and the general public. Furthermore, the cost of good operation, maintenance and surveillance procedures is small compared with the cost and consequences of a dam failure which could include major repairs, loss of life, property damage and litigation.

Because many small dams fail through lack of maintenance, it is prudent to have a definite and systematic maintenance plan.

The maintenance plan should be decided upon when the construction work on the dam is completed. It will affect the life of the storage if it is not maintained properly. A good plan should include the practices to be used, as well as the approximate time of the year when they are applicable.

Annex 8: Gap Analysis of Environmental Impact Assessment Studies Main Report

Introduction

Description of PASIDP II

Participatory Small-Scale Irrigation Development Programme II (PASIDP II) is based on lessons generated by PASIDP (which was implemented during the period 2008-2015) and related Programmes/Projects supported by Ethiopia's other Development Partners. PASIDP has supported the development of small-holder irrigation schemes to improve the lives of smallholder farmers. PASIDP's key achievements will be scaled up to benefit many of the country's drought-prone areas. This has resulted in an improvement in the beneficiaries' food, nutrition and income security, by contributing to increased access to irrigated agriculture thereby reducing the country's vulnerability to adverse weather conditions and drought. However, considering that implementation was limited to four regions, more needs to be done to extend the successful interventions to other parts of the country for the benefit of the target rural poor people. The country is still very dependent on rain-fed agriculture and, given the variable rainfall, increasing temperatures and the resultant droughts, achievement of full food and nutrition security for all would be difficult. Therefore, the Government of Ethiopia (GoE) and the International Fund for Agricultural Development (IFAD) have agreed to design and implement a second phase of the Programme, PASIDP-II. But, from past interventions, different regions of the country have different requirements in terms of irrigation technologies, capacity building needs, climate change resilient measures, etc., and, therefore, PASIPD-II will necessitate a differentiated approach by region. The Programme will also mitigate the implicit risks that have direct impact on productivity and rural assets and include different climate change resilience measures. This will enable the Programme to, ultimately, contribute to increased revenues for the target group emanating from an integrated prioritized value chains, development of irrigation infrastructure, climate resilience crop agronomy and institutional development. These are all consistent with the Government of Ethiopia's Growth and Transformation Plan II's strategic objectives.

The proposed PASIDP II Programme will potentially cover seven regions (Amhara, Oromiya, Tigray and SNNPR) . In line with IFAD requirements, a SECAP review note was prepared during early design and the programme has been assigned a Category A classification. The majority of the proposed interventions, including irrigation schemes, are expected to have limited and site-specific environmental and social risks that can be readily remedied by appropriate preventive actions and/or mitigation measures. However, it is probable that a number of irrigation schemes will be included that may have significant implications that affect a broader area and are not readily remedied. This may: (i) include physical resettlement and/or economic displacement; (ii) affect land access and use rights of communities; and (iii) loss of environmental services provided by a natural ecosystem. The exact sites and interventions are not known at this stage, therefore requiring an Environmental and Social Management Framework to be developed for the Programme, whereas Environmental and Social Impact Assessments will be undertaken during Programme implementation, only for those schemes classified as Category A. The interventions, particularly in the lowlands, may also trigger the need for development of a Free Prior and Informed Consent (FPIC) plan.

IFAD recognises that GoE has its own systems for delivering safeguards and that supporting Government's efforts to strengthen and use their systems would enhance country ownership, extend development impacts, and reduce transaction costs. Based on the Ethiopian Environmental Impact Assessment regulations, the small and medium scale scheme assessments will be prepared at the Regional level. While large scale projects are reviewed by the Federal Government, the small scale

ones remain under the jurisdiction of the regional offices. The Ethiopian regulations also require that for every ESIA, there is a need to prepare a Local Community Plan for Environmental Management through a Woreda Community Association.

The application of SECAP to PASDIP II interventions will address the social, environmental and climate impacts associated with PASDIP II design and implementation by:

i. Adopting the guiding values and principles in SECAP to avoid harm and promote high social and environmental benefits;
ii. Mainstreaming social, environmental and climate mitigation and adaptation sustainability (SECAP and ASAP) considerations into all PASDIP II activities; and
iii. Ensuring effective stakeholder's equity, consent, engagement, and compensation including a procedure to respond to complaints from project-affected individuals /communities.

The Programme's development objective will be achieved through the effective implementation of two technical components supported by Programme Management services.

Component 1: Investment in Small-scale Irrigation Infrastructure

The objective of this component is to increase productivity and resilience of small farm enterprises by increasing areas under sustainable agricultural water management and enable them to improve household revenues and food and nutrition security from the production and marketing of selected crops. This is to be achieved through two subcomponents.

Subcomponent 1.1: Irrigation Scheme Participatory Planning and Preparation. The programme will adopt a fully participatory process for identification, feasibility and construction of new irrigation schemes. Once a scheme is confirmed as a potential candidate for a full feasibility study, it would be necessary that an Irrigation Water Users Association (IWUA) be formed to act as the representative of the potential irrigation farmers.

The feasibility studies will involve technical (catchment management, climate resilience, water resource management, agriculture, etc.) and administrative (government representatives, traditional, etc.) authorities of different levels, will full participation by the IWUAs. At the end of the process, the respective Water Resource Bureaux for each participating region will provide the Programme with the list of potential schemes, including the basis for their selection. A holistic approach will be employed. This will be done on a scheme-by-scheme basis. Multidisciplinary feasibility studies will be undertaken bringing together required experts. A key requirement for participation will be the confirmed willingness of the benefiting farmers to significantly contribute to the investment cost and future operation of the scheme. Additionally, prior to confirmation for investment, there would need to be complete sharing of information and expected commitments with the IWUA. The formal acceptance of this information by the IWUA, and its commitment to sustainable operation of the scheme, would be required before construction would be able to commence.

Subcomponent 1.2: Small-scale Irrigation Infrastructure Development. This subcomponent aims at developing new and upgrade selected existing irrigation scheme infrastructure on about 12,000ha as identified through value chain analysis for selected commodities. The infrastructure will include irrigation infrastructure and, to a limited extent improved market facilities and rehabilitation of access roads where necessary to ensure adequate access to markets.

Component 2: Investment in Capacity for Sustainable Agriculture

The Component will support a range of activities designed to ensure that the target beneficiaries operate in an environment that is more conducive to rural commercial development. Emphasis will be put on market linkages, strengthening of producer institutions and linkages to financial services.

Subcomponent 2.1: Agribusiness Linkages and Market Access. This subcomponent will aim to improve access to input and output markets and financial services. It will include the strengthening of farmers' cooperatives so that they are able to apply the principles and practices of irrigation farming as a business for PASIDP-II. Market Access Alliances will be developed as voluntary organisations which will seek to enable engagement between all relevant entities in the marketing chain from farmers to initial markets. Access to finance will be facilitated to enable productivity improvements through the timely acquisition of inputs and small to medium-scale capital assets, such as processing equipment, small-scale agricultural machinery, animals for land works and transportation, and value-addition facilities. Under this subcomponent, a Programme Market Facilitation Team will be established to support and coordinate the commercial viability of the irrigation schemes.

Subcomponent 2.2: Capacity Building and Empowerment of Small Holder Farmers. The objectives of this subcomponent is to ensure that farmers' productivity is enhanced, their agriculture is profitable and their produce is effectively linked to markets. Activities related to structured linkages to markets for the target beneficiaries' produce are a key element of this subcomponent. Allied to this is the need to ensure that producer organisations have the ability to participate and benefit from Programme interventions. Importantly, activities under the subcomponent will enable the target institutions to effectively continue to undertake their respective responsibilities, on behalf of their members, long after Programme completion. To provide the means for productivity enhancement, the sub-component will provide support for improved access to effective financial services by the economically active poor households. This will be provided for seasonal credit for the timely acquisition inputs and capital investment for small to medium-scale capital assets, such as processing equipment, small-scale-scale value-addition facilities, etc.

Subcomponent 2.3: Watershed Development and Management. The objective of this subcomponent is to improve land and water management on 60,000 ha in rain-fed areas adjacent to areas selected for irrigated agriculture, building on Ethiopia's successful community-based watershed management approach. Interventions under this subcomponent are expected to benefit a total of 120,000 households. To tackle the socio-economic root causes of land degradation, investments in the rain-fed areas will be guided by a landscape approach, integrating socio-economic benefits from land and environmental sustainability in a wider geographic zone. Planning and execution of interventions will be done in a participatory manner, using the tested and proven approaches to watershed management under the Community-Based Integrated Natural Resources Management Project (CBINReMP). A key feature of this intervention will be support for the application of Climate Smart Agriculture (CSA), through the medium of introduction of Conservation Agriculture (CA) techniques for rainfed farmers.

Component 3: Programme Management, Monitoring, Evaluation and Knowledge Management

This is a cross-cutting component servicing the two technical components. The objective of the component is to facilitate and manage the Programme in an efficient and effective manner by providing overall coordination, including planning and implementation, financial management and control, procurement support, monitoring and evaluation, knowledge management, progress reporting, and liaison with all relevant institutions. For this purpose, Programme Coordination

Management Units will be established at the National and Regional levels to coordinate the different Programme activities.

Schemes Under Consideration for PASIDP II

At this stage of project design, the focus has been on four regions: Amhara, Oromiya, Tigray and SNPPR. In all, 69 schemes (9,100ha) had feasibility studies and some detailed designs that were either completed or almost complete. The lots have been organized based on implementation readiness based on the maturity of design and judgment of additional work that may need to be done before the schemes are constructed.

All the study reports still need to be reviewed by the Federal PMU before finalizing, as some were prepared in 2013 and others have unrealistically high EIRRs. The aim is to have as many Lot 1 schemes as possible ready for investment (tendering and construction) at PASIDP II start up.

Four schemes were rejected because they had low EIRR or negative NPV. These schemes would need to be redesigned to make them more viable.

Table 1 below presents a summary of the schemes for which feasibility and detailed designs have been prepared.

Table 1. Summary of Schemes with Feasibility Studies and Detailed Designs

Lot	Region	No. of Schemes	Area (Ha)	Number of Households	Average Cost per ha ($/ha)
Lot 1		**23**	**3,375**	**7,535**	**4,648**
	Amhara	6	980	1,427	4,738
	Oromiya	7	1,666	4,342	2,913
	SNNPR	5	600	1,250	4,806
	Tigray	5	129	516	6,812
Lot 2		**27**	**2,951**	**8,205**	**8,473**
	Amhara	9	882	2,835	11,623
	Oromiya	9	1,015	2,854	6,910
	SNNPR	3	850	1,700	4,272
	Tigray	6	204	816	8,191
Lot 3		**12**	**1,551**	**4,706**	**5,563**
	Amhara	2	130	450	7,018
	Oromiya	5	751	2,516	5,948
	SNNPR	5	670	1,740	4,595
Lot 4		**3**	**413**	**250**	**16,823**
	Amhara	3	413	250	16,823
Rejected		**4**	**833**	**2,743**	**14,343**
	Amhara	2	195	1,031	24,011
	Oromiya	2	638	1,712	4,676

Objective of the Gap Analysis

As mentioned above, feasibility and designs studies have been undertaken by various firms of consulting engineers for the 69 schemes under consideration for PASIDP-II. As part of these studies, a number of investigative studies were undertaken on: Soil and Land Suitability, Climate and Water Resources/Hydrology, Topography, Geology, Geotechniques and Hydrogeology, Agronomy, Engineering, Economic Analysis, Socio-Economics and Environmental Impact Assessment.

The objective of this exercise is to review and conduct a gap analysis of a sample of schemes for which environmental and social impact studies or environmental and social management plans have been prepared, only to the extent necessary to complete the environmental and social assessment carried out for these projects in order that they meet SECAP requirements. The review is intended to feed into in the development of an Environmental and Social Management Framework (ESMF) which will include impacts and their mitigation measures for the physical, biological and social environment of the PASDIP project, to be carried out during the subsequent mission.

Schemes Selected for this Gap Analysis

ESIAs selected for the gap analysis were those that had prepared feasibility studies, detailed designs, and environmental and social impact assessments, and which were included in Lot 1 for immediate implementation. Then from the Lot 1 schemes, for each type of intervention (small dams, river diversions and piped systems), those schemes with the largest footprint were selected for the Gap Analysis since these were expected to have the more serious environmental and social consequences.

Table 2: Schemes Selected for the Gap Analysis

	Region	Scheme Name	Area (Ha)	Number of Households
Small Dams			**550**	**1,310**
	Amhara		**550**	**1,310**
		Abass Micro- Earth Dam	130	160
		Waka Micro- Earth Dam	70	300
		Ziragn Micro- Earth Dam	350	850
River Diversions			**1,631**	**3,544**
	Amhara		**170**	**200**
		Golina Intake	170	200
	Oromiya		**550**	**1,300**
		Bereda Lencha	300	800
		Welmel Tika	250	500
	SNNPR		**800**	**1,600**
		Beko River Diversion	500	1,000
		Golla River Diversion	200	400
		Gondoro River Diversion	100	200
	Tigray		**111**	**444**
		Daero (Belesa)	36	144
		Mai-tsahlo	75	300
Grand Total			**2,181**	**4,854**

Checklist

In order to guide the Gap Analysis, a checklist of issues to be considered in the development of an ESIA was prepared, based on based on IFAD's SECAP ESIA requirements and the GOE EPA requirements for ESIAs as stipulated in the Environmental Impact Assessment Proclamation No. 299/2002, and the EPA EIA Procedural Guidelines of 2003.

Table 3: Gap Analysis Checklist

Chapter	Topic	Key items that need to be addressed/included
Introduction	Context Project Overview	• National / regional strategies / development goals • Links with IFAD (and other IFI) Country strategies/goals • Location (including map)
	Rationale for ESIA	• Screening outcome • Safeguards triggered
	Approach and Methodology	• Desk and field studies • Public consultations • Climate vulnerability assessment
	Assumptions and Knowledge Gaps	• Baseline data
Policy, Legal and Administrative Framework	Policies	• Environmental/NRM • Climate • Water Resources • Agriculture • Labour
	Legal framework	• Promulgations, masterplans, water catchment basin plans, applicable standards, approvals and permitting for: • Environmental/NRM • Climate • Resettlement • Water Resources • Agriculture • Labour
	Administrative framework	• National, regional, zonal, woreda level administrative structures who have an influence or will be involved directly or indirectly in project activities or whose sectors may be affected by the project.
	International conventions and IFI safeguards requirements	• UN treaties • IFAD Safeguards
Project Description	General information	• Description of location of offtake and scheme layout – including map • Project area of influence • Total command area (No. of hectares irrigated) • Population/HH in area of influence • No. of HH involved in the scheme • Crops to be grown
	Project Components	• Type, purpose and location of irrigation infrastructure to be erected/constructed • Dam/weir description including dam wall/weir height, storage, inundation area • Irrigation methodology

		• Irrigation water quantities, management • Crops to be grown, estimated yields • Agrochemicals to be used, application methods and amounts • Ancillary infrastructure (access roads, sheds, offices, sanitation facilities, power supply)
	Other details to be provided	• Excavation volumes • Construction materials sources (water, sand, hardstone, aggregate, gravel, etc, permits required for mining) • Labour requirements (numbers, sources of labour, housing/facilities for labour force, management) • Wastes and waste management • OHS / risk and hazard management • Construction methodology • Construction period
Baseline data	Physical environment	• Topography – hilly, mountainous terrain (potential for landslides) • Geology and soils – fragility of soils (prone to erosion), soil quality (contamination status), seismic stability • Climate –climatic changes, trends, flood/ drought occurrence • Hydrology – hydrological characteristics, water flows/flow duration, environmental flow (incl. how this is determined) • Water Resources (sources, quantity, quality)
	Natural environment	• Vegetation –changes over time, and present day (dominant species, IUCN red list species and status) • Forests – protected, community, natural, plantations. (dominant species, IUCN red list species and status) • Fauna/wildlife – covering terrestrial and aquatic ecology (species, IUCN red list species and status) • Protected areas – national parks, reserves • Wetlands
	Social/ socio-cultural / socio-economic environment	• Demographic characteristics of scheme area • Land tenure • Land use • Health status of scheme communities (morbidity, mortality, disease prevalence, nutritional status) • Education status of scheme communities • Access to services – power, water and sanitation, telecommunications (access to networks) • Water sources – type, location, access • Economic activities – main livelihood activities (agriculture: crops grown, average acreage, average yield..) employment status • Household income/expenditure • Physical cultural resources
	Gender aspects	• Participation in decision making • Participation in scheme management and operation • Access to schemes • Access to markets, inputs, training, extension services

	Other development projects / activities in the project area	• Links between other developments in the area and the project. Potential cumulative and/or synergistic effects.

Stakeholder Consultations / Public Participation		• Outcome of discussions with institutions, agencies, and key informants consulted
		• Outcome of discussions with communities
		  ○ Project Perceptions
		  ○ Concerns
		  ○ Recommendations/way forward
		• Public disclosure

Anticipated impacts and mitigation measures. Recommendations to the design	Environmental impacts	• Soil erosion, land slides, effects of seismic activity • Soil quality /contamination due to use of agrochemicals • Climate – probability of impacts on water availability due to climatic events • Hydrology – impacts on flow downstream of diversion weir/dam/scheme. Requirements for maintenance of environmental flow • Water Resources – impact on water quality due to use of agrochemicals, sedimentation/siltation and its effects on weir/dam, effects on downstream uses/users • Vegetation / Forests/ Fauna, wildlife/ protected areas • Effects on these in terms of land take, construction activities, scheme operation activities, or indirect effects (eg due to settlement around the scheme)
	Social Impacts	• Settlement – in-migration (for construction and to participate in the schemes) • Physical and economic displacement: Land take – permanent and temporary; Loss of crops, trees; numbers of people affected, types of structures affected • Impacts on health (HIV/AIDS/STDs, malaria, bilharzia, sanitation) • Community health (accidents, other risks, risks to project from ablutions/defecation in canal) • Socio-economic activities (impacts on main livelihood activities, lifestyle changes, knock on effects) • Socio economic benefits derived from other project components • Physical cultural resource • Occupational health and safety
	Other Impacts	• Risks and hazards (floods, drought, fire, landslides) and coping mechanisms
	Cumulative and synergistic impacts and mitigation	• Environmental, social and socio-economic impacts if the scheme is one of several in the same watershed or micro catchment. • How other developments in the project area may affect the scheme (positive and negative)
RAP Summary or Resettlement Action Framework		• Where there is physical and economic displacement provide estimated numbers and indicative costs
Analysis of alternatives		• Location – scheme and associated infrastructure • Irrigation technologies

	• Construction methodologies • Agrochemicals
Complementary measures	• Project activities that are not directly part of the project components that would contribute to the success of the project • Existing/ongoing programmes/initiatives in the project area, eg catchment protection, soil conservation, marketing systems, which will enhance the project value.
Environmental and Social Management Plan	• Details of management of impacts, responsibilities, timing • Details of monitoring and auditing project components, effectiveness of mitigation measures, monitoring indicators • Institutional Arrangements • Grievance Mechanisms • Specific management plans/SOPs (dam break, labour, EPR, traffic management, oils and spills management, waste management, OHS plans, hazardous chemicals management plans, IPMP, soil management plans, etc)
Conclusions	• Recommendations for design and implementation

Comparison of MEFCC and SECAP Safeguard Requirements

The table below highlights differences and similarities in the requirements for environmental and social assessment as well as resettlement and compensation in the Ministry of Environment, Forest and Climate Change and IFAD's SECAP.

Table 4: Comparison of Key MEFCC (EPA) and SECAP Requirements for ESIA and RAP

	Ministry of Environment, Forests and Climate Change (EPA) Environmental Procedures	IFAD SECAP and Other Policies
Environmental and Social Screening	According to the EIA Directive No 2/2008, projects requiring full environmental impact assessments and which are reviewed at Federal level include: • Irrigation schemes having an irrigated area of 3000 ha or more • Dam and reservoir construction with a dam height 15 metres or more, or with reservoir storage capacity of 3 million m3 or more The Ministry of Water, Irrigation and Energy and the Ministry of Agriculture have jurisdiction over EIAs for these projects – ie. EIAs are reviewed and approved by the respective Ministries. Projects having irrigated areas of less than 3000 ha, or dams/reservoirs having dam heights of less than 15 m or reservoir capacities of less than 3 million m3 require Preliminary Impact Assessments, and are reviewed at Regional Level by specific Bureau offices – these come under different sectors in the various regions. The MEFCC	SECAP categorises small scale irrigation projects as Category B, but does not define "small scale" as being below a given area of land to be irrigated. Professional judgement is therefore used to determine the categorisation which can be influenced by proximity to environmentally or ecologically sensitive areas, or other social, cultural or socio-economic considerations. SECAP's Guidance Statement #8 on Small Dams categorises dams and reservoirs having a dam wall ≤ 5m high wall or reservoirs having a volume of ≤ 50 000 m3 as Category B (requiring a Preliminary ESIA or EMP) and dams/reservoirs having a dam wall > 5m or reservoir volumes of > 50 000 m3 as Category A (requiring full ESIA). For Category A projects a formal ESIA, RAP and/or IPP, as applicable, are required with ESMP elaboration.

	does not have its agencies at Regional Level as yet, but it is intended that they will do so under the current restructuring.	Category B projects do not require formal ESIA, but in many cases further environmental analysis is requested during project preparation or implementation in the form of an ESMP which may be a stand-alone document or an output from environmental analysis.
Climate Risk Classification	The EIA Procedural Guidelines (2003) list climate as an aspect to be considered as potentially affecting projects. Although the MEFCC / EPA guidelines do not currently consider Climate Risk in project assessment, with the new change in structure within the Ministry, and having Climate Change in its title, the Ministry is now placing greater importance on climate change adaptation and resilience.	SECAP provides a Climate Risk Classification methodology which specifies that projects that have high vulnerability to climate risk are for example: those that promote agricultural activity on marginal and/or highly degraded areas; projects that establish infrastructure in areas with a track record of extreme weather events; and projects in areas in which rural development projects have experienced weather-related losses and damages in the past. IFAD requires that projects classified as high risk undertake an in-depth climate risk analysis. Examples of medium risk projects include projects that make use of climate-sensitive resources, but to not focus on these resources as a main commodity (such as irrigation projects); projects which invest in infrastructure not directly exposed to extreme weather events but have potential to become more resilient through adaptation of green technologies; and projects which focus on institutional development and capacity building for rural institutions in climatically heterogeneous areas, where opportunities exist to strengthen indigenous climate risk management capabilities. Low risk projects are those that are not likely to be vulnerable to climate risks (eg development of a micro-finance institution). Projects under PASIDP II are therefore considered to lie within the high and medium climate risk category.
Consultations and FPIC	The EIA Proclamation No. 299/2002 and the EPA EIA Procedural Guidelines 20013 guidelines require consultations with key stakeholders at Federal, Regional, Zonal and Woreda level, as well as with the affected communities, and their participation, during the entire EIA process. There is no requirement for FPIC, but the national EIA Guidelines require participation of interested and affected groups through	SECAP emphasises the need for greater consultation by communities (especially the marginalized poor) and stakeholders that are likely to be affected by IFAD's operations during the respective programme/project cycle, in order to provide input to the project design, receive feedback on the draft ESIA report, ensure broad community support to the project, and to ensure that affected people endorse the

	consultations, and also in providing inputs and comments throughout the ESIA process. With regard to irrigation schemes, Water User Organisations (which are community based) are required to be involved in the management of irrigation water management.	proposed mitigation/ risk reduction and management measures. In addition to public consultations, SECAP requires FPIC for all projects that are likely to affect land or user rights to land, whether or not the affected people belong to indigenous groups or minorities. All schemes being considered under PASIDP II will therefore require FPIC.
Public Disclosure	There is no stipulated requirement for public disclosure, although the MEFCC and Regional Bureaux responsible for environmental review recommend disclosure of environmental and social documents at woreda level.	IFAD's Policy on the Disclosure of Documents (2010) requires full disclosure to the public, and includes information notes on projects being developed for Board presentation, agreements for approved loans and grants, and project/programme design documents which include ESIAs, ESMFs, RAPs and RAFs.
Compensation and Resettlement	Compensation and resettlement is chiefly guided by three legal instruments. The Rural Land Administration and Use Proclamation No. 456/2005, introduces a Rural Land Holding Certificate which provides a level of security of tenure. For land to be acquired for public works or for investment, the proclamation requires compensation to be paid to the land use holder commensurate with the improvements made to the land, or substitute land must be offered. The Proclamation on Expropriation of Landholdings for Public Purposes and Payment of Compensation No.455/2005 addresses issues related to public domain, property laws, land asset classification and valuation, customary laws and processes for expropriation, and provides for complaints and appeals in relation to compensation. The Regulation for the Payment of Compensation for Property situated on Landholdings Expropriated for Public Purposes No. 135/2007 describes the procedures for settling issues related to public domain, property laws, land asset classification and valuation, customary laws and processes for expropriation, and grievance redress.	IFAD's Policy on Improving Access to Land Tenure Security stresses Free Prior Informed Consent and the "Do no Harm" Principles. These principles are also reflected in other IFAD policies including the Targeting Policy, Engagement with Indigenous Peoples Policy and Gender Equality and Women's Empowerment Policy. The core tenets of IFAD's principles on compensation and resettlement are that wherever possible, any physical or economic resettlement that could negatively impact affected people should be avoided or minimised; that all land and natural resource users with a legitimate claim will be recognised including people having informal/customary rights; and that no affected person should be left worse off, and preferably in a better position through proper and timely compensation and other mitigation measures.
Grievance Mechanisms	The Proclamation on EIA No. 299/2002 provides that any person dissatisfied with the authorisation or monitoring or any decision of the environmental authority or relevant regional environmental agency	IFAD has developed a Complaints Procedure for "Alleged Non-Compliance with its Social and Environmental Policies and Mandatory Aspects of Its Social Environmental and Climate

	may submit a grievance notice to the authority or regional agency. This also applies if a complaint arises out of non-compliance of environmental or social actions provided in the ESMP. The authority or regional agency is required to respond within 30 days. As mentioned above, the Proclamation on Expropriation of Landholdings for Public Purposes and Payment of Compensation No.455/2005 and the Regulation for the Payment of Compensation for Property situated on Landholdings Expropriated for Public Purposes both provide avenues for grievance redress.	Assessment Procedures". Parties adversely or potentially adversely affected by IFAD-funded projects and programmes may bring issues to the Fund's attention using SECAPcomplaints@ifad.org. Complaints must be put forward by at least two people who are both nationals of the country concerned and/or living in the project area. Complaints from foreign locations or anonymous complaints will not be taken into account. Complaints must concern projects/programmes currently under design or implementation. Complaints concerning closed projects, or those that are more than 95 per cent disbursed, will not be considered. IFAD does not provide monetary compensation to resolve complaints. The IFAD website provides a clear summary of the steps involved and guidance on how to report issues.
Physical Cultural Resources	The protection of physical cultural resources is enshrined in the Constitution of the FDRE. The National Cultural Policy of 1997 puts into effect the requirements of the constitution in terms of protection and preservation of cultural and historical legacies. Proclamation No. 839/2014 on Classification of Cultural Heritages into National and Regional Cultural Heritages provides for the classification of cultural heritages and their management, and Proclamation No. 209/2000 on Research and Conservation of Cultural Heritage states that in the event of a chance find in the course of any fortuitous event, the find must be reported to the Authority for Research and Conservation of Cultural Heritage, and the discoverer is required to protect and keep the same intact, until the Authority takes delivery thereof.	In cases where physical cultural resources are found, IFAD assists borrowers in avoiding, minimising or mitigating adverse impacts on PCR in the development programmes/ projects that it finances. Due diligence is carried out through applying SECAP to ensure that PCR are properly identified and adequately addressed and that any measures to protect PCR comply with the borrower's national legislation as well as with its obligations under relevant international treaties and agreements. SECAP prescribes general steps for programmes/ projects that apply in cases involving PCR: screening; collecting data; assessing impacts; and formulating mitigating measures.
Safety of Dams	In addition to the requirements the EIA Directive No 2/2008 which lists projects requiring full environmental impact assessments, the MEFCC/EPA has developed Guidelines for Dams and Reservoirs (2004) which highlight major issues related to dams and reservoirs, and describes typical beneficial and adverse impacts and enhancement and mitigation measures. In considering dam/reservoir design and construction, aspects to be covered should include poverty, physical and natural environment, health, gender, population and participation by communities and civil society. The Guideline	SECAP's Guidance Statement #8 on Small Dams categorises dam sizes in relation to the level of environmental investigation required (see above). Since the risk of small dams failing is higher than that for large dams, the Guidance Statement recommends following international best practices based on the World Commission on Dams recommended procedures (including gaining public acceptance, an options assessment, ensuring sustainability of rivers and livelihoods), as well as ensuring adequate planning, quality of the design and construction,

	notes external factors that need to be addressed, including land use, seismicity, social instability, and hazard management. The guidelines also present environmental and social monitoring indicators.	optimum use of storage infrastructure after construction, and safety monitoring. IFAD has no specific guidance on safety of large dams

Gap Analysis

The Gap Analysis for the 11 selected schemes is presented in tabular form for each scheme in Annex 1 of this Gap Analysis Report. The tables indicate what has been included/addressed, and what key issues are missing that need to be addressed, taking into account project categorisation and complexity.

Summary of Key Gaps

In discussing the gaps identified in this report, it is important to note that the MEFCC (EPA) requires only Preliminary ESIAs for irrigation schemes less than 3000 ha, and dams/reservoirs having dam/weir heights of less than 15 m or reservoir capacities of less than 3 million m3. No guidance is provided on the contents of a Preliminary Impact Assessment, and therefore it is understandable that the contents of Preliminary ESIAs varies from scheme to scheme and consultant to consultant. However, EPA has prepared guidelines for environmental management plans which specifies brief but thorough discussions on significant impacts, their causes, and how they can be managed/ mitigated.

Issues Generally Covered in Reviewed ESIAs

On the whole, the ESIA reports cover issues relating to the following to varying extent:

- Impacts of sedimentation and soil erosion
- Dust and exhaust emissions during construction
- Disturbance to the communities during construction
- Agrochemical use
- Water logging
- Salinisation
- Institutional responsibilities.

Issues Generally Not Covered in Reviewed ESIAs

Key issues that are not addressed adequately (or at all) in the ESIAs are as follows:

- The ESIAs hardly refer to or incorporate the data/information provided in the other design documents, particularly sections on hydrology, water resources management, geology and soils, agronomy, socio-economy. The accuracy of the technical data would also need to be verified, eg water balance, flows, etc, but nevertheless a lot of information is presented in these sections which would enhance the quality of the ESIAs, particularly in terms of presenting baselines which form the basis of impact analysis. However, the environmental baselines in the design documents are rather poor/superficial.
- Project descriptions are poorly presented, do not cover all the components (eg roads, ancillary works) and do not provide sufficient information on the schemes in order for the reader to understand what is being proposed. Some documents do not mention the area to be irrigated.

There are very few details on irrigation methodology, irrigation layout, water requirement, choice of agrochemicals.

- A discussion on project alternatives only appears in a few of the reports.
- Processes for public disclosure are not described.
- None of the reports comprehensively describe all relevant national and regional legal instruments, and implications of these on project development and implementation are not explained.
- Hydrological characteristics of the rivers, water availability for irrigation and environmental flows are not fully discussed.
- Aquatic ecology is rarely mentioned.
- Details on forests, woodlands or protected areas in or near the project area are not adequately presented.
- Water quality and soil quality measurements are not included (although much of this is provided in the other design documents).
- Social baselines do not incorporate the information provided in the Design Documents.
- Climate vulnerability and impacts of climatic events on the project are not addressed in any of the ESIA reports reviewed.
- The analysis of impacts does not tie in with the baselines.
- Although some ESIA reports acknowledge that physical and economic displacement will occur, these are inadequately discussed, if at all. Numbers of affected households and assets are not provided, and no recommendations made for the preparation of RAPs or any form of compensation plan are proposed.
- Stakeholder consultations vary from adequate to poor. Key issues such as whether the communities were informed or had enough knowledge on the project, were for the most part not mentioned.
- Cumulative impacts are not addressed, particularly in terms of other development projects in the immediate project area.
- Mitigation measures need to be expanded, bearing in mind that the contractor implementing the mitigation measures may not be familiar with environmental and social processes and terminology.
- Not all the reports present comprehensive management plans and monitoring plans which include mitigation measures, responsibilities, timing, frequency of monitoring and costs.
- Monitoring indicators do not tie in with the baselines.
- Complementary measures should be included as recommendations to enhance the project.
- No substantial recommendations are made to improve the design.

Conclusion

The conclusion from the Gap Analysis exercise was that there is in general a lack of capacity among consultants and woreda level experts to carry out adequate environmental and social assessment or prepare adequate environmental and social management plans, to acceptable IFAD SECAP standards. The ESIAs and ESMPs have been approved at the regional and woreda levels respectively, which indicates that the regional and woreda Environmental Protection and Land Administration Bureau/Office Experts may also not have the capacity to review these documents to ensure they satisfy IFAD SECAP safeguard requirements, or they may not be aware of these requirements. This finding is corroborated in the review of the gaps in implementation of the SLMP I and AGP-I ESMFs. PASIDP-II will therefore include in its capacity building programme support to consultants as well as relevant Federal, Regional and Woreda personnel to ensure that ESIAs and ESMPs of adequate standard are prepared for the remaining projects.

During the preparation of the ESMF, discussions in the field with woreda and kebele level authorities and communities revealed that consultations with the communities were on the whole carried out once by the design consultants, and during the preparation of socio-economic studies for the schemes. But subsequently, neither preliminary nor final designs were not discussed with the communities, kebele nor woreda authorities. This therefore is not aligned with the participatory principle approach upon which the Programme is based.

Proposed Way Forward

During the start-up activities for PASIDP-II, the ESIAs and ESMPs will need to be updated to satisfy SECAP requirements. The updating of these documents will begin with those schemes that are selected for immediate implementation - that is schemes prioritized on the basis of factors such as cost per hectare, market access, readiness for implementation in terms of feasibility studies and design. The updating activity will include presentation and explanation of scheme designs to the communities, kebeles and woredas for comment and further input if necessary, in order to fulfil SECAP consultation and FPIC requirements. An estimated budget for this activity is in the region of USD 200,000 (based on an estimated 50 schemes requiring updating).

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Annex 10: Minutes of Community Consultations