FEDERAL DEMOCRATIC REPUBLIC OF ETHIOPIA

MINISTRY OF WATER, IRRIGATION AND ELECTRICITY

URBAN WATER SUPPLY & SANITATION PROJECT PHASE II

ENVIRONMENTAL AND SOCIAL MANAGEMENT FRAMEWORK

Final

May 2020
Ethiopia, Addis Ababa

Abbreviations and Acronyms

AAWSA	Addis Ababa Water and Sewerage Authority
AAWSA- PIO	Addis Ababa Water & Sewerage Authority – Project Implementation Office
CRGE	Climate resilient green economy
CSE	Conservation Strategy of Ethiopia
EA	Environmental Assessment
E.C.	Ethiopian Calendar
EFDR	Ethiopian Federal Democratic Republic
EHS-MP	Environment, Health and Safety Management Plan
EIA	Environmental Impact Assessment
EPA	Environmental Protection Authority
EPE	Environmental Policy of Ethiopia
ESA	Environmental and social Auditing
ESIA	Environmental and social Impact Assessment
ESMF	Environmental and social management Framework
ESMP	Environmental and Social Management Plan
ESS	Environmental and Social Screening
ESSF	Environmental and Social Screening Form
FDRE	Federal Democratic Republic of Ethiopia
GoE	Government of Ethiopia
GTP	Growth and Transformation Plan
HSE-MP	Health, Safety and Environment Management Plan
MDGs	Millennium Development goals
MoEF	Ministry of Environment and Forest
MoEFCC	Ministry of Environment, Forest and Climate Change
MoUDH	Ministry of Urban Development and Housing
MoWIE	Ministry of Water, Irrigation and Electricity
NRW	Non-Revenue Water
OP	Operational Policy(World Bank)
OWNP-CWA	One Wash National Project – Consolidated Wash Account
REPA	Regional Environmental Protection Authority
PAP	Project Affected Persons
PCR	Physical Cultural Resources
PIM	Project Implementation Manual
PMP	Pesticide Management Plan
PMU	Project Management Unit
REPA	Regional Environmental Protection Authority
RPF	Resettlement Policy Framework

SD	Sustainable development
SDGs	Sustainable Development Goals
ToR	Terms of Reference
ToT	Training of Trainers
TRANSIP	Ethiopian Transport Systems Improvement Project
ULG	Urban local Government
ULGDP	Urban Local Government Development Program
UPSNP	Urban Productivity safety net project
UWSSP	Urban Water Supply and Sanitation Project
WSS	Water Supply and Sanitation

Table of Contents

List of Tables

Executive Summary

Background, Purpose and Objective of UWSSP II

Ethiopia is among the countries with considerable achievement of MDGs (Millennium Development goals) by successfully achieving six of the eight MDGs. During the MDG periods the government has made profound change in creating the enabling policy, legal and institutional environment as well as allocated more resources to the sector. These have significantly increased access to improved water supply to 57% (2015) and access to improved sanitation to 28% (still below the sub-Saharan average of 68 % for water supply and 30% for sanitation).

Ethiopia's rapid urbanization is putting stress on the already inadequate water supply and sanitation (WSS) system in urban areas. The capacity of urban centers to adequately dispose of wastewater is low, exposing natural resources to pollution and posing a risk to human health. Out of the estimated 398,985 m^3/day of wastewater produced in Addis Ababa, Addis Ababa Water and Sewerage Authority (AAWSA) only has the capacity to properly dispose of 1,727m3/day or 0.43% of wastewater. The situation is even worse in other secondary cities including Mekelle 0.35%, Bahirdar and Hawassa 0.22%, Gondar 0.07%, Dire Dawa 0.05% and Adama 0.41%. In light of these challenges, the second phase of the Urban Water Supply and Sanitation Project (UWSSP) is primarily intended to improve urban sanitation holistically and equitably in the urban space and provide assistance to improve operational efficiency in 22 Ethiopian cities.

This document provides an Environmental and Social Management Framework (ESMF) for the second phase of UWSSP to be financed by the World Bank. The UWSSP has been categorized as category “B”, in terms of its potential environmental impacts. The ESMF document is prepared in line with the environmental and social safeguard policies of the World Bank and the Government of Ethiopia’s (GoE) environmental policies and legislations. It is prepared with a particular focus on safeguard policies triggered by the Project (i.e. OP 4.01 Environmental Assessment, OP 4.11 Physical Cultural Resources, and OP 4.12 Involuntary Resettlement). The ESMF which was prepared in 2016 was reupdated to include the new activities which will be financed by the project after restructuring.

Objectives of the ESMF

Since the exact location and potential localized adverse impacts of the UWSSP subprojects could not be identified prior to appraisal, this ESMF has been prepared in consistence with OP 4.01. It outlines an environmental and social screening process.

The overall objectives and purposes of the UWSSP ESMF can be summarized as follows:

- Review Ethiopia’s environmental policies, legislation, regulatory and administrative frameworks in conjunction with the World Bank’s ten safeguard policies. Where there are gaps between these policies make recommendations as to how to bridge these gaps in

the context of the proposed project as appropriate;

- Develop a stakeholder consultation process that ensures that all key stakeholders, including potentially affected persons, are aware of the objectives and potential environmental and social impacts of the proposed project;
- Assess the current ability at the regional and/or city level to implement the recommendations of the ESMF, and make appropriate recommendations;
- Assess the potential environmental and social impacts of planned sector investments and rehabilitation activities in the urban areas;
- In light of the available information, develop an environmental and social screening process for the future rehabilitation and construction activities referred to above; and,
- Prepare an Environmental and Social Management / Monitoring Plan (ESMP), including monitoring indicators, for the UWSSP.

This ESMF has been updated based on both Ethiopian environmental policy procedures and the Bank's OP 4.01, and the ESMF's from other Bank financed projects (One Wash National Program – Consolidated Wash Account, Urban Productivity safety net project, Ethiopian Transport Systems Improvement Project and Urban Local Government Development Program) were used in preparing this ESMF. Additionally, consultations with selected stakeholders from government and nongovernmental offices have been conducted.

Consultations during the ESMF Preparation

The World Bank policy OP 4.01 and OP 4.12 clearly states that public consultation should be held with selected key stakeholders during the preparation of the ESMF, in order to develop plans for mitigation of impacts during project preparation and implementation. As per these policies, public consultation and meetings has been made in Addis Ababa, Adama and Mekelle cities. Besides, stakeholder consultation has been conducted in the different public institutions at the federal level (ex. WDC, Ministry of Health (MoH), Ministry of Environment, Forest and Climate Change (MoEFC)).

Finally, the respective stakeholders attending the meeting have come up with the following main recommendations:

- Project Affected Persons (PAP) shall be entitled to all the reasonable compensation, including the provision of replacement land, jobs, and other resettlement assistances.
- Since the project is expected to avail more employment opportunities to the local communities, the project owner shall ensure that the local communities are the primary beneficiary of such opportunities by conducting all the required follow-ups to that effect.
- Such types of consultations are appreciated and should be done repeatedly with the community at large throughout the life cycle of the project.

In addition, as part of the proposed UWSSP preparation mission, a team composed of individuals from both the World Bank and implementing agencies, visited AAWSA, Mekelle and Adama cities, along with a visit to the different relevant governmental institutions (MoWIE, MoH, the environment unit from the Ministry, etc.) and assessed the implementation capacity and commitment towards the safeguards provisional compliance. In addition, a consultative workshop was held as part of the preparation mission in the presence of participants from WDC , AAWSA, secondary cities and other relevant stakeholders. Different types of presentations, including presentations on the safeguards concerns and on the World Bank's safeguards policies, were made by the environmental and social specialists from the World Bank. In all cases, the team has recognized that there is good commitment and experience towards safeguards implementation. However, it should be noted that both Mekelle and Adama cities don't have safeguards experts at the water and sanitation utility level.

On the whole, the draft ESMF, as per the requirement of OP 4.01, has been consulted with stakeholders drawn from governmental and non-governmental organizations and feedback obtained from the consultation has been incorporated.

Project Description and Component

The objective of the Project is "to increase access to improved sanitation facilities and improve efficiency in water supply service delivery in Addis Ababa and other 21 secondary cities[1]". The following indicators will be used to measure progress towards achieving the PDO:

i. Number of people in urban areas provided with access to "improved sanitation facilities" under the project (core);
ii. Number of people with access to enhanced water supply services under the project;
iii. Direct project beneficiaries, of which female beneficiaries (core);
iv. Operating cost coverage ratio (operating revenue / operating expenses)

Project components

The project includes three components to achieve the revised PDO: (i) sanitation and water supply services improvement in Addis Ababa; (ii) sanitation and water supply services improvements in select secondary cities; and (iii) Project management and institutional strengthening. The proposed restructuring will incorporate additional activities within these project components. The revised project description is summarized below.

Organizational Responsibilities of UWSSP Implementation

[1] *Dire Dawa, Mekelle, Adama, Bahiredare, Hawassa, Jimma, Gonder, Sodo, Adigrate, Harere, Jigjiga, Gambella, Assosa, Semera Bishoftu, Dessie, Shashemene, Nekemte, Asela, Arbaminch, and Debrebereha.*

The project will build on the experience of the implementation arrangement that was introduced under the ongoing UWSSP. An implementation manual for the overall project will be prepared that will explicate the institutional and implementation arrangements for the project and outline the rules of engagement for planning, appraisal, contracting, implementation and monitoring.

The project's institutional and implementation arrangements have been designed to utilize the comparative advantage and experience of the ongoing UWSSP with enhanced coordination and synergy across the different stakeholders. Overall coordination and implementation of the project in Addis Ababa will be the responsibility of AAWSA-Project Implementation Office (PIO) in close collaboration and guidance from the AAWSA-HQ. Secondary cities and federal level activities will be coordinated by the unit established in WDC , while implementation responsibility is devolved to the participating utilities. At the regional level, corresponding focal points will be designated within the respective Water bureaus. The federal MoH and Ministry of Urban Development, Housing and Construction (MoUDHC) also have institutional responsibilities to ensure urban sanitation, along with other Ministries like the Ministry of Culture and Tourism (MoCT). The MoEFCC have the institutional responsibility towards ensuring environmental protection, including regulation of waste disposal and enforcement of proclamations on safeguarding the general environment (biophysical, social and cultural environment).

While implementing various World Bank financed infrastructure projects, the Borrower has gained experiences in preparing and implementing safeguards instruments (ESMF, RPF, ESS, ESIA and RAP documents). This project will utilize the existing experience that has been built up with the ongoing UWSSP and OWNP-CWA safeguard implementation arrangements. Currently, there are Project Management Units (PMUs) with safeguard specialists atWDC, AAWSA and at all the nine regional water bureaus established for the implementation of the ongoing UWSSP. WDC has 4 safeguards experts under the PMU (2 environmental and 2 social) dedicated for the ongoing UWSSPand OWNP-CWA. AAWSA has a total of six environmental and social safeguards experts (3 environmental and 3 social) for all the projects they are implementing. Secondary cities, like Dire Dawa and Gondar also have safeguards experts, while the remaining participating cities will be required to deploy safeguards experts before commencement of the proposed project.

Relevant Ethiopian Policies and laws on Environment

The applicable Ethiopian environmental policies, laws and regulations to the UWSSPs are the following:

- The constitution of Federal Democratic Republic of Ethiopia (FDRE), especially Articles 43, 44 and 92
- The Environmental Policy of Ethiopia
- Ethiopian Water Resource management Policy (EWRMP)

- Proclamation No. 295/2002 , Establishment of Environmental Protection Organs
- Proclamation No. 299/2002 , Environmental Impact Assessment
- The Addis Ababa City government Regulation on Environmental Impact assessment Regulation No 21/2006
- Proclamation No. 300/2002 Environmental Pollution Control
- Regulation on prevention of Industrial Pollution , Reg No 159/2008
- The Addis Ababa City government Regulation on prevention of Industrial Pollution , Reg No 25/2007
- Public Health proclamation No 200/2000
- Proclamation No 455/2005: Expropriation of landholding for Public Purposes and Payment of compensation
- The Labour law , Proclamation No 377/2003
- Environmental Impact Assessment Guideline Document, May 2000

World Bank Safeguard Policies

The proposed project was categorized as an Environmental risk Category B (to be determined depending on the activities added during project restructuring) based on the expected environmental impacts associated with the proposed activities. The projects anticipated environmental impacts have triggered Bank Operational Policies OP/BP 4.01 (Environmental Assessment), OP/BP 4.11 (Physical Cultural Resources), Involuntary Resettlement (OP/BP 4.12) and Safety of Dams (OP/BP 4.37). OP 4.01 (Environmental Assessment) is triggered since the project is likely to have potential adverse environmental risks and impacts in its area of influence. OP 4.11 (Physical Cultural Resources) is triggered given the possibility that there may be cultural assets and/or sites in the project area and on the bases of chance finds (as the project will be constructed within or with close proximity to cities- see Annex VI) during construction and rehabilitation activities. OP 4.37 is triggered as the rehabilitation of existing dams will be financed. OP 7.50 is triggered given the potential pollution impact of WWTPs on international waterways.

S.N	Safeguard Policies Triggered by the Project	Yes	No
1	Environmental Assessment (OP/BP 4.01)	✓	
2	Natural Habitats (OP/BP 4.04)		✓
3	Pest Management (OP/BP 4.09)		✓
4	Indigenous Peoples (OP/BP 4.10)		✓
5	Physical Cultural Resources (OP/BP 4.11)	✓	
6	Involuntary Resettlement (OP/BP 4.12)	✓	
7	Forests (OP/BP 4.36)		✓
8	Safety of Dams (OP/BP 4.37)	✓	
9	Projects on International Waterways (OP/BP 7.50)	✓	
10	Projects in Disputed Areas (OP/BP 7.60)		✓

Environmental Context and Base line

Ethiopia is located in the horn of Africa, between 3º and 15ºN latitude and 33º and 48ºE longitude and covers a land surface area (including water bodies) of 1,127,127 km² and has a population of over 90 million. It is a country of great geographical and climatic diversity, which has given rise to many and varied ecological systems. The altitude ranges from 4,620 m above sea level at the highest peak, Ras Deshen, to 110 m below sea level in the Danakil Depression. The East African Rift Valley separates the northern and south-western highland from the south-eastern highland. The country is currently divided into nine regional states and two city administrations.

Potential project Impacts

The UWSSP II has both beneficial and adverse impacts during its implementation and operational phases. The following are among the potential beneficial impacts of the UWSSP II:

- Reduction in water-borne diseases such as dysentery, cholera and others;
- Reduction in the potential for outbreaks of epidemic infectious diseases such as cholera and hence improvement of public health situation of the community;
- Gain of time, especially for women and girls, that may be used for other, productive activities, and resulting gains in overall economic productivity;
- Employment opportunity both during construction and operation phases; and,
- Capacity building and training in the town or community, and resulting enhancement of organizational, financial and technical capacities of town.

Potential adverse impacts will largely be related to the contamination of the surface and groundwater by effluents. With the potential surface water quality and groundwater being potentially negatively impacted by effluent discharges. Any upgrade and expansion of sewerage networks and improved faecal sludge management would likely increase the load of effluent discharges into receiving waters. This negative impact could be mitigated to a large extent through the upgrading and introduction of wastewater treatment facilities (centralized and decentralized) and the introduction of effluent reuse.

Proposed screening and Environmental Management Process

This ESMF requires that each UWSSP subproject will be screened for environmental and social impacts using the Screening Checklist provided in Annex I of this ESMF. The screening will take place before the start of the construction stage and the outcome of environmental screening exercise will be classifying the proposed subproject into one of the categories, A, B or C. It should be noted that if any of the subprojects may fall under Category A, it will not be eligible for financing by the UWSSP and will not be proceeded with. Instead it will be subjected to redesign, re-routing or resizing. The screening reports shall be approved by each of the respective Regional Environmental Protection Authorities (REPAs).

Therefore, following the approval of the screening report by the REPAs, the subproject will be

fed in to one of the following processes based on its approved categorization.

- **Category B** (Schedule 2): The potential environmental issues identified in such projects will be investigated by: (i) Preparing a separate Environmental and Social Impact Assessment (ESIA) to get a better understanding of the potential environmental and social issues that have been identified in the screening process, accompanied with development of an Environmental and Social Management Plan (ESMP), or (ii) preparing a targeted/simplified ESMP for subprojects with clearly defined and straightforward environmental and social concerns (please refer Annex III). The contractor is required to prepare an EHS-MP that demonstrates how they will deliver the protection measures set out in the ESIA/ESMP and the environmental guideline for construction contractors (Annex V).
- **Category C**: such projects are not subject to environmental assessment as no potential impacts are anticipated. Thus no further action is required. However, the contractor is required to prepare an EHS-MP that demonstrates how they will deliver the protection measures set out in the environmental guideline for construction contractors (Annex V).

In conformance with OP 4.01, ESIA reports related with Category "B" subprojects will be consulted with and made available to the public both through the World Bank infoshop and the government's website. The consultation will be undertaken by competent consultants or by the safeguards specialists in charge of further environmental work (ESIA/ESMP). In addition, ESIAs and ESMPs will be reviewed by the Competent Agency or by MoWIE environmental unit (MoWIE is one of the federal agencies that have an environment unit with a full mandate to review and approve environmental and social screening and ESIA study documents). ESIAs will be reviewed by the World Bank as follows:

- No-objection on the scope of work and consultant contract; and,
- Review of the ESIA/ESMP in parallel to submission to the Competent Agency.

Monitoring and Reporting

Monitoring and supervision of the ESMP will be conducted to check implementation of mitigation measures as depicted in the ESIA study. Firstly, the contractors are required to submit monthly reports to the project implementing entities. Monitoring and supervision of implementation will be conducted by safeguards experts located in all participating cities (AAWSA and 21 secondary cities) that will be closely supervised by the safeguard experts of the PMU, located in WDC. Quarterly and annual environmental monitoring reports will be produced by project implementing entities (both AAWSA and secondary cities) and will be submitted to the WDC These reports, from all implementing cities, will be consolidated and summarized into a federal level quarterly and annual reports to be prepared by the WDC, and copies will be submitted to the Environmental Protection Authority (EPA) and the World Bank (please refer

Annex VII reporting templates). At regular intervals safeguard specialists from the World Bank will monitor compliance on the ground, during routine project implementation support missions.

Major Gaps Observed and Proposed Capacity Building

While implementing various World Bank financed infrastructure projects, the Borrower has gained experiences in preparing and implementing safeguards instruments (ESMF, RPF, ESS, ESIA and RAP). However, experience has shown that there are still gaps that need to be further enhanced. For example; the limited technical capacity (especially at the secondary city levels) and lack of appropriate budget for implementation of the ESMP, were among the major gaps observed during implementation of the ESMF (prepared for phase I of the UWSSP). Taking this into account and considering that the proposed UWSSP will focus on sanitation (which is a relatively new area) and the limited capacity of the implementing agency at all levels, intensive capacity building packages are proposed.

Thus, capacity should be built at the federal, regional and city levels for different experts and at the Town Water Boards, in order for them to take charge of the environmental mitigation measures at construction and operational phases. Capacity enhancement is also required for the private sector (construction contractors, consultants and other fecal emptying service providers) and for the technical experts under the water and sanitation utilities. However, the types of training necessary to these various target groups will vary and this could be in form of sensitization, awareness raising, experience sharing and technical training on ESMF and RPF. Accordingly, three different types of training packages are proposed for the relevant staff in environmental screening as well as in the implementation of the ESMF and RPF. An estimated total budget of USD 6.43 million will be required to implement the ESMF.

1. Introduction

Ethiopia has made considerable progress in WSS provision but still needs to catch up with its Sub-Saharan neighbors. During the MDG periods the government has made profound change in creating the enabling policy, legal and institutional environment as well as allocated more resource to the sector. These have significantly increased access to improved water supply to 57% (2015) and access to improved sanitation to 28% (still below the Sub-Saharan average of 68 % for water supply and 30% for sanitation).

Ethiopia's rapid urbanization is putting stress on the already inadequate WSS system in urban areas. The growing demand generated by rapid population growth, fast growing infrastructure development, service sector growth such as hotels, trade, and industrialization, as well as changes in the way of life and awareness level of the residents have mounted pressure in the already inadequate WSS system. Urban centers capacity to properly dispose of wastewater is too low, exposing natural resources for pollution and poses human health risks. Out of the estimated 398,985 M^3/day of wastewater produced in Addis Ababa, AAWSA has the capacity to properly dispose of only 1,727 M^3 /day or 0.43% of the capacity needed. The situation is even worse in other secondary cities including Mekelle 0.35%, Bahirdar and Hawassa 0.22%, Gondar 0.07%, Dire Dawa 0.05% and Adama 0.41%. The proportion of the population with no access to adequate wastewater disposal is strikingly high across the urban spectrum, ranging from 93% in small/medium towns to 62% in major towns to 58% in Addis Ababa.

This document provides an ESMF for the second phase of UWSSP to be financed by the World Bank. The category of UWSSP is to be determined based on the project restructuring, in terms of its potential environmental impacts. The ESMF document is prepared in line with the environmental and social safeguard policies of the World Bank and the GoE's environmental policies and legislations. It is prepared with a particular focus on safeguard policies triggered by the Project (i.e. OP 4.01 Environmental Assessment, OP 4.11 Physical Cultural Resources, and OP 4.12 Involuntary Resettlement). This ESMF was completed by an environmental specialist from the AAWSA project office, with technical assistance from the World Bank, and Ministry of Water, Irrigation and Electricity (MoWIE), in October 2016. The ESMF developed during the project's first phase was updated to reflect the activities to be undertaken under the second phase of UWSSP.

This report is to be used by the MoWIE, AAWSA and by the 21 secondary cities in order to ensure that all environmental and social safeguards are adequately addressed, and that the relevant capacity and training needs are established in order for the recommended measures to be effectively implemented, monitored and reported on.

1.1. Purpose and Objectives of the ESMF

Since the potential adverse environmental and potentially localized impacts of the UWSSP could not be identified prior to appraisal, this ESMF has been prepared consistent with OP 4.01. It outlines an environmental and social screening process which will enable qualified project personnel to screen sub-projects for potential negative environmental and social impacts and to identify, implement and monitor appropriate mitigation measures. As a safeguard instrument, the ESMF is a tool that ensures environmental and social sustainability of various subprojects under the framework of UWSSP. The ESMF is also guidance towards identification and mitigation of potential environmental and social impacts of the proposed UWSSP. To this end, this ESMF has been prepared in compliance with the Bank's OP 4.01 and relevant Ethiopian policies and laws on environmental assessment. Potential adverse environmental and some social impacts will be addressed in the context of this ESMF, while potential social impacts related to land acquisition such as loss of livelihoods or loss of access to economic assets will be addressed in the Resettlement Policy Framework (RPF). The RPF has been prepared as a separate document. The document outlines the policies and procedures to be applied in the event of land acquisition under the proposed project. The World Bank OP 4.01 EA requires that all Bank-financed operations are screened for potential adverse environmental and social impacts, and that the required environmental and social work be carried out based on the screening results.

The objective of the ESMF is, amongst others, to provide an environmental and social screening process for the UWSSP that would be implemented by AAWSA and other secondary cities. This process will be applied to future construction and rehabilitation activities planned under the proposed project, where the exact locations and potential adverse environmental and social impacts could not be identified prior to appraisal, and thus, appropriate mitigation measures could not be determined. This ESMF also provides guidance to various stakeholders, communities, and others participating in the UWSSP subprojects with regard to sustainable environmental and social management of subprojects.

The overall objective and purpose of the UWSSP ESMF can be summarized as follows:

- Review Ethiopia's environmental policies, legislation, regulatory and administrative frameworks in conjunction with the World Bank's ten safeguard policies. Where there are gaps between these policies make recommendations as to how to bridge these gaps in the context of the proposed project as appropriate;
- Review of the biophysical and socio-economic characteristics of the environment in the urban areas to be covered by the project, and highlight the major constraints that need to be taken into account in the course of project implementation;
- Develop a stakeholder consultation process that ensures that all key stakeholders, including potentially affected persons, are aware of the objectives and potential environmental and social impacts of the proposed project, and that their views are incorporated into the project's design as appropriate as possible;

- Assess the current ability at the regional and/or city level to implement the recommendations of the ESMF, and make appropriate recommendations;
- Assess the potential environmental and social impacts of planned sector investments and rehabilitation activities in the urban areas such as: water supply, wastewater treatment facilities with dominantly new technologies such as decentralized wastewater treatment and package wastewater treatments; as well as the provision of sanitation, expansion of piped water and sewerage networks in urban areas, and recommend mitigation measures as appropriate, including cost estimates;
- In light of the available information, develop an environmental and social screening process for the future rehabilitation and construction activities referred to above; and,
- Prepare an Environmental and Social Management / Monitoring Plan (ESMP), including monitoring indicators, for the UWSSP.

1.2. Methods of the ESMF Preparation

The methodology adopted for preparing the UWSSP ESMF includes the conventional methods, which are briefly discussed below.

1.2.1. Review of Project Related Documents

The ESMF for the ongoing UWSSP was prepared in January 2007 by independent consultants contracted by AAWSA under World Bank financing. As of now, Ethiopia is entering to the second phase of UWSSP (P156433), which is going to be implemented by AAWSA and another 21 secondary cities. Since the nature and complexity of the ongoing and new UWSSP is similar, it was found to be appropriate to update the existing UWSSP ESMF. However, in this updated ESMF, special attention is given for sanitation related issues, such as establishment of urban wastewater management systems in Addis Ababa and other secondary cities. Besides, ESMFs of the ongoing UWSSP, OWNP-CWA, UPSNP, TRANSIP and ULGDP were consulted in the review process. Mission Aide Memoire discussion papers and other similar project concept papers were also reviewed.

1.2.2. Review of Relevant Policies, Proclamations and Regulations

Both the Ethiopian environmental policy procedures and the World Bank's OP 4.01 are the critical milestones on which the update is based on. Overall, the ESMF preparation process involved conducting a review of the existing national legislations, policies, guidelines and institutional arrangements to ensure incorporation of updates, if any. The ESMF toolkit and template of the World Bank (February 2008) was also reviewed and applied for the preparation of the current ESMF.

1.2.3. Consultations with Selected key Stakeholders and the Public

The World Bank policy OP 4.01 and OP 4.12 clearly states that public consultation should be held with selected key stakeholders during the preparation of the ESMF so as to draw up plans

for mitigation of impacts while the project is implemented. As per these policies, public consultation and meetings have been made in Addis Ababa, Adama and Mekelle cities. Additionally, stakeholder consultation was made with the different public institutions at the federal level (MoWIE, MoH, MoEFC, etc.).

The aim of these consultations were to provide information on the upcoming UWSSP for the participants and explore their views towards its implementation and hence reflect their views on key elements of the ESMF and RPF, particularly, on the procedures and implementation arrangements, screening processes, compensation entitlements, dispute resolution and grievance redressing procedures and on the monitoring and evaluation processes. These consultations were facilitated by the Woreda office managers and representatives from the community.

The main agenda for the consultation discussions were focused on providing information about the UWSSP with emphasis on the project's positive and potential environment and social negative impacts and mitigation measures. A brief explanation of project's major objective, terms of implementation, possible environmental and socio-economic impacts (which may arise in due course of project implementation) were given to raise the awareness of the stakeholders from the outset of the project-planning phase.

The overall objectives of the public consultations were to:

- ✓ To share fully the information about the proposed project, its components and its activities with the community;
- ✓ To obtain information about the needs and priorities of the communities, as well as information about their reactions to the proposed polices and activities;
- ✓ To inform communities about various options on mitigation measures as well as relocation and rehabilitation;
- ✓ To obtain cooperation and participation of communities in activities required to be undertaken for implementing mitigation measures to reduce adverse impacts;
- ✓ To ensure transparency in all activities related to Project planning and implementation;

Accordingly, public consultation in Addis Ababa city was held with the Administrative Office and other offices of Woreda 12 (Bole Sub City). Woreda 12 in Bole sub-city is the administrative unit where the proposed project site for Eastern wastewater treatment plant and its main trunk line is expected to be constructed. In this regard the women and children office, health office and office of community mobilization in Kebele 12 were consulted. Community representatives were also consulted for the same purpose. This consultation was done on a voluntary basis. It was led by senior social and environmental specialists from AAWSA project office. Composition wise, the participants came from various sector of the community such as women, youths, community elders, cultural leaders, landholders and vulnerable groups.

Moreover, other consultations had been held with main stakeholders from the city government of Addis Ababa. In this regard, the EPA of the Addis Ababa city Administration, the MoEFCC, Urban Plan Institute, Land Development and Management Bureau and the Addis Ababa Branch office of the Ethiopian Orthodox Church have been consulted so that every stakeholder have equal awareness about the project, and their views and concerns about the project are dealt with. Institutional capacity gaps and other constraints are also clearly marked so as to pave a better way to implement the ESMF procedures in relation to the proposed sanitation projects. Most of these governmental stakeholders have expressed their positive attitude towards the projects and have promised that they will support AAWSA as a partner for the successful implementation of this vital project.

Results Obtained from Consultation

The community members at all levels generally reflected on the beneficial impacts of UWSSP. Communities and expertise insistently described that liquid waste disposal is one of the serious issues to be addressed, with high levels of wastewater pollution coming from development, such as condominium houses, settlements and hotels. Therefore, the construction of wastewater treatment systems, be it centralized or decentralized, are crucial. Hence, the consulted governmental stakeholders dominantly appreciated the proposed Eastern wastewater treatment and sewerage line project and promised that they will stand on the side of AAWSA as a partner for the successful implementation of this vital project.

Finally, the respective stakeholders attending the meeting have come up with the following main recommendations:

- PAPs shall be entitled to all the reasonable compensation, including the provision of replacement land, jobs, and other resettlement assistances.
- Since the project expected to avail more employment opportunities to the local communities, the project owner shall ensure that the local communities is the primary beneficiary of such opportunities by conducting all the required follow-ups to that effect.
- Such types of consultations are appreciated and should be done repeatedly with the community at large throughout the life cycle of the project.

The consultations were held between 8-28 September, 2016 and were led by the environment and social team of AAWSA-PIO and MoWIE.

In addition, as part of the proposed UWSSP preparation mission, the team, composed of members from both the World Bank and implementing agencies, visited AAWSA, Mekelle and Adama cities and different relevant governmental institutions (MoWIE, MoH, the environment unit from the Ministry, etc.) and assessed the implementation capacity and commitment towards the safeguards provisional compliance. Besides, a consultative workshop was held as part of the preparation mission in the presence of participants from MoWIE, AAWSA, secondary cities and

other relevant stakeholders. Different types of presentations, including presentations on the safeguards concerns and on the World Bank's safeguards policies, were made by the environmental and social specialists from the World Bank. In all cases, the team has realized that there is a very good commitment and experience towards the safeguards implementation. However, the team has also come to understand that both Mekelle and Adama cities don't have safeguards experts at the water and sanitation utility level.

Consultation on the updated version of the ESMF has not been possible due to COVID-19 risks. The updated ESMF will be publicly disclosed by the client and on the external website of the Bank by 02 June 2010.

On the whole, the draft ESMF, as per the requirement of OP 4.01, has been consulted with stakeholders drawn from governmental and non-governmental organizations and feedback obtained from the consultation, and has been considered and incorporated. The detailed report of consultation is presented in the RPF document and list of some participants consulted is provided in Annex VIII of this ESMF. This ESMF has been revised due to restructuring and the main description of the changes upon restructuring are summarized below:

2. Project Description

The Second Urban Water Supply and Sanitation Project (SUWSSP) – P156433 was approved on March 31, 2017 with a total project cost of US$ 505 million, of which US$445 is IDA financing and US$ 60 million is counterpart fund from Addis Ababa City Administration. This is the second proposed Level 2 restructuring for the project. A Level 2 restructuring was approved on 22 December 2017, which transferred some contracts and activities to the current project from the First Ethiopia Urban Water Supply and Sanitation Project (P101473), which closed in FY18.

The project includes three components to achieve the revised PDO: (i) sanitation and water supply services improvement in Addis Ababa; (ii) sanitation and water supply services improvements in select secondary cities; and (iii) Project management and institutional strengthening. The proposed restructuring will incorporate additional activities within these project components. The revised project description is summarized below.

Component 1: Sanitation and Water Supply Services Improvements in Addis Ababa

(a) Carry out sanitation improvements and related studies in Addis Ababa through, inter alia: (i) assessments and analyses of the sanitation situation, and carrying out of feasibility studies, design, and construction of a new wastewater treatment plant ("WWTP") and about 43 km of a sewer network for the Eastern catchment; (ii) construction of about 96 km of sewer networks and household connections for the

Eastern catchment financed by the Recipient; (iii) improvement of operation and maintenance management of existing WWTPs; (iv) improvement of sanitation services in underserved and low income areas, including construction of communal and public latrines and procurement of equipment and supporting development and implementation of sustainable management models involving women and disabled persons; (v) improvement of operational efficiency of water and sewerage services provision, including development of integrated city sanitation plans; and (vi) provision of support for emergency actions responding to the novel coronavirus ("COVID-19") and other emergencies through, inter alia, provision of goods and technical assistance and carrying out of small civil works, including Critical Water Supply, Sanitation and Hygiene Actions

(**b) Improvement of water supply and operational efficiency improvements in Addis Ababa through, *inter alia,* provision of support to AAWSA**: to improve water supply and sanitation services, including rehabilitating critical water supply infrastructure; to modernize the operational and management system to reduce and manage nonrevenue water ("NRW"); to improve customer care; to strengthen grievance redress mechanisms; to improve financial management, network management, and sewer connection and fleet management systems; to improve dam safety measures, including carrying out rehabilitation works at the Legedadi Dam (such as installation of stop logs on the spillway flap gate) and remedial works at the Dire dam to address leakage along approximately 2km along the length of the dam; and to support emergency response actions responding to COVID-19 and other emergencies in alignment with Project objectives.

(**c) Strengthen the Project management and institutional capacity of AAWSA's Management Board and Water Utility staff to effectively manage water supply and sanitation facilities and support emergency response through, *inter alia***, provision of training on Project implementation and utility operation, provision of financing for office equipment, vehicles and miscellaneous related expenses, provision of capacity building and resources to strengthen gender actions and reporting on the gender action plan, and provision of technical assistance for specific interventions, as well as for community consultation and participatory design and monitoring.

(d) Complete the remaining extension of about 4 kilometers of the Kality trunk sewer line, provide sewer connections to households and complete the remaining expansion work (about 5%) of the Kality wastewater treatment plant, including commissioning, testing and hand over of the plant to the Recipient.

Component 2: Sanitation and Water Supply Services Improvement in Select Secondary Cities Carry out the following in select Secondary Cities, including:

(a) Improvement of sanitation through, *inter alia*:

(i) carrying out of assessments, feasibility studies and design of viable investments, promoting a range of solutions tailored to the realities of each city eligible for support under the Project; (ii) development of sanitation infrastructure, (iii) procurement of capital equipment; and (iv) provision of support for emergency actions responding to the novel coronavirus ("COVID-19") and other emergencies through, inter alia, provision of goods and technical assistance and carrying out of small civil works, including Critical Water Supply, Sanitation and Hygiene Actions

(**b) Improvement of water supply and operational efficiency of utilities to modernize their service provision and management through, *inter alia*:** (i) procurement of equipment and pipes and fittings (such as bulk meters, flow meters, electromechanical equipment, various diameter pipes and fittings, and other equipment); (ii) repair, replacement and rehabilitation of pumps, generators, valves and other equipment; (iii) expansion of water supply and sanitation to underserved areas; (iv) assessment of non-revenue water issues and development of billing and accounting system; financial management; network management system, (v) building of capacity in billing and accounting, financial management, customer database operation, citizen engagement, customer care, and gender and management training; (vi) piloting of modern meter reading and collection technologies and other efficiency improving interventions; (vii) performance monitoring; (viii) public awareness creation to enhance the demand for services; and (ix) provision of support for emergency actions responding to the novel coronavirus ("COVID-19") and other emergencies through, inter alia, provision of goods and technical assistance and carrying out of small civil works, including Critical Water Supply, Sanitation and Hygiene Actions.

(c) Enhancing capacity of participating Water Board members and Water Utility staff to effectively manage respective water supply and sanitation facilities and support emergency response through, inter alia:

(i) provision of training, exposure visits and study tours, provision of equipment, awareness creation for management team, boards, utilities, municipalities, and urban health extension workers; (ii) provision of support for establishment of utility performance monitoring and benchmarking and for preparation of business plans; (iii) financing of Project management costs (including costs of communications, monitoring and evaluation, procurement, financial management, and safeguards measures).

Component 3: Project Management and institutional Strengthening

(a) Provision of support to MoWIE, the WDC, AAWSA and Regional Water Bureaus, and select water and sanitation utilities for select Secondary Cities for management of Project activities and strengthening

of their institutional capacity for that purpose through, *inter alia*, training, study tours, acquisition of office equipment and vehicles and financing of Operating Costs.

(b) Carrying out of studies for the improvement of sector performance in selected areas, including private sector participation, strong data collection and monitoring system, performance based human resource management system and tracking of gender diversity among utility staff, establishment of independent body/ies to regulate performance of the urban water supply and sanitation utilities, and identification of emerging needs for applied research, technology choice, and waste reuse.
(c) Carrying out of studies for business continuity planning for select water supply and sanitation utilities, including mechanisms for service delivery, enhanced water quality assurance and monitoring, preparation of utilities' emergency plans, safely managed wastewater and fecal sludge, safe disposal of effluent, monitoring of secondary impacts, viability of critical supply chains for the sector, and financing strategies to mitigate service disruption for households and institutions; and carrying out technical studies to build institutional resilience against emergencies and/or diseases.

2.1 DESCRIPTION OF PROPOSED CHANGES

1. **Revision of Risk Ratings.** Most project risk ratings remain unchanged from project appraisal and since the last implementation support review (ISR). The macroeconomic risk is upgraded from 'Moderate' to 'Substantial' due to macroeconomic uncertainty impacting countries around the world due to COVID-19. The 'other' risk is upgraded from 'Moderate' to 'Substantial' considering a pre-existing complex project supervision environment due to heightened security considerations and travel restrictions, in particular for implementation of activities in secondary cities, which have been exacerbated by the ongoing COVID-19 pandemic.

2. **Revision of Implementation Agency.** The Ministry of Water Irrigation and Energy (MoWIE) which was designated as the implementing agency at project approval, will be replaced as an implementation agency by the Water Development Commission (WDC), established by proclamation No 1097/2018 after project approval to carry out study, design and construction of potable and sustainable water supply and sanitation infrastructure; and (ii) to reflect the evolution of the AAWSA Project Implementation Office to the AAWSA Water Supply and Sanitation Infrastructural Development Division (WSSIDD).

3. **Revision of Project Development Objective (PDO):** The proposed revised PDO *is to increase access to water supply and sanitation services and improve operational efficiency of water supply and sanitation utilities in Addis Ababa and select secondary cities.* This change will provide the project with the flexibility to finance solutions for water supply and sanitation beyond only operational efficiency as a consideration.

4. **Components, Cost and Reallocation of Disbursement Categories:** It is proposed to shift USD $5 million from Component 2 to Component 3 to strengthen the capacity of the Borrower to implement and manage the project, as well as make key improvements in implementation bottlenecks.

5. **WASH interventions to achieve the PDO and contribute to COVID-19 response.** WASH is key to support effective response to COVID-19. At the request of the client, it was agreed to introduce flexibility in the project description to scale up or modify existing activities to both achieve the PDO and contribute to COVID-19 response. COVID-19 response actions will be undertaken in close collaboration underneath the umbrella response by the Ministry of Health. A Steering Committee, chaired by the Minister for Water, Irrigation, and Electricity (MoWIE) has been established to facilitate a stronger water sector response with the participation of WDC. In addition to WASH activities for COVID-19 response, WDC and AAWSA completed an identification exercise as part of the project MTR to generate a pipeline of non-regrettable investments that will contribute to achieving the project PDO. The proposed activities will be accommodated under existing project components without additional financing. In addition, limited water supply activities would be considered for cities with low water coverage. For example, the recently completed project baseline review found that water coverage level is currently below 40% in some cities. In those cases, activities for increasing access to water can be considered as fundamental to improving operational efficiency of utilities. Examples of identified investments are included in Annex 1 and proposed revisions to the activity descriptions are included in Annex 2.

6. **Critical WASH interventions to contribute to effective COVID-19 response.** At the request of the client, it was agreed to introduce flexibility in the project description to ensure It was agreed with the client that, rather than add an explicit development objective linked to COVID-19, that instead the activity descriptions of the components would be revised to allow the project to improve availability of water and needed equipment and supplies for COVID-19 response, and

emergency response more broadly. It was further discussed and agreed to not include a Contingent Emergency Response Component (CERC) given the revisions to the activity descriptions. Eligible activities to contribute to effective COVID-19 response include the following:

7. **Revision of Results Framework Indicators:** The project Results Framework will be revised to include the following changes, the definitions of which are further captures in the Results Framework Annex:

    a. Revision of indicator definition – People in urban areas whose excreta is safely managed under the project. This definition was revised to align the indicator with the corresponding Sustainable Development Goal definition and allow simplified computation for offsite and onsite sanitation interventions.
    b. Revision of indicator and definition - Volume of Wastewater collected, transported, safely treated and disposed under the project (m3/d): The indicator is slightly modified to enable measurement of the actual volume of wastewater/sludge safely transported, treated and disposed instead of the capacity created. This will allow alignment of the indicator with the SDG "Percentage of wastewater generated by households that is safely treated" The definition of the indicator is also modified to ensure separate reporting of volume of sludge collected through VTs and through sewer lines.
    c. Revision of indicator and inclusion of additional sub-indicator - Public and communal latrines constructed under the project and providing service. The definition of this indicator is revised to i) allow provision of WSS for institutions such as schools and health facilities, better elaborate the service provision aspect and iii) include additional sub indicator to capture the Project's contribution towards Water Supply and Sanitation responses to emergency situations such as COVID 19 and other related emergencies.
    d. Shift from PDO-level indicator to intermediate level indicator, and revision of definition - Savings from NRW interventions under the project (%). This indicator is moved from PDO to intermediate level to simplify the PDO level indicators and avoid redundancy of measuring operational efficiency. The UoM is changed to %age following the baseline survey conducted that established NRW percentage level for each utility which was not available during appraisal stage.
    e. Replacement of the original indicator with a new indicator – From “Trained PMU staffs at federal, regional and town level under the project” to “Proportion of Project utilities

producing quarterly Project Progress report (physical and financial) as per the reporting format" - The original indicator was measuring input not result. Hence it is changed to allow measuring beyond training and capturing the result gained as a result of providing the training. The definition of the indicator is modified accordingly

f. Change of the definition of the indicator and inclusion of additional sub indicator - Grievances registered related to delivery of project benefits that are actually addressed - A sub indicator "Percentage of addressed grievances of which submitted by women " is included to measure the Project's prioritization for women during responding to reported grievances.

g. Inclusion of a new indicator: Share of newly assigned decision-making positions filled by women in Project participating utilities - This indicator is newly included to track project contribution on narrowing gender gap and promote inclusiveness. The agreed indicator definition is provided in the Results Framework Annex.

8. **Revision of select Results Framework Targets.** The project targets for Addis Ababa is revised to reflect the result of the transferred contract of Kality Wastewater management system and to adjust the result of Eastern catchment to trial operation utilizing 20% of the treatment capacity. Accordingly, the following sanitation service improvement related indicators are adjusted as follows and further captures in the Results Framework Annex:

   a. People in urban areas whose excreta is safely managed under the project: The original end Project target AA (495,000) is increased to 511,900

   b. New sewer connections constructed under the project: The original end Project target for AA (55,000) is increased to 57,600.

   c. Volume of wastewater/sludge safely collected, transported, treated and disposed under the project: The original end Project target for AA (80,000) is increased to 86,000.

   d. Direct project beneficiaries: the original direct project beneficiaries (3,385,000) is increased to 3,401,900

9. **Revision of Implementation modalities:** Implementation arrangements was identified as a key roadblock during the MTR mission. A key recommendation which will be carried out is the role of the Water Resources Development Fund (WRDF)[2]. Consistent with the Government of

[2] The WRDF is an autonomous public institution legally established by proclamation No.268/2002 in January 2002 to implement the cost recovery policy objective and manage revolving fund. The WRDF is accountable to Water Development Commission. WRDF will serve as a limited financial interface to manage the sub-loan agreements signed with the respective utilities/SCs and administer the revolving fund. The technical review and supervision, procurement review and approval as well as contract

Ethiopia's policy on full cost recovery for urban water supply and sanitation, the proposed interventions for expanding water supply services in secondary cities will be financed through sub-loans managed by the Water Resources Development Fund (WRDF). Additionally, is the role of AAWSA to coordinate with the Addis Ababa River Basin and Green Areas development and Administration Agency (AARGDA) is responsible to develop communal latrines at low income areas and public latrines at selected sites and ensure the management. The Agency organized a unit responsible to develop the infrastructure and ensure quality service. Specific arrangements are reflected in Annex 3: Implementation Arrangements. The Project Operations Manual (POM) will be revised to better align suggested implementation strategies agreed during the MTR mission, which includes: (i) introducing readiness criteria and performance-based resource allocation and incorporate these changes in all relevant project documents; and (ii) introducing readiness criteria and performance-based resource allocation for participant secondary cities and utilities to receive investment financing under the project would bring them back to the driving seat and incentivize those that are committed to deliver the project. The project financing agreement will be amended to reflect the roles and responsibilities for WDC, AAWSA, WRDF, city administrations, utilities, and the private sector.

2.2Project Components

COMPONENTS				
Current Component Name	**Current Cost (US$M)**	**Action**	**Proposed Component Name**	**Proposed Cost (US$M)**
Component 1: Sanitation and water supply services improvements in Addis Ababa	260.00		Component 1: Sanitation and water supply services improvements in Addis Ababa	260.00
Component 2: Sanitation and water supply services improvement in secondary cities	241.00	Revised	Component 2: Sanitation and water supply services improvement in secondary cities	236.00

management will be conducted by the regional and federal PIUs and not by WRDF, which will manage the sub-loan and revolving fund.

Component 3: Project management & institutional strengthening	4.00	Revised	Component 3: Project management & institutional strengthening	9.00
TOTAL	**505.00**			**505.00**

2.3 Organizational Responsibilities for UWSSP Implementation

The project will build on the experience of the implementation arrangements that was introduced under the ongoing UWSSP. An implementation manual for the overall project will be prepared that will spell out the institutional and implementation arrangements for the project and outline the rules of engagement for planning, appraisal, contracting, implementation and monitoring.

The institutional arrangement for implementation of the UWSSP is streamlined into the existing government structure at the federal, regional and city levels. The Integrated Urban Sanitation and Hygiene Strategy of Ethiopia is one of the major tools to implement full sanitation systems (from containment to disposal) under UWSSP by mitigating the negative impacts of poor urban sanitation on health, environment, social and the economy. In this integrated strategy, MoWIE/WDC, MoUDHC, MoH, and MoEFCC are the ones playing major role in supporting regions and the secondary cities.

The following institutions will be involved in project implementation:

Water Development Commission (WDC) : will be responsible for overall coordination and monitoring and evaluation of the project, facilitation of capacity building and policy formulation. The Water Resources Development Fund will be responsible for coordinating and monitoring the on-lending part of the project for Addis Ababa. The MoH will be responsible for the management and coordination of activities directly related to the urban health extension workers' contribution to hygiene and sanitation promotion in the project cities and towns. WDC will also oversee implementation of the ESMF and the RPF. The commission will use its recently established Environment, Social and Climate Change Directorate and its safeguards specialists and (if needed recruiting additional experts) and AAWSA will use its safeguards specialists. These safeguards experts at WDC and AAWSA will be responsible for implementing the provisions of the ESMF and RPF and will coordinate these activities with the relevant personnel of the regional city administrations. They will coordinate the preparation of the environmental and social sections of the periodical reports with WDC and AAWSA.

Regional Water Bureaus: The Regional Water Bureaus are responsible for overall project planning, management, coordination and capacity building at the regional level. The Regional Water Bureaus play an important role in arranging technical assistance for towns and cities.

Water Boards: The Water Boards are responsible for oversight and guidance for urban WSS service provision. Water Boards enter into a performance agreement with the utility.

Water and Sanitation Utilities: Though legally mandated to provide liquid waste management services, in practice most utilities are limited to water supply provision. Under this project, utilities will be responsible for liquid waste management.

2.4 Institutional Arrangements for the Environmental and Social Activities

While implementing various World Bank financed infrastructure projects, the Borrower has gained experiences in preparing safeguards instruments (ESMF, RPF, ESS, ESIA and RAP documents) to identify and address potential environmental and social impacts. This project will utilize the existing experience that has been built up with the ongoing UWSSP and OWNP-CWA safeguard implementation arrangements. Currently, there are PMUs (with safeguard specialists) at WDC, AAWSA and at all the nine regional water bureaus established for the implementation of the ongoing UWSSP project. WDC has 6safeguards experts under the PMU (3 environmental and 3 social) dedicated for the ongoing UWSSP and OWNP-CWA. AAWSA has a total of six environmental and social safeguards experts (3 environmental and 3 social) for all the projects they are implementing. Secondary cities, like Dire Dawa and Gondar also have safeguards experts, while the remaining participating cities will be required to deploy safeguards experts before commencement of the proposed project.

Water Development Commission (WDC) : The WDC would be responsible for overall coordination and monitoring and evaluation of the project, facilitation of capacity building and policy formulation. Capacity building will include full time specialists in social and environmental assessments, reviewing and monitoring and evaluation. These safeguards experts at WDC will also be responsible for implementing the provisions of the ESMF and RPF and will coordinate these activities with the relevant personnel of the regional and city administrations.

Water Resources Development Fund: The Water Resources Development Fund personnel will appraise all water supply facilities for which it arranges financing, including a review of baseline surveys and ESMPs.

Regional Water Bureaus: The Regional Water Bureaus play an important role in arranging technical assistance for towns and cities. Environmental and social personnel assigned for the ongoing UWSSP will assist the water utilities in conducting environmental and social screening, monitoring and following up of implementation of the proposed mitigation measures for each subprojects found in their respective regions.

Water Boards: The Water Boards are responsible for oversight and guidance for urban WSS service provision; including implementation of the environmental and social safeguards.

Water and Sanitation Utilities (Addis Ababa and the 21 Secondary cities): Under this project, utilities are required to allocate appropriate budget, assign/recruit safeguards experts (as mentioned above), conduct environmental and social screening, implement and monitor the ESMP and RAP study documents. Owing the fact that some secondary cities/towns lack

experience in implementing World Bank projects, it has to be noted that experienced and qualified safeguard experts shall be assigned to ensure that any environmental and social safeguards matters are properly addressed. Besides, utilities will be responsible for the preparation of the periodical safeguards implementation status report and submit it to theWDC. These reports will provide summaries of: (i) environmental screening; (ii) ESIAs carried out in the course of the budget year; (iii) overall implementation status of the ESMPs, and (iv) summary of the environmental monitoring carried out on systems at both construction and operation phases. Annual reports will be reviewed by the EPA and the WDC, and copies will be sent to the World Bank.

Ministry of Environment Forest and Climate Change (MoEFC): At the federal level, MoEFC is in charge of issuing policies, directives and standards, and of enforcing the laws and policies, including on Environmental Impact Assessments (EIAs) and environmental monitoring, for all projects or activities that fall under the control of the Federal Government. Each of the main federal agencies active in infrastructures or economic development is required by law to have its own environmental unit. The MoWIE is one of few federal agencies to have an environment unit with a full mandate to review and approve environmental and social screening and ESIA study documents. According to the Environmental Protection Organs Proclamation, the Regional States are to create their own Regional Environmental Agencies. These are to deal, amongst others, with EIAs for regionally managed infrastructure or development activities (refer section 3.16.2 for the details).

Regional Environmental Protection Authorities: REPAs are expected to review and approve the Environmental and Social Screening (ESS) and ESIA documents and oversee the safeguard components of the projects under their jurisdiction. They will carry out spot checks to confirm that environmental and social screening and ESMPs are properly done. They will also provide capacity building and advise project implementing entities surrounding the project impacts beyond the generic issues, determining if the mitigation measures are acceptable or project redesign is required, refer 3.16.3 for the details.

The following table shows the proposed share of responsibilities between the different organizations involved in the implementation of the environmental management process under the UWSSP.

Table 2-1: Environnemental and Social Management Process – Implémentation Responsabilities

Level	Responsibilities
Water and Sanitation Utilities (Addis Ababa and the 21 Secondary cities)	• AAWSA may hire additional safeguards staffs as required. However, all the larger secondary cities (Dire Dawa, Mekelle, Adama, Bahirdar, Hawassa, Jimma, Gonder, Harar, Jigjiga, Bishoftu, Dessie, Shashemene, Nekemte, Adigrat and Arbaminch) have to recruit one environmental and one social safeguards expert, while the remaining small towns are required to recruit at

Level	Responsibilities
	least one safeguards expert each, and get properly trained accordingly. These staffs will be ultimately responsible for Environmental and Social Screening and supervise implementation of the ESMP, RAP, Environmental Guideline for Construction Contractors, etc.; • Contract consultants for ESIA studies of category B subprojects, based on ToRs prepared for each subprojects that requires ESIA studies; • Preparing ESMP where the scoping indicates clearly defined and straightforward environmental and social concerns • Ensure that the Environmental Guideline for Construction Contractors is included within the works contract; • Contract consultants for the design, works and supervision activities; • Designate technical supervisor of works, who, in the absence of the environmental focal staff mentioned above, will supervise the implementation of mitigation measures; • Take responsibility for and supervise implementation of environmental mitigation measures at construction and operational phases, including those related to land expropriation and compensation issues; • Take responsibility for and supervise the implementation of monitoring measures; • Provide quarterly and annual environmental monitoring reports to the review of the Ministry of Water, Irrigation and Electricity and the Competent Agency (REPAs).
Water Development Commission (WDC) and Regional Water Bureaus	• Supervise and monitor the overall implementation of the ESMF and RPF; • Support secondary cities in conducting the environmental and social screening and other environmental and social safeguards activities; • Support secondary cities and AAWSA in organizing capacity building programs and in the preparation of ESMP for sub-projects with straightforward and clearly defined environmental and social concerns; • As required, update the ESMF and RPF; • Disclose the ESMF, RPF, ESIAs and RAP documents; • Compile and submit annual environmental monitoring reports to the review of the Environment unit under MoWIE and the World Bank.
Design contractors	• Responsible for the design of the works • Responsible for ensuring the ESIA gets fed into the design, in this case the ESIA shall be prepared by an independent consultant different from the design consultant
Construction contractors	• Properly implement the contract including the Environmental Guidelines for Construction Contractors, annexed with this ESMF.
Construction supervision consultants	• Take responsibility for and supervise the implementation of the contract, including the environmental guidelines for construction contractors
ESIA Consultants	• Develop ESIA & ESMP for Category B subprojects, where required
Regional EPAs	• Review and clear screening reports submitted by implementing agencies; • Supervise the development of ESIA/ESMPs by consultants where required, review and clear Terms of Reference, draft ESIA/ESMPs and participate on public consultation activities; • Review design to ensure ESIA is fed into the design; • Supervise implementation of the ESMF and other project specific

Level	Responsibilities
	environmental instruments; • Supervise implementation of the environmental mitigation measures by the AAWSA and the 21 secondary cities; • Provide capacity building and other technical support, as necessary, for the water and sanitation utilities and regional safeguards experts.
Ministry of Environment , Forest and climate change and the Environment unit under the MoWIE	• Review the draft ESMF and RPF; • Review design to ensure ESIA is fed into the design • Supervise and monitor the overall implementation of the ESMF and RPF, including review of annual environmental reports provided by the WDC and AAWSA; • Facilitate and provide training for the water and sanitation utilities and regional safeguards experts.
Federal: Ministry of Health (MoH) or Health Bureaus.	• Collaborate with the MoWIE/WDC in the follow up and supervision of works related to Sanitation and hygienic practices implemented in secondary Cities and in Addis Ababa.
The World Bank	• Review the draft ESMF and RPF; • Review ESIAs for category B subprojects, as per the Procedures outlined above “Review and clearance of ESIAs”; • Review design to ensure ESIA is fed into the design • Monitor the overall implementation of this ESMF, including review of annual environmental reports provided by the WDC and AAWSA; • Disclose the ESMF, RPF, ESIAs and RAP documents; • Provide capacity building and other technical support, as necessary, for implementing agencies.

2.5 Institutional mandate and responsibility for UWSS service provision

Water Supply: MOWIE/WDC is the lead institution responsible for policy, strategy and national project development and overall monitoring of the water sector at the national level. The water and sewerage authorities in each urban center are responsible for provision of urban water supply in their respective service areas. The utilities are directly accountable to an autonomous water board while they are partly regulated by the regional water bureaus. The MoUDH, in its effort to exercising its mandate of monitoring standard of municipal services in each municipality, plays part in the monitoring of the utilities performance. This accountability to multiple institutions has contributed to the utilities low performance. Establishment of independent regulatory body is therefore essential for effective monitoring of the utilities.

Sanitation and Hygiene: Responsibility for urban sanitation services provision and monitoring is shared between several institutions. The WDC, MOH, MOUDH share responsibilities for monitoring and oversight of the hygiene and sanitation services at the national level. Although the water and sewerage authorities in each municipality are legally mandated to provide sanitation services in the large cities, very few are exercising this mandate. In most of the cities, municipalities responsible for managing the collection, transporting and disposing of the domestic wastewater often allow these to operate in uncoordinated manner. A limited number of privately owned cesspool emptying trucks are operating in the secondary cities. The subsector

requires a clear assignment of responsibilities, regulation for the private sector and more importantly effective planning processes.

Public Private Partnership in the sector is very weak: The private sector, in partnership with the WSS utilities, can serve as an important vehicle to provide efficient service. However, a conducive enabling environment for public private partnership is not yet in place to allow for actual practice of involvement of the private sector, beyond the limited involvement in the emptying and transportation of domestic wastes.

Though public health proclamations and pollution control regulation are in place, based on the polluters pay principles, there is no appropriate mechanism and institutional capacity to enforce it. The two key regulatory bodies in relation to urban sanitation are the EPA (through Proclamation No. 513/2007), and the Food, Medicine and Health Care Administration and Control Authority (through Proclamation No.661/2004), which is independent but accountable to the MoH. Although regulations do exist, their enforcement is very low and they often do not support each other with consequent duplication of effort. The existing regulations fail to clearly define the minimum acceptable standard for wastewater management and where most of the urban centers lack wastewater management (collection, treatment and disposal) system.

3. Legal and Policy Frameworks

The first attempt to develop environmental regulations in Ethiopia dates back from 1989, when the development of the Conservation Strategy of Ethiopia (CSE) was launched. Before this CSE and Environmental Policy of Ethiopia (EPE) were finalized in 1997, the new Constitution of Ethiopia (1995) affirmed the right of every Ethiopian citizen to a clean and healthy environment and established the responsibility of the State in ensuring this right.

A more comprehensive legal and regulatory framework was developed in 2002, in the form of three proclamations, namely (i) Proclamation to establish Environmental Protection unit, (ii) Proclamation on Environmental Impact Assessment, and (iii) Proclamation on Environmental Protection Control.

Whereas these three proclamations provide the overall framework, the details of environmental and social management responsibilities to be implemented on the ground has been explicitly enacted through regulations, guidelines and standards developed based on the above frame works.

3.1. The Constitution of Ethiopia

The constitution of the FDRE, which was enacted in 1995, is the umbrella for all legislative frameworks in the country. The concept of sustainable development and the environmental rights of the people are clearly stipulated in the constitution, along with many other provisions. The

concept of sustainable development and environmental rights are explicitly stated in article 43, 44 and 92 of the constitution of Ethiopia.

Article 43: The Right to Development identifies peoples' right to:

- Improved living standards and to sustainable development; and
- Participate in national development and, in particular, to be consulted with respect to policies and projects affecting their community.

Similarly, in Article 44: Environmental Rights, all persons:

- Have the right to a clean and healthy environment; and
- Who have been displaced or whose livelihoods have been adversely affected as a result of state projects (PAPs) has the right to commensurate monetary or alternative means of compensation, including relocation with adequate state assistance.

Moreover, in Article 92: Environmental objectives are identified as:

- Government shall endeavor to ensure that all Ethiopians live in a clean and healthy environment;
- The design and implementation of projects shall not damage or destroy the environment;
- 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;
- Government and citizens shall have the duty to protect the environment;
- Maintains land under the ownership of the Ethiopian people and the government but protects security of usufruct tenure;
- Ensures the equality of women with men;
- Maintains an open economic policy;
- Recognizes the rights of groups identified as “Nations, Nationalities and Peoples” having a common culture or similar customs, mutual intelligibility of language, belief in a common or related identity, a common psychological make-up, and who inhabit an identifiable, predominantly contiguous territory.

3.2. Environmental Policy of Ethiopia

The Environmental Policy of Ethiopia (EPE was approved by the Council of Ministers in April 1997. Its conceptual framework was based on the findings and recommendations of the National Conservation Strategy of Ethiopia. This policy document, along with CSE was developed with the assistance from the International Union for the Conservation of Nature. EPE includes 9 policy objectives, 19 guiding principles, 10 sectoral policies (one of which is on Water Resources) and 10 cross-sectoral policies (one of which is on community participation and another on EIAs).

The goal of the Environmental Policy of Ethiopia is to improve and enhance the health and quality of life of all Ethiopians and to promote sustainable social and economic development

through the sound management and use of resources and the environment as a whole so as to meet the needs of the present generation without compromising the ability of future generations to meet their own needs. For the effective implementation of the Environmental Policy of Ethiopia, the policy encourages the creation of an organizational and institutional framework from Federal to community levels. The Environmental Policy of Ethiopia provides a number of guiding principles that require adherence to principles of sustainable development; in particular, the need to ensure that EIA's:

a. Consider impacts on human and natural environments;
b. Provide for early consideration of environmental impacts in projects and projects design;
c. Recognize public consultation;
d. Include mitigation and contingency plans;
e. Provide for auditing and monitoring; and
f. Is a legally binding requirement.

3.3. Ethiopian water resource management policy

This policy is issued with the overall goal to enhance and promote all national efforts towards the efficient, equitable and optimum utilization of the available Water Resources of Ethiopia for significant socioeconomic development on sustainable basis. The policy critically addresses gender issue in such a way that it promotes the full involvement of women in the planning, implementation, decision making and training as well as empower them to play a leading role in self-reliance initiatives.

The Sanitation Policy provides a means to develop a collaborative and cooperative framework for the development of sanitation systems and sanitation facilities through defined responsibilities of various governmental, non- governmental and other major stakeholders at all levels. It also clearly states that sanitation services are based on participation-driven and -responsive principles without compromising social equity. The Integrated WSS Policy recognize that WSS services are inseparable and hence integrate the same at all levels through a sustainable and coherent framework.

Growth and Transformation Plan (GTP)

The general objective of the Growth and Transformation Plan II is to contribute to the realization of the vision of the country to become middle income by 2025 through provision of access to safe and sustainable water supply and urban wastewater management to the citizens of the country using low cost technologies and community mass mobilization. The main goals with respect to sanitation sector is to carry out studies and design urban wastewater management systems for various towns/cities and build wastewater management infrastructure for 6 towns/cities with a population of 200,000 and more. Among the core strategic directions of GTP-2 are: upgrading the water supply service infrastructure to the level of middle-income countries

by 2020; empowering women in decision making; and establishing urban wastewater management systems.

3.4. Environmental proclamations, regulations and guidelines

3.4.1. Environmental Impact Assessment Proclamation, Proclamation No 99/200

This proclamation establishes the requirement of an EIA procedure for all projects, and clearly describes the procedures to be followed by project proponents with respect to EIAs. The EIA process described in the proclamation underscores the presence of consultation requirements where reports are to be made public, and the comments of the public (especially of the project affected people) are to be solicited and taken into consideration in the review process undertaken by the federal or regional environmental agency in charge of the project. On top of this, the proclamation makes EIA mandatory for specified categories of activities undertaken either by the public or private sectors, or possibly, for the extension of EIA to policies, plans and programs in addition to projects. The proponent of the project (whether it is public or private body) must prepare an EIA following the requirements specified in the legislation (article 8) and associated guidelines. The MoEFCC or the sector Ministries delegated by it and relevant Regional Environmental Agencies will then review the EIA and either approve the project (with or without conditions) or reject it.

The Proclamation on Environmental impact assessment requires, among other things:

- Specified categories of projects to be subjected to an EIA and receive an authorization from the MoEFCC or the relevant regional environmental agency prior to commencing implementation of the project.
- Licensing agencies to ensure that the requisite authorization has been duly received prior to issuing an investment permit, a trade or operating license or a work permit to a business organization.
- MoEFCC or the relevant regional environmental agencies may issue an exemption from carrying out an EIA in projects supposed to have an insignificant environmental impact.
- A licensing agency may suspend or cancel a license that has already been issued where the MoEFCC change or the relevant regional environmental agency suspends or cancels environmental authorization.

Procedures that need to be followed in the process of conducting an EIA are described in the Proclamation and further elaborated in the draft EIA procedural guideline issued in 2003 E.C. Thus a project developer is expected to act as follows:

- Undertake a timely EIA, identifying the likely adverse impacts, and incorporating the means of their prevention.
- Submit an environmental impact study report to the MoEFCC , delegated MoWIE or the relevant regional environmental agency for review and approval.

To put this Proclamation into effect the MoEFCC has issued an EIA Directive (Directive no.1/2008) and other draft procedural guideline documents, which provide details of the EIA process and its requirements.

3.5. Regulation on Environmental Impact Assessment

Based on the Federal EIA Proclamation No 299/2002, many of the regional states have prepared and put in force their own EIA regulations. Some of these regional EIA regulations put stricter rules on the project proponents and EIA practitioners to facilitate for the preparation of EIA's with dependable and sufficient information that would enable sound decision making. In this regard, EIA regulation issued by the Addis Ababa City government can be worth mentioning. Regulation No 21/2006 has boldly put in its preamble that the purpose of issuing this regulation is to follow up and ascertain the development activities in Addis Ababa city so that they are all implemented in conformity with the conditions of the principle of sustainable development and without obstructing environmental security.

3.6. Environmental Pollution Control, Proclamation No 300/2002

Proclamation No. 300/2002 on Environmental Pollution Control primarily aims to ensure the right of citizens to a healthy environment and to impose obligations to protect the environment of the country. The proclamation is based on the principle that each citizen has the right to have a healthy environment on one hand and the obligation to protect the environment of the country on the other. The law addresses the management of hazardous waste, municipal waste, the establishment of environmental quality standards for air, water and soil; and monitoring of pollution. The proclamation also addresses noise and vibration as sources of environmental pollution and it seeks for standards and limits for it, providing for the maximum allowable noise level taking into account the settlement patterns. In general, the Proclamation provides a basis from which the relevant environmental standards applicable to Ethiopia can be developed, while sanctioning violation of these standards as criminally punishable offences.

Furthermore, it empowers the MoEFCC and/or the Regional Environmental Authority to assign environmental inspectors with the duties and responsibilities of controlling environmental pollution. In order to ensure implementation of environmental standards and related requirements, inspectors belonging to the MoEFCC or the relevant regional environmental agency are empowered by the Proclamation to enter, without prior notice or court order, any land or premises at any time, at their discretion. Such wide powers, emanating from the proclamation, are given to environmental inspectors with a clear intention to protect the environment from pollution, to safeguard and ensure wellbeing of human health as well as to maintain the biota and the aesthetic value of nature.

3.7. Regulation No 159/2008, Prevention of Industrial Pollution Regulation

Pursuant to Proclamation 300/2002, a regulation to prevent industrial pollution was developed by the Federal EPA and endorsed by the Council of Ministers to ensure compatibility of industrial development with environmental conservation. This regulation confers important obligations to industrial operators. A factory subject to the regulations is obliged to prevent or minimize the generation and release of pollutants to a level not exceeding the environmental standards. The regulation also obliges industrial operators to handle its equipment, inputs and products in a manner that prevents damage to the environment and to human health. Moreover, the regulations urge industrial operators to prepare and implement an emergency response system of their own. On the other hand industrial operators are required to prepare and implement internal environmental monitoring systems and keep written records of the pollutants generated and the disposal mechanisms used to get rid of the pollutants. In relation to it, factories are required by the regulation to submit annual compliance reports with the provision of the regulations.

3.8. Addis Ababa City Regulation No 25/2007, on pollution control

Addis Ababa City government issued a regulation on pollution control (Regulation No 25/2007) on May 4, 2006 with an aim to facilitate the smooth implementation of pollution control proclamation issued by the federal EPA. Article 4 of this regulation narrates some of its main objective as follows:

- To safeguard or protect the environment from any pollution;
- To design a system as to how a polluting firm shall reinstate the polluted environment to its original position and made him responsible for the damage caused as a result of pollution; and,
- Keep and encourage the adoption of technologies and creativities to eliminate pollution. Moreover, the regulation explicitly states power and duties given to environmental inspectors.

3.9. Public Health Proclamation No 200/2000

Various aspects of public health issues including water quality control, waste handling and disposal, availability of toilet facilities and others are clearly addressed in the public health proclamation. This proclamation critically prohibits discharging untreated liquid waste generated from septic tanks, seepage pits, and industries into water bodies, or water convergences.

3.10. Expropriation of landholding for Public Purposes & Payment of compensation Proclamation No 455/2005

The proclamation provides for the expropriation of landholdings for public purposes and payment of compensation and establishes the legal principles and framework for expropriation and compensation. Regarding the determination of compensation, the basis and amount of compensation is clearly explained in Article 7(1) which states that “land holder whose holding has been expropriated shall be entitled to payment of compensation for his property situated on

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

3.11. Regulation No 135/2007 of Council of Ministers

The regulation is all about the payment of compensation for property situated on land holdings expropriated for public purposes. It is issued by the council of Ministers for the purpose of not only paying compensation but also to assist displaced persons to restore their livelihood. It narrates clear procedures for implementation of proclamation No 455/2005, for compensation payment for property situated on expropriated land for public benefit.

The regulation identified the type of properties eligible for payments of compensation which includes buildings, fences, crops, perennial crops, trees, protected grass, improvement made on rural land; relocated property, mining license and burial grounds.

3.12. The Labour Law, Proclamation No 377/2003

The Labour Proclamation (which was revised in 2003) provides the basic principles, which govern labour conditions taking into account the political, economic and social policies of the GoE and in conformity with the international conventions and other legal commitments to which Ethiopia is a party. The requirements in terms of the protection of workforce health and safety are clearly stipulated in Article 92 of this proclamation. Moreover, this article narrates in detail about Occupational Safety and Health, Health and Working Environment, Prevention Measures and Obligations of the Employers, among others. The proclamation obliges an employer to take all the necessary measures to adequately safeguard the health and safety of the workers. Workforce health and safety is an important aspect considered for identifying the potential environmental, health and safety issues that can arise from the project under implementation.

3.13. Environmental Guidelines and Standards

The MoEFC has issued some guidelines and standards which are endorsed by the National Environmental Council. The purpose of these guidelines and directives is to ensure that development projects integrate environmental considerations in the planning process as a precondition for their approval. These include Directive No.1/2008, which was issued to determine projects subject to an EIA. According to this directive, the EIA Proclamation is to be applied to the types of projects listed under the directive. The types of projects subject to EIA in the urban sector include roads, solid waste facilities, WSS projects and any other project planned to be implemented in or near areas designated as protected. In a similar manner it is indicated

that the National Environmental Council has endorsed certain effluent standards for specified industrial sectors. The endorsed effluent standards for the specified 12 industrial sectors are posted on the official website of the MoEFCC, but are not officially published in the same way as directive no.1/2008. As a result, these are widely considered as draft effluent standards for Ethiopia.

The following three draft environmental guidelines are prepared by MoEF and being used with intention of protecting the general environment along with implementation of any developmental activities:

3.13.1. EIA Procedural Guideline (draft), November 2003

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

Schedule 1:- This category includes projects that may have adverse and significant environmental impacts thus requiring a full EIA study.

Schedule 2: - Projects whose type, scale or other relevant characteristics have potential to cause some significant environmental impacts but are not likely to warrant a full EIA study fall under this group.

Schedule 3:- Projects which would have no impact and do not require an EIA.

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

3.13.2. Guideline for Environmental and Social Management Plan (draft), May 2004

These guidelines outline the fundamental contents that need to be featured while preparing an ESMP for proposed development projects in Ethiopia and provides template forms to be used for such purposes. The guideline also provides guidance on the preparation of institutional arrangements for implementation of ESMPs.

3.13.3. EIA Guideline, May 2000

The EIA guideline document provides essential information covering the following elements:

- Environmental Assessment and Management in Ethiopia,
- Environmental Impact Assessment Process,
- Standards and Guidelines,
- Issues for sector EIA in Ethiopia covering agriculture, industry, transport, mining, dams and reservoirs, tanneries, textiles, hydropower generation, irrigation projects and resettlement.

3.14. The World Bank Safeguard Requirements

The purpose of World Bank safeguard policies is to ensure that environmental and social issues are addressed throughout the life cycle of bank financed projects. There are ten safeguard policies namely; OP 4.01 - Environmental Assessment, OP 4.04- Natural Habitats, OP 4.36- Forests, OP 4.09- Pest Management, OP 4.11- Physical Cultural Resources, OP 4.37 - Safety of Dams, OP 4.10- Indigenous Peoples, OP 4.12- Involuntary Resettlement, OP 7.50- International Waterways, and OP 7.60- Projects in Disputed Areas.

The present ESMF of UWSSP will serve as an instrument to help satisfy the Bank's requirement under OP 4.01 and guide the preparation of one or more Environmental Assessments (EA) as needed for the project. In the present context of the UWSSP, the EA must take into account the natural environment (air, water, and land); human health and safety; as well as social aspects (involuntary resettlement and physical cultural resources). The EA will consider natural and social aspects in an integrated way. The following paragraphs provide further explanation on the World Bank Polices triggered by UWSSP.

3.14.1. Applicable World Bank Safeguard Policies

Table 3.1 below presents the list of all World Bank Safeguard Policies, and their potential applicability to the project, as well as actions already taken or being taken to comply with them. This table will be included in the PIM. Three of the World Bank policies have been triggered by the UWSSP. They are OP 4.01 (Environmental Assessment), OP 4.12 (Involuntary Resettlement), OP 4.11 (Physical Cultural Resources), OP 4.37 (Safety of Dams) and OP 7.50 (International Waterways).

OP 4.01 - Environmental Assessment: is an umbrella policy which is designed to ensure that Bank-financed projects are environmentally sound, sustainable and that decision-making is improved through appropriate analysis of actions and of their likely environmental impacts. This policy is triggered if a project is likely to have potential adverse environmental risks and impacts in its area of influence. OP 4.01 requires an EA to be carried out for any project proposed for Bank financing; different EA instruments can be used, including amongst others ESIA or ESMP. The selection of EA instruments to be used for a particular project is made through the environmental screening process; all projects proposed for World Bank financing are to be screened, and are categorized according to their potential environmental impacts as preliminarily assessed during the screening process.

OP 4.11 - Physical Cultural Resources: aims at preserving and avoiding elimination of cultural properties. It requires to identify in advance what is known about the cultural property aspects of the proposed project site, and that if there is any question of cultural property in the area, a brief reconnaissance survey should be undertaken in the field by a specialist.

OP 4.12- Involuntary Resettlement: is to be complied where involuntary resettlement may take place as a result of the project; involuntary resettlement is understood in a broad sense, including any impacts on livelihoods that may result from land acquisition; OP 4.12 includes requirements that: (i) involuntary resettlement should be avoided where feasible, or minimized, exploring all

viable alternative project designs; (ii) where it is not feasible to avoid resettlement, resettlement activities should be conceived and executed as sustainable development projects, 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 projects; and, (iii) regardless of the legality of land tenure, 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.

OP 4.37- Safety of Dams: is to be applied where there will be the construction of a new dam or when a project relies on the performance of an existing dam or a Dam Under Construction (DUC). The policy distinguishes between small and large dams: a) Small dams are normally less than 15 meters in height. This category includes, for example, farm ponds, local silt retention dams, and low embankment tanks; (b) Large dams are 15 meters or more in height. Dams that are between 10 and 15 meters in height are treated as large dams if they present special design complexities--for example, an unusually large flood-handling requirement, location in a zone of high seismicity, foundations that are complex and difficult to prepare, or retention of toxic materials. Dams under 10 meters in height are treated as large dams if they are expected to become large dams during the operation of the facility. For small dams, generic dam safety measures designed by qualified engineers are usually adequate. For large dams, the Bank requires a) reviews by an independent panel of experts (the Panel) of the investigation, design, and construction of the dam and the start of operations; b) preparation and implementation of detailed plans: a plan for construction supervision and quality assurance, an instrumentation plan, an operation and maintenance plan, and an emergency preparedness plan; (c) prequalification of bidders during procurement and bid tendering, and d) periodic safety inspections of the dam after completion. If the project involves an existing dam or DUC in the borrower's territory, the policy requires that one or more independent dam specialists (a) inspect and evaluate the safety status of the existing dam or DUC, its appurtenances, and its performance history; (b) review and evaluate the owner's operation and maintenance procedures; and (c) provide a written report of findings and recommendations for any remedial work or safety-related measures necessary to upgrade the existing dam or DUC to an acceptable standard of safety.

The project does not support the construction of new dams but does include specific dam safety measures for specific delineated portions of two dams classified as large dams according to OP/BP 4.37: Legedadi dam (44m high) and Dire dam (41m) within the existing site area. If any dams are identified as associated facilities to the project financed water supply activities under either Component 1 or 2, due diligence of dam safety should be conducted, and dam safety measures should be developed and implemented. The client will engage a qualified panel of experts as per the requirements of OP/PB 4.37 who will provide appropriate expert advice in the course of rehabilitation of the dams and will hire a Dam Safety Expert who will provide

technical guidance to the PIU. Site specific safeguards instrument (ESIA) will be prepared for the dams to be rehabilitated. The Panel consists of three or more experts, appointed by the borrower and acceptable to the Bank, with expertise in the various technical fields relevant to the safety aspects of the dam. Beginning as early in project preparation as possible, the client will arrange for periodic Panel meetings and reviews. The client will inform the Bank in advance of the Panel meetings, and the Bank will send an observer to these meetings. After each meeting, the Panel provides the borrower a written report of its conclusions and recommendations, signed by each participating member; the client will provide a copy of that report to the Bank. The client will further develop dam safety reports as required by OP4.37.

OP 7.50- Projects on International Waterways: is to be triggered if a project is to have adverse impacts on (a) any river, canal, lake or similar body of water that forms a boundary between, or any river or body of surface water that flows through two or more states, whether Bank members or not; (b) any tributary or other body of surface water that is a component of any waterway described under (a); and (c) any bay, gulf strait, or channel bounded by two or more states, or if within one state recognized as a necessary channel of communication between the open sea and other states, and any river flowing into such waters. The policy applies to the following types of projects: (a) hydroelectric, irrigation, flood control, navigation, drainage, water and sewerage, industrial and similar projects that involve the use or potential pollution of international waterways; and (b) detailed design and engineering studies of projects under (a) above, include those carried out by the Bank as executing agency or in any other capacity. The objective of this policy is to ensure that Bank- financed projects affecting international waterways would not affect: (i) relations between the Bank and its borrowers and between states (whether members of the Bank or not); and (ii) the efficient utilization and protection of international waterways. The Bank requires that the beneficiary state proposing the project on international waterways should formally notify the other riparians of the proposed project giving available details. The other riparians are allowed a reasonable period, normally not exceeding six months from the dispatch of the Project/Program Details, to respond to the beneficiary state or Bank.

3.14.2 The World Bank Group Environment, Health and Safety Guidelines

The Environmental, Health, and Safety (EHS) Guidelines are technical reference documents with general and industry-specific examples of Good International Industry Practice (GIIP). When one or more members of the World Bank Group are involved in a project, these EHS Guidelines are applied as required by their respective policies and standards.

The EHS Guidelines contain the performance levels and measures that are generally considered to be achievable in new facilities by existing technology at reasonable costs. Application of the EHS Guidelines to existing facilities may involve the establishment of site-specific targets, with an appropriate timetable for achieving them. The applicability of the EHS Guidelines should be tailored to the hazards and risks established for each project on the basis of the results of an

environmental assessment2 in which site-specific variables, such as host country context, assimilative capacity of the environment, and other project factors, are taken into account. The applicability of specific technical recommendations should be based on the professional opinion of qualified and experienced persons. When host country regulations differ from the levels and measures presented in the EHS Guidelines, projects are expected to achieve whichever is more stringent. If less stringent levels or measures than those provided in these EHS Guidelines are appropriate, in view of specific project circumstances, a full and detailed justification for any proposed alternatives is needed as part of the site-specific environmental assessment. This justification should demonstrate that the choice for any alternate performance levels is protective of human health and the environment.

Environmental issues associated with water and sanitation projects may principally occur during the construction and operational phases, depending on project-specific characteristics and components. Recommendations for the management of EHS issues associated with construction activities as would typically apply to the construction of civil works are provided in the General EHS Guidelines. The client will adopt recommended measures in the WBG EHS guideline for water and sanitation to:

- prevent, minimize, and control environmental impacts associated with water withdrawal and to protect water quality
- manage solid wastes from water treatment
- manage wastewater effluents
- prevent, minimize, and control releases of septage and other fecal sludge
- prevent, minimize, and control industrial discharges to the sewerage system
- prevent, minimize, and control liquid effluents
- prevent, minimize, and control physical hazards to the community
- prevent, minimize, and control exposure to pathogens and vectors

Table 3-1: World Bank Safeguard Policies and How They Are Addressed by the UWSSP

Policy	Objectives	Conditions of Applicability and Process	Applicability to the UWSSP and Actions Taken
OP 4.01 Environmental Assessment	The objective of this policy is to ensure that Bank-financed projects are environmentally sound and sustainable, and that decision-making is improved through appropriate analysis of actions and of their likely environmental impacts. This policy is triggered if a project is likely to have potential (adverse) environmental risks and impacts on its area of influence. OP 4.01 covers impacts on the natural environment (air, water and land); human health and safety; physical cultural resources; and transboundary and global environment concerns.	Depending on the project, and nature of impacts a range of instruments can be used: EIA, environmental audit, hazard or risk assessment and ESMP. When a project is likely to have sectoral or regional impacts, sectoral or regional EA is required. The Borrower is responsible for carrying out the EA.	**YES** Development of an ESMF per OP 4.01. The ESMF outlines an environmental and social screening process and includes an ESMP for the UWSSP. The ESMF will be included in the PIM.
OP 4.04 Natural Habitats	This policy recognizes that the conservation of natural habitats is essential to safeguard their unique biodiversity and to maintain environmental services and products for human society and for long-term sustainable development. The Bank therefore supports the protection, management, and restoration of natural habitats in its project financing, as well as policy dialogue and economic and sector work. The Bank supports, and expects borrowers to apply, a precautionary approach to natural resource management to ensure opportunities for environmentally sustainable development. Natural habitats are land and water areas where most of the original native plant and animal species are still present. Natural habitats comprise many types of terrestrial, freshwater, coastal, and marine ecosystems. They include areas lightly modified by human activities, but retaining their ecological functions and most native species.	This policy is triggered by any project (including any sub-project under a sector investment or financial intermediary) with the potential to cause significant conversion (loss) or degradation of natural habitats, whether directly (through construction) or indirectly (through human activities induced by the project).	**NO** Sub-Projects that may have significant adverse impacts on natural habitats will not be funded under UWSSP.

Policy	Objectives	Conditions of Applicability and Process	Applicability to the UWSSP and Actions Taken
OP 4.36 Forests	The objective of this policy is to assist borrowers to harness the potential of forests to reduce poverty in a sustainable manner, integrate forests effectively into sustainable economic development and protect the vital local and global environmental services and values of forests. Where forest restoration and plantation development are necessary to meet these objectives, the Bank assists borrowers with forest restoration activities that maintain or enhance biodiversity and ecosystem functionality. The Bank assists borrowers with the establishment of environmentally appropriate, socially beneficial and economically viable forest plantations to help meet growing demands for forest goods and services.	This policy is triggered whenever any Bank-financed investment project (i) has the potential to have impacts on the health and quality of forests or the rights and welfare of people and their level of dependence upon or interaction with forests; or (ii) aims to bring about changes in the management, protection or utilization of natural forests or plantations.	**NO** Sub-Projects that may have significant adverse impacts on forest in the sense of OP 4.36 will not be financed by UWSSP.
OP 4.09 Pest Management	The objective of this policy is to (i) promote the use of biological or environmental control and reduce reliance on synthetic chemical pesticides; and (ii) strengthen the capacity of the country's regulatory framework and institutions to promote and support safe, effective and environmentally sound pest management. More specifically, the policy aims to (a) Ascertain that pest management activities in Bank-financed operations are based on integrated approaches and seek to reduce reliance on synthetic chemical pesticides (Integrated Pest Management (IPM) in agricultural projects and Integrated Vector Management (IVM) in public health projects. (b) Ensure that health and environmental hazards associated with pest management, especially the use of pesticides are minimized and can be properly managed by the user. (c) As necessary, support policy reform and institutional capacity development to (i) enhance implementation of IPM-based pest management and (ii) regulate and monitor the distribution and use of pesticides.	The policy is triggered if : (i) procurement of pesticides or pesticide application equipment is envisaged (either directly through the project, or indirectly through on-lending, co-financing, or government counterpart funding); (ii) the project may affect pest management in a way that harm could be done, even though the project is not envisaged to procure pesticides. This includes projects that may (i) lead to substantially increased pesticide use and subsequent increase in health and environmental risk; (ii) maintain or expand present pest management practices that are unsustainable, not based on an IPM approach, and/or pose significant health or environmental risks.	**NO** UWSSP does not include any pest management activities.

OP 4.11 Physical Cultural Resources	The objective of this policy is to assist countries to avoid or mitigate adverse impacts of development projects on physical cultural resources. For purposes of this policy, "physical cultural resources" are defined as movable or immovable objects, sites, structures, groups of structures, natural features and landscapes that have archaeological, paleontological, historical, architectural, religious, aesthetic, or other cultural significance. Physical cultural resources may be located in urban or rural settings, and may be above ground, underground, or underwater.	This policy applies to all projects requiring a Category A or B Environmental Assessment under OP 4.01, projects located in, or in the vicinity of, recognized cultural heritage sites, and projects designed to support the management or conservation of physical cultural resources.	**YES** Physical cultural resources will be addressed through the environmental and social screening process outlined in this ESMF. In addition, the Environmental Guidelines for Contractors include a provision for handling chance finds. Any sub-project which the screening process demonstrates may entail negative impacts on cultural property will not be financed by the UWSSP.
OP 4.10 Indigenous Peoples	The objective of this policy is to (i) ensure that the development process fully respects the dignity, human rights, economies and cultures of indigenous peoples; (ii) ensure that adverse effects during the development process are avoided, or if not feasible ensure that these a minimized, mitigated or compensated; and (iii) ensure that indigenous peoples receive culturally appropriate and gender and intergenerationally inclusive social and economic benefits.	The policy is triggered when the project affects the indigenous peoples (with characteristics described in OP 4.10 para 4) in the project area.	**NO** No Sub-Project entailing adverse impacts on Indigenous People will be financed by UWSSP.
OP 4.12 Involuntary Resettlement	The objective of this policy is to (i) avoid or minimize involuntary resettlement where feasible, exploring all viable alternative project designs; (ii) assist displaced persons in improving their former living standards, income earning capacity, and production levels, or at least in restoring them; (iii) encourage community participation in planning and implementing resettlement; and (iv) provide assistance to affected people regardless of the legality of land tenure.	This policy covers not only physical relocation, but any loss of land or other assets resulting in: (i) relocation or loss of shelter; (ii) loss of assets or access to assets; (iii) loss of income sources or means of livelihood, whether or not the affected people must move to another location. This policy also applies to the involuntary restriction of access to legally designated parks and protected areas resulting in adverse impacts on the livelihoods of the displaced persons.	**YES** Development of a Resettlement Policy Framework as prescribed by OP 4.12

Policy	Objectives	Conditions of Applicability and Process	Applicability to the UWSSP and Actions Taken
OP 4.37 Safety of Dams	The objectives of this policy are as follows: For new dams, to ensure that experienced and competent professionals design and supervise construction; the borrower adopts and implements dam safety measures for the dam and associated works. For existing dams, to ensure that any dam that can influence the performance of the project is identified, a dam safety assessment is carried out, and necessary additional dam safety measures and remedial work are implemented.	This policy is triggered when the Bank finances: (i) a project involving construction of a large dam (15 m or higher) or a high hazard dam; and (ii) a project which is dependent on an existing dam. For small dams, generic dam safety measures designed by qualified engineers are usually adequate.	**YES** Small retaining structures, such as maturation and facultative ponds may be financed under the project under UWSSP. These could be classified as small dams depending on their design. Besides, the project will finance dam safety measures for two identified dams.
OP 7.50 Projects on International Waterways	The objective of this policy is to ensure that Bank-financed projects affecting international waterways would not affect: (i) relations between the Bank and its borrowers and between states (whether members of the Bank or not); and (ii) the efficient utilization and protection of international waterways. The policy applies to the following types of projects: (a) hydroelectric, irrigation, flood control, navigation, drainage, water and sewerage, industrial and similar projects that involve the use or potential pollution of international waterways; and (b) detailed design and engineering studies of projects under (a) above, include those carried out by the Bank as executing agency or in any other capacity.	This policy is triggered if any adverse affects are anticipated in (a) any river, canal, lake or similar body of water that forms a boundary between, or any river or body of surface water that flows through two or more states, whether Bank members or not; (b) any tributary or other body of surface water that is a component of any waterway described under (a); and (c) any bay, gulf strait, or channel bounded by two or more states, or if within one state recognized as a necessary channel of communication between the open sea and other states, and any river flowing into such waters.	**YES** Constructed WWTPs may cause potential pollution impacts on international waterways.
OP 7.60 Projects in Disputed Areas	The objective of this policy is to ensure that projects in disputed areas are dealt with at the earliest possible stage: (a) so as not to affect relations between the Bank and its member countries; (b) so as not to affect relations between the borrower and neighboring countries; and (c) so as not to prejudice the position of either the Bank or the countries concerned.	This policy will be triggered if the proposed project will be in a "disputed area". Questions to be answered include: Is the borrower involved in any disputes over an area with any of its neighbors. Is the project situated in a disputed area? Could any component financed or likely to be financed as part of the project situated in a disputed area?	**NO** No sub-project in disputed areas will be financed under UWSSP.

World Bank Screening Process, project categorization per World Bank's OP 4.01:

All projects proposed for World Bank financing are to be screened. The screening process used by the World Bank classifies proposed projects into one of four categories, depending on the type, location, sensitivity, and scale of the project and the nature and magnitude of its potential environmental impacts.

- **Category A:** a proposed project is classified as Category A if it is likely to have significant adverse environmental impacts that are sensitive, diverse, or unprecedented. These impacts may affect an area broader than the sites or facilities subject to physical works.
- **Category B:** a proposed project is classified as Category B if its potential adverse impacts on human populations or environmentally sensitive areas including wetlands, forests, grasslands, and other natural habitats are less adverse than those of Category A projects. These impacts are site-specific; few if any of them are irreversible; and in most cases mitigation measures can be designed more readily than for Category A projects.
- **Category C:** a proposed project is classified as Category C if it is likely to have minimal or no adverse environmental impacts. Beyond screening, no further EA action is required for a Category C project.
- **Category FI:** a proposed project is classified as Category FI if it involves investment of Bank funds through a financial intermediary, in subprojects that may result in adverse environmental impacts.

The UWSSP has been classified by the World Bank as environmental category B but it will be determined because of additional activities come with project restructuring . Both the ESMF and RPF have been prepared because the actual subproject sites and their potential adverse environmental and social impacts could not be identified prior to appraisal. Instead, the environmental and social screening process outlined in the ESMF will be applied by qualified project personnel to ensure that potential negative environmental and social impacts are identified and mitigated at the planning stage of the planned sub-projects.

The UWSSP is a combination of subprojects. As the "parent project" in general has been classified as "Category B", it is to be determined after considering project restructuring activities, no subproject within the UWSSP can be funded if it would fall under "Category A".

3.15 Comparison between Ethiopian Legislation and Bank Policies

Project Categorization in World Bank and Ethiopian legislation: it is interesting to observe that environmental screening is the cornerstone of both Ethiopian legislation and World Bank policies pertaining to EA. Both screening processes address the need for further EA and its level and scope. The categorizations that result from the screening processes are slightly different in their definition, but still are roughly equivalent.

In general, it is understood that "Schedule 1" and "Category A" are roughly equivalent as they both include projects with potential significant adverse impacts that demands a full-fledged EIA. In a similar manner, "Schedule 2" and "Category B" projects are more or less similar in their definitions; both categories refer projects with less impacts than those of Category A or Schedule 1 projects. Under OP 4.01, category B projects require environmental work at the appropriate level, be it an EMP, an EA or the implementation of mitigation measures in the context of an environmental and social screening process as outlined in this ESMF.

This approach is not in contradiction with the Ethiopian guidelines. However, the Ethiopian guidelines do not make provisions for the screening of sub-projects of a smaller scale than those listed in Schedules 1 and 2, and which may have negative localized impacts which will require mitigation. Therefore, this ESMF has been prepared to bridge this gap to ensure that the UWSSP sub-projects are implemented in an environmentally friendly and socially acceptable manner.

"Schedule 3" and "Category C" are also equivalent (they require no further environmental assessment).

Ethiopia has a comprehensive framework for assessing and managing environmental impacts of development projects. However, the Ethiopian framework does not provide clear requirements or guidance on the following two aspects:

- Public consultation and disclosure, and
- Environmental and social screening process for small-scale sub-projects that could have negative localized impacts;

Another issue is that while most of the responsibility for assessing, mitigating and monitoring environmental impacts falls under regional environmental agencies, these either do not exist or lack the capability to carry out the tasks assigned to them by law. Otherwise, Ethiopian requirements are generally consistent with World Bank policies.

Consultation and Disclosure Requirements

OP 4.01 requires that for "all Category A and B projects, the borrower consults project- affected groups and local nongovernmental organizations (NGOs) about the project's environmental and social aspects and takes their views into account. The borrower initiates such consultations as early as possible. For Category A projects, the borrower consults these groups at least twice: (a) shortly after environmental screening and before the terms of reference for the EA are finalized; and (b) once a draft EA report is prepared." OP 4.01 further requires that "for meaningful consultations between the borrower and project affected groups and local NGOs on all Category A and B projects proposed for IBRD or IDA financing, the borrower provides relevant material in a timely manner prior to consultation and in a form and language that are understandable and accessible to the groups being consulted". Category B reports for a project proposed for IDA financing are to be made available to project-affected groups and local NGOs, and public

availability in the borrowing country of any Category B EA report for projects proposed for IDA funding are prerequisites to Bank appraisal.

Even though public consultation and disclosure are addressed by various pieces of Ethiopian legislation and guidelines, including the Constitution itself, they include no clear requirements nor arrangements, but rather recommendations. The EPA confirms that it is indeed including public consultation as a good practice recommendation in the environmental screening and EIA process. However, as the federal EPA does not have the resources to involve itself strongly in all projects in the regions, that would require public consultation as part of the environmental assessment process, it has to rely on regional EPAs, where these exist or on local authorities in general to organize and document public consultation. There is little experience and capacity in Ethiopia in this respect and this is undoubtedly an area where the UWSSP will have to strengthen capacity (see chapter 9, Capacity building and Training).

While Ethiopian legislation is to-date less stringent than Bank policies in this respect, there is, however, no limitation in the Ethiopian legislation as to the extent and scope of consultation and disclosure, nor as to who should be consulted. Therefore, there is no real contradiction between Ethiopian legislation and Bank policies, which can be applied in their public consultation and disclosure aspects without violating Ethiopian law.

Environmental and social screening process for small-scale subprojects: As mentioned earlier, Ethiopian guidelines do not make provisions for the screening of small- scale sub-projects which could nevertheless have negative localized environmental and social impacts requiring mitigation. Therefore, the provisions of OP 4.01 for screening, assignment of environmental category, application of appropriate environmental mitigation measures and/or preparation of separate EIA reports, review and clearance of screening results and/or separate EIA reports, consultations, and monitoring are applied to the UWSSP.

3.16 Institutional Framework for National Environmental Management

3.16.1 Proclamation 295/2002, Establishment of Environmental Protection Organs

This Proclamation (Proc. 295/2002) assigns responsibilities for environmental management to various entities in order to ensure sustainable use of environmental resources, thereby avoiding possible conflicts of interest and duplication of efforts. It is also intended to establish a system that fosters coordinated but differentiated responsibilities among environmental protection offices at Federal and Regional State levels. Each of the main Federal institutions who are active in the construction of infrastructure, or economic development is required by law to have its own environmental unit.

3.16.2 Ministry of Environment, Forest and Climate Change

At the National level, the MoEFCC is mandated with responsibilities for management of environmental issues. A recent amendment to the definition of powers and duties of the executive organs of the FDRE (proclamation no. 803/2013) gives the MoEFCC powers to fulfill its role in ensuring the realization of the environmental objectives provided under the constitution. The MoEFCC is involved in the development of environmental policy and legislation; setting environmental quality standards for air, water and soils; monitoring pollution; establishing systems and procedures for EIA; and in establishing a national environmental information system. Enforcing the laws and policies, including EIA, environmental monitoring and auditing, for all projects or activities that falls under the control of the Federal Government also falls within the responsibilities of the MoEFCC and its delegated sector Ministries. The delegated sector Ministries have been assigned the dual role of reviewing ESIA reports as well as ensuring timely and effective implementation supervision of sector specific EIAs.

The Regional States are also required to establish their own regional environmental agencies, which are responsible for EIAs for regionally managed infrastructures or development activities. The MoEFCC is required to provide regional authorities with guidance, technical support, and capacity building; support the development of various guidelines, including procedures appropriate to sector projects; undertake awareness creation in other federal agencies; and provide technical support to those agencies. Following the screening, review and comment of environmental impact statements both the MoEFCC and REPAs approve project EIAs and issue an environmental clearance/permit where applicable. MoEFCC and REPAs also undertake environmental audits where required to ensure that projects are complying with their EMPs and their commitments to environmental mitigation and monitoring.

3.16.3 Regional Environment Bodies

Proclamation 295/2002 requires regional states to establish or designate their own REPAs. Regional Environmental Protection Bureaus/Offices have been established in almost all of the regions. The REPAs are responsible for coordination, the formulation, implementation, review and revision of regional conservation strategies as well as environmental monitoring, protection and regulation (Article 15). Relating to ESIA specifically, Proclamation 299/2002 gives regional environmental agencies the responsibility to evaluate ESIA reports of projects that are licensed, executed or supervised by regional states and that are not likely to generate inter-regional impacts. REPAs are also responsible for monitoring, auditing and regulating implementation of such projects. The institutional standing of REPAs varies among regions. In some regions, they are established as separate institutions, while in others they are within Regional Sector Bureaus (e.g., Bureau of Land Use Administration).

As far as the role in the implementation of the ESMF is concerned, after the responsible water utilities or the respective regional water bureaus screen the projects , the REPAs will review and approve the environmental instruments and will issue an environmental permit/ license where applicable. The REPAs will undertake environmental audits where required to ensure that the water utilities are complying with their ESMPs and their commitments to environmental management, mitigation and monitoring.

4. Environmental and Social Context and Baseline Conditions

4 Geographic Overview

Ethiopia is located in the Horn of Africa, and bordered by Djibouti, Eritrea, Sudan, Kenya, and Somalia. The country is currently divided into nine regional states and two city administrations, whose capital cities are among the 22 UWSSP participating cities. The total surface area of the country is 1,110,000 km2. Altitude ranges from 4,620 m above sea level at the highest peak, Ras Deshen, to 110 m below sea level in the Danakil Depression. A large portion of the country consists of high plateaus and mountains varying in altitude between 2,000 and 3,000 meters, with a number of rivers originating from these highlands. The East African Rift Valley separates the northern and South-Western highland from the South-Eastern highland. In contrast with these highlands, hot and semi-arid to arid lowlands lie in the Eastern and Western parts of the country. Addis Ababa is the capital city of Ethiopia and is located at 9° 2' N; 38° 42' E, occupying a total surface area of 54,000 hectares. It has a population of more than 3.4 million and it lies on average between 2200 and 2500 masl on the Central Ethiopian Plateau.

Overall, Ethiopia is a country of great geographical and climatic diversity, which has given rise to many and varied ecological systems. The rainfall pattern in Ethiopia is influenced by two rain-bearing wind systems, one bringing the monsoonal wind systems from the South Atlantic and the Indian Ocean and the winds from the Arabian Sea. The two wind systems alternate, causing different rainfall regimes in different parts of the country.

4.1 Eco-Climatic Zoning of the Country

Ethiopia has a wide variety of climatic zones that mainly reflect the contrasts in altitude. It includes 6 zones, i.e. Wurch, High Dega, Dega, Weyna Dega, Kolla, Berha. The two zones highest in elevation are usually grouped into one single zone (Wurch/High Dega).

4.1.1 Wurch – High Dega

These areas are at altitudes 3,200 meters and above. They cover a total surface area of 0.6% of the country, in the highest mountainous areas of Wollo, Gonder and Gojam (all in Amhara Regional State). The climate is cold, annual rainfall is in the range of 1,000 to 1,600 mm, with grassland forming most of the vegetation. These areas support less than 1% of the population, mainly active in cattle and sheep rearing. They include protected natural areas.

4.1.2 Dega

Dega is found between altitudes of 2,400 and 3,200 masl, in Tigray, Wollo, Gonder, and Gojam in Amhara Regional State, and in Harrerge, Arsi and Bale in Oromiya Regional State. Rainfall is in the range of 1,000 to 2,000 mm annually, but some areas may experience erratic distribution of rains. Primary vegetation typically comprises of various species of coniferous shrubs and trees. Many springs and rivers originate in this area. This area supports about 20% of the population on 10% of the country surface, with farming systems combining subsistence and cash crops with cattle rearing.

4.1.3 Weyna Dega

This zone is found between altitudes of 1,500 and 2,400 masl, and occupies a vast majority of the surface of the western half of Ethiopia, with about 30% of the total country surface. It is home to about 70% of the population of the country. Most of the surfaces of the main four Regional States (Amhara, Oromiya, SNNP and Tigray) fall in Weyna Dega. Rainfall can vary between 800 and 1,600 mm, hence the subdivision between wet Weyna Dega, in the South West, and dry Weyna Dega in the center and northern parts of the country. These are the most densely populated areas in the country, as they have historically been the most attractive to human settlement due to their temperate climate. The main two watersheds are those of the Abay River (Blue Nile) and Awash River.

4.1.4 Kolla

Kolla zones are semi-arid areas found between 500 and 1,500 masl, in parts of Western Tigray, Western Gonder (Amhara), in the South of Oromiya Regional State (Borena) and the North of Somali Region. Temperatures are higher than in the highlands, and annual rainfall may vary between 200 and 800 mm, with erratic distribution in time and space. As a result, the vegetation is that of a dry savanna. Human activities are pastoral, with some cultivation in the most favorable areas. The population density in kola areas is low, estimated to be 10 percent of the total population.

4.1.5 Berha

Berha corresponds to the arid lowlands found in Afar, Somali, Benshangul Gumuz, and Gambella Regional States, as well as in the western parts of Tigray and Gonder (Amhara), and in the East of Oromiya Regional State (Harrerge and Bale). The annual rainfall is usually less than 200 mm, and temperatures are high. Population density is very low (less than 5% of the total population). Agriculture is only possible where the presence of a perennial water source allows for irrigation. Otherwise, predominantly nomadic groups base their livelihoods on pastoral activities.

4.2 Main Environmental Issues Related to Water and Sanitation in Each Eco-Climatic Zone

4.2.1 Wurch – High Dega

In this eco-climatic zone, the low density of population results in few potential threats to the natural environment. However, these areas have great fresh water source potential that can serve the downstream communities both for drinking and agricultural purposes. Some environmental and social issues that will need to be considered in the event of these high altitude areas being used for WSS activities are the following:

- Vulnerability of local high altitude eco-systems;
- Presence of protected areas, and risks implied by induced access into these areas;
- Erosion that may be caused by construction activities of projects on steep slopes;
- Runoff that may flood leakages from poor sanitation and handling of latrines and septic tanks which can induce contamination in low altitude areas.

4.2.2 Dega

The population of Dega areas has increased faster than the national average in the last 20-30 years, due to influx of population from other zones. Towns are expanding in this area. However, water sources, whether ground or surface water, are generally sufficient to accommodate this increasing population without significant environmental impacts caused by water withdrawals. However, care needs to be taken on the following issues.

- Conflicts between upstream and downstream users in the case of significant abstractions for urban water supply;
- Potential for pollution of water courses and of ground water by poor wastewater effluent quality and poor fecal sludge management practices in urban areas;
- Erosion that may be caused by construction activities of WSS projects implemented on steep slopes.

4.2.3 Weyna Dega

Like in the Dega zone, Weyna Dega areas experience a steep increase of the population, particularly of the urban population, and the general poor quality of designs for the sanitation schemes and poor effluent quality that emanates from the wastewater treatment plant may result in water contamination that may affect both shallow groundwater and surface water courses. Some of the potential environmental issues related with UWSSP are:

- Conflicts between upstream and downstream users;
- Contamination of shallow to medium-depth groundwater due to the general poor quality of designs for the sanitation schemes and poor effluent quality that emanates from the wastewater treatment plant, in urban areas;
- Contamination of surface water by untreated discharges of industrial effluents and by fecal sludge disposal in urban areas;
- Locally, over-abstraction of ground water or surface water for urban water supply;

- Potential for water borne diseases from inadequate drainage around water points;
- An increase of the effluent load on surface water in close proximity to urban areas;
- High solid content of surface water resulting from erosion in the water shed;
- Erosion caused by construction activities related to water and sanitation projects, in addition to the general tendency to erosion.

4.2.4 Kolla and Berha Areas

The main risks in these zones are:

- Possible conflicts among users, because of the high demand for water supply;
- Contamination of shallow to medium-depth groundwater due to the general poor quality of designs for the sanitation schemes and poor effluent quality that emanates from the wastewater treatment plant in urban areas;
- Contamination of surface water by untreated discharges of industrial effluents and by fecal sludge disposal in urban areas;
- Locally, over-abstraction of ground water or surface water for urban water supply;
- Potential for water borne diseases from inadequate drainage around water points;
- An increase of the effluent load on surface water in close proximity to urban areas;

4.2.5 Other Environmental Concerns in Relation to the UWSSP

The 22 UWSSP participating cities are found distributed within the twelve river basins found in the country, which form four major drainage systems. These are:

- The Nile basin (including Abbay or Blue Nile, Baro-Akobo, Setit-Tekeze/Atbara and Mereb) covers 33 percent of the country and drains the northern and central parts westwards;
- The Rift Valley (including Awash, Denakil, Omo-Gibe and Central Lakes) covers 28 percent of the country;
- The Shebelle-Juba basin (including Wabi-Shebelle and Genale-Dawa) covers 33 percent of the country and drains the south eastern mountains towards Somalia and the Indian Ocean;
- The North-East Coast (including the Ogaden and Gulf of Aden basins) covers 6 percent of the country.

Whereas many of the 22 cities are situated on the upstream side and far away from the main river courses of their respective river basin, others are situated very close. Cities like Addis Ababa and Mekele are found far upstream of the Awash and Tekeze River basins respectively and are drained by small tributaries such as the Akaki Rivers in the case of Addis Ababa. In contrast, cities like Bahir Dar, Gambella and Hawassa are found at the riverbanks of the Blue-Nile, Baro-

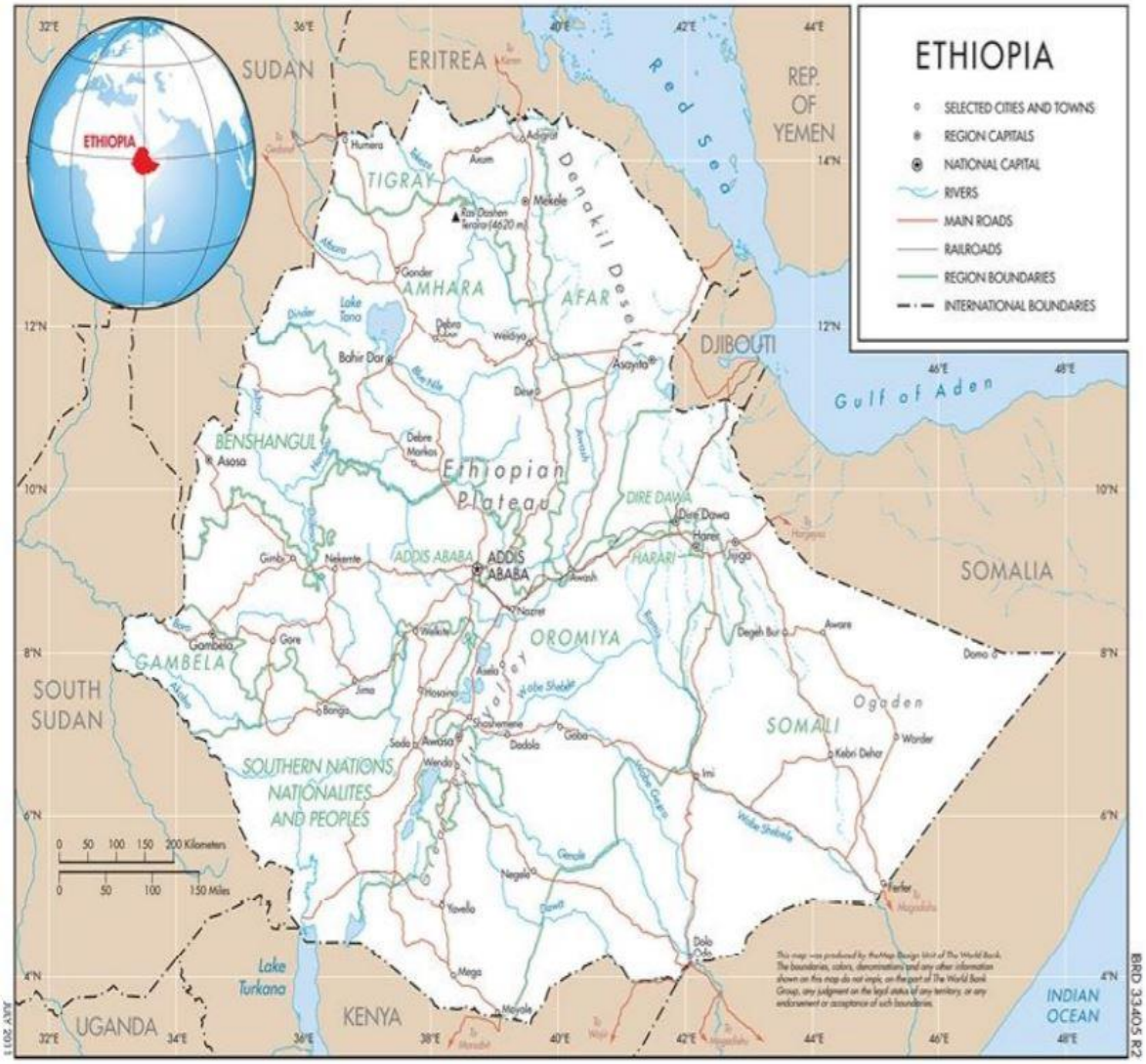
Akobo and the Rift valley lakes basins respectively. Bahir Dar City is situated adjacent to Lake Tana and it is crossed by the river mouth of the main Blue Nile River which starts from Lake Tana itself. Similarly Gambella city is crossed by Baro River which is one of the main rivers of the Baro-Akobo basin. The Hawassa Lake, which is one of the important lakes in the rift valley basin, is situated adjacent to Hawassa city. Deteriorating water quality in some rivers, such as those draining Addis Ababa city, has long been a concern for the resident community and all those involved in its conservation. Hence, cities situated close to main rivers and lakes of the river basins may need to pay particular attention to mitigate the potential incremental impact of effluent loads to the water course.

Urban environments in Ethiopia are usually dominated by built up areas which naturally covers the largest expanse of its land surface. This is because of the deforestation driven by urban expansion that was carried out for several decades, coupled by weak interventions made to develop and conserve city parks and greeneries. As a result, the vegetation cover in most of the 22 cities is dominated by eucalyptus mixed with some indigenous species and ornamental trees. An exception to this is the vegetation cover encircling few cities such as Gambella, Assosa and Semera-logiya towns where the natural vegetation representative of their respective ecosystems is still found intact in and immediately outside of the towns. Thus, even though the subprojects may not be anticipated to affect any natural habitats which do not exist within the urban boundaries of the participating cities, it will be important to pay more attention to the impact of some subprojects on deforestation particularly in those few towns encircled by natural forests such as Gambela and Assosa.

The ambient air quality of cities in Ethiopia is not regularly monitored. Thus data on ambient air quality are scares. However, a pilot-scale ambient air quality study was conducted in Addis Ababa between 26 January and 28 February 2004. Though such pilot studies indicate that air pollution related to fossil fuel combustion such as airborne lead and carbon monoxide were better as compared to other African cities such as Cairo, it indicated that the PM10 and PM2.5 concentrations in urban and residential areas of Addis Ababa were close to or exceeding the EPA standards. Dust re-suspension is one of the major causes of air quality problems not only in Addis Ababa but also in the rest of the 21 participating cities. Dust problems are more pronounced than other sources of air pollution in many of the 22 cities. Thus, due diligence need to be taken during the design, construction and operational phases of the UWSSP, so as to protect the already impaired ambient air conditions of Ethiopian cities.

A map of the project location[3] is provided below:

Location Map: Ethiopia Second Urban Water Supply and Sanitation Project[4]



[3] Noting that the project design depends on established readiness criteria, and a city's eligibility under the project is determined by virtue of these readiness criteria.

[4] This map was prepared by the Map Design unit of the World Bank. The boundaries, colors, denominations, and any other information shown on this map do not imply, on the part of the World Bank Group, any judgement on the legal status of any territory, or any endorsement or acceptance of such boundaries.

5. Potential Project Impacts

Activities to be financed by the proposed UWSSP, which have environmental concerns, include construction of centralized and decentralized waterborne sewerage systems, main sewerage trunk lines, drying beds, oxidation ponds, other types of waste treatment facilities, public and communal toilets, water conservation and source protection activities, and dam rehabilitation activities. The civil works to be carried out are expected to generate impacts, which are largely positive (health benefits to the population) and where adverse impacts might likely occur; they can be addressed with known mitigation measures.

5.1 Water and sanitation Systems Considered under the UWSSP

5.1.1 Water Supply Systems

The following table shows, in summary, the physical components of the water supply systems likely to be considered under the UWSSP.

Table 0-1: Physical Components Considered under Urban Water Supply Subprojects

System	Water Production	Water Treatment and storage	Water Distribution
Urban	Spring catchment	Raw water treatment system and storage	Gravity distribution system
	River intake (run of river)	Raw water treatment plant and treated water storage	Pressure transmission and distribution system with public and private taps
	River intake with existing, rehabilitated dam	Raw water treatment plant and treated water storage	Pressure transmission and distribution system with public and private taps
	Drilled well(s) with submersible pump(s)	Raw water treatment plant and treated water storage	Pressure transmission and distribution system with public and private taps
	Combination of the above	Raw water treatment plant and treated water storage	Pressure distribution system with public and private taps

5.1.2 Sanitation System in Urban Settings

Individual disposal systems such as latrines and septic tanks may be applicable in slum and fringe areas of towns, and in general where low density of dwellings allow. However, urban system will likely include, at least in bigger towns and in association with the latter, individual disposal systems, a piped sewerage collection system with a modern wastewater treatment plant, which may include treatment ponds where land is available or alternatively more compact plants. In this case modern wastewater treatment systems (including centralized and decentralized), drying beds and other wastewater treatment facilities can be constructed in larger cities like Addis Ababa and others, in conjugation with primary and secondary trunk lines. Communal toilet facilities and fecal sludge treatment plants will also be constructed as required.

5.2 Potential Impacts of Urban Water Supply Systems

5.2.1 Beneficial Impacts

The following are potential beneficial impacts of urban water supply systems:

- Gain of time, especially for women and girls, that may be used for other, productive activities, and resulting gains in overall economic productivity;
- Better comfort, better lifestyle and domestic hygiene;
- Reduction in water-borne diseases such as dysentery, cholera and others;
- Employment opportunities both during construction and operation phases; and,
- Capacity building and training in the town, and resulting enhancement of organizational, financial and technical capacities of town.

- Improvement of ecological environment of the dam rehabilitation as well as upstream and downstream of the dam by implementing strong water shade management and restrict upstream activities including farming activates in order to improve water quality and reduce siltation.

- The rehabilitation of the dam under the sub-project will reduce the safety risk related to dam failure due to age plus need of maintenance and improve their reliability of existing water supply service

5.2.2 Adverse Impacts

Table 0-2: **Potential Adverse Environmental and Social Impacts of Urban Water Supply Systems**

Component	Potential Adverse Environmental Impacts (Bio-Physical)
Spring Catchment	• Disturbance to topsoil created by earthmoving works and heavy vehicle traffic at construction phase • Reduced water flow downstream due to water abstraction, potential for conflict between upstream and downstream users related with this reduction of flow • For springs in mountainous areas, potential for impacts to fragile ecosystems and wetlands related with the catchment (where the natural flow downstream feeds a marsh or wetland) • Limited loss of flora and fauna
Well and well fields	• Disturbance to topsoil created by earthmoving works and heavy vehicle traffic at construction phase • Noise, dust and vibration • Impact of ground water abstraction on ground water table level and its availability to other users • Impact of ground water abstraction on potential changes in water salinity where there is a complex balance within the aquifer between fresh water and salty water • Impact of the chemicals contained in the drilling fluids on groundwater quality • Limited loss of flora and fauna • Potential impact on physical cultural resources

Component	Potential Adverse Environmental Impacts (Bio-Physical)
Rehabilitation of dams	• Community health and safety concerns from the vehicles and equipment that transport construction materials and workers to the project sites; • Health and safety risks to workers due to exposure to construction hazards in the dam sites (e.g. potential fall or other work-related accidents during rehabilitation activities); • Dusts nuisance within the construction sites; • Increase noise levels within the construction sites; • Improper disposal of construction wastes that could reduce the aesthetics of the area and may cause pollution • Interruption in water supply during the repair works affecting • Influx of workers for construction activities, social conflict, GBV, spread of HIV/AIDS and other infectious diseases etc. that will affecting the lives and norms of the community and individuals as well • Accidental risks could high on downstream populations and physical environment due to dam stability or natural calamities such as heavy rains. • Past/legacy dam safety issues, if any, which will be assessed during preparation of site-specific instruments • Increased turbidity of water; • Impact on air quality: from emissions of construction equipment and machineries, from improperly maintained engines, and dust could easily become a significant nuisance and hazard during long dry periods that result in impact on the air quality and potential social conflict as well as grievances from the farmers and residences in the close vicinity of the construction site. • Damage to existing access road routes: Transportation of construction embankment and materials, and movement of heavy tracks and heavy-duty machineries • Impact on the surface and ground water quality due to and waste oil spillage, greases from the sites Contractors fuel storage tank, machinery and cars maintenance , camp site wastes, improper disposal and management of other different construction wastes. • Flooding risk for downstream community and physical environment throughout emptying for the dam rehabilitation work. • Soil pollution from spilling and leaking oil and poor management construction Chemicals (oil, additive chemicals, etc.) from construction site and Vehicles and construction equipment maintenance.
Raw Water Treatment Plants	• Disturbance to topsoil created by earthmoving works and heavy vehicle traffic at construction phase • Potential impacts associated with reagent management and disposal • Potential impacts associated with treatment sludge management and disposal • Noise, dust and vibration at construction phase, noise and vibration at operation phase • Loss of flora and fauna
Transmission Pipelines	• Disturbance to topsoil created by earthmoving works and heavy vehicle traffic at construction phase • Potential leaks at operation phase with health risks associated with standing water • Dust at construction phase • Loss of flora and fauna
Distribution Pipelines	• Disturbance to topsoil created by earthmoving works and heavy vehicle traffic at construction phase • Potential leaks at operation phase with health risks associated with standing water • Dust at construction phase • Loss of flora and fauna

Component	Potential Adverse Environmental Impacts (Bio-Physical)
	• Potential adverse impacts on physical cultural resources.
Public Taps	• Potential leaks at operation phase with health risks associated with standing water, particularly malaria

Table 0-3: Potential Adverse Social Impacts of Water Supply Systems

Component	Potential Adverse Social Impacts
All systems	• Land requirements at construction phase (staging areas, access roads, storage areas) • Long-term land requirements at operation phase and associated potential for physical displacement and impacts on livelihoods • In areas where the distribution network is expanded, water that was previously free of charge will have to be paid for, which may be detrimental to the poorest in the community • The town water supply is made dependent on a more sophisticated system that will require enhanced organization for maintenance, revenue collection and generally management • Increase in malaria due to risks of development of standing water • Impacts on public health due to increased dust, noise, traffic accidents, and increased wastes, particularly asbestos/cement pipes

5.3 Potential Impacts of Sanitation Systems

5.3.1 Beneficial Impacts

The project will largely generate positive impacts contributing to better health through increased access to sanitation facilities, reduced incidence of water borne diseases and improved awareness of good hygiene practices. The major potential positive impact generated by the project is the provision of sewerage services, treatment facilities, communal toilet access and improved fecal sludge management, thereby reducing the potential for groundwater pollution and other adverse environmental impacts from such areas. It is important to note that the conditions of the sanitation services provided in project-targeted cities are likely to be better managed after the successful implementation of the project. Project activities are expected to strengthen the capacity of the MoWIE and its key stakeholders (municipal authorities) to reduce the current levels of fecal matter in the environment and surface water as well as prevent and control water borne diseases and disease outbreaks.

The overall potential beneficial impacts of sanitation systems also include:

- Reduction in water-borne diseases such as dysentery;
- Reduction in the potential for outbreaks of epidemic infectious diseases such as cholera and hence improvement of public health situation of the community;
- Capacity building and training in the town or community, and resulting enhancement of organizational, financial and technical capacities of town; and,
- Creation of job opportunities during construction and operation activities.
-

5.3.2 Adverse Impacts

Potential environmental risks will largely be related to the contamination of the surface and groundwater by effluents. With the potential surface water quality and ground water being potentially negatively impacted by effluent discharges. Any upgrade and expansion of sewerage networks and improved faecal sludge management would likely increase the load of effluent discharges into receiving waters. This negative impact could be mitigated to a large extent through the upgrading and introduction of wastewater treatment facilities (centralized and decentralized) and the introduction of effluent reuse. The proposed investments are likely to incur adverse environmental and social impacts during construction and rehabilitation activities that require mitigation. In particular, soil, water and air pollution, dust and noise nuisance, traffic disruption, obstruction of access for humans and animals, vibrational impacts on some historical buildings or other possible impacts on Physical Cultural Resources (PCR), possible interruptions of service provisions due to impacts on other utility infrastructures, potential increase in malaria, loss of vegetation and soil erosion.

Table 0-4: Potential Adverse Environmental and Social Impacts of Sanitation Systems

System	Potential Adverse Impacts
Latrines and other individual sanitation systems	- Impact on groundwater in situations where water table is shallow - Impact of potential improper sludge disposal - Health hazards associated with inappropriate sitting of sanitation systems in relation to water supply systems - Health hazards associated with unreliable emptying services
Piped sewerage system and wastewater/ fecal sludge management treatment facilities	- Potential impact of effluent discharge on water bodies - Potential impact of effluent infiltration on soils and groundwater where infiltration is used as a disposal method - Potential impact of the handling of sludge and other sanitation- related solid waste - Increase in the number of mosquito larvae and related increase in mosquito-borne diseases, primarily malaria - Land acquisition requirements for pipelines, treatment works and other structures - The cost of the sanitation service will have to be recovered, which may be detrimental to the poorest in the community - The town is made dependent on a more sophisticated system that will require maintenance, organization, and finance - Noise nuisance, dust, air and vibrational impacts on humans and properties - Potential impacts on physical cultural resources

5.3.3 Safe Water Supply and Sanitation Practices to avoid/minimize COVID-19 risks

(adopted from WHO Guidance (23 April 220): Water, sanitation, hygiene, and waste management for the COVID-19 virus)

The provision of safe water, sanitation, and hygienic conditions is essential to protecting human health during all infectious disease outbreaks, including the COVID-19 outbreak. Ensuring good and consistently applied WASH and waste management practices in communities, homes, schools, marketplaces, and health care facilities will help prevent human-to-human transmission of the COVID-19 virus. Hence, the client will take the following care:

A. Persistence of the COVID-19 virus in drinking-water, faeces and sewage and on surfaces

While the presence of the COVID-19 virus in untreated drinking-water is possible, it has not been detected in drinking-water supplies. Furthermore, other coronaviruses have not been detected in surface or groundwater sources and thus the risk of coronaviruses to water supplies is low.

The COVID-19 virus is enveloped and thus less stable in the environment compared to non-enveloped human enteric viruses with known waterborne transmission (such as adenoviruses, norovirus, rotavirus and hepatitis A). One study found that other human coronaviruses survived only two days in dechlorinated tap water and in hospital wastewater at 20°C.11 In comparison, high levels of removal (> 4 log) of the influenza virus were found in drinking-water after contact time of only five minutes and a chlorine residual of 0.3 mg/l.12 Other studies find similar removals in days to weeks. Significant (99.9% removal) of coronaviruses was observed in two days in primary sewage effluent at 23°C, two weeks in pasteurized settled sewage at 25 °C and four weeks in reagent grade water at 25°C.13,14 Higher temperature, high or low pH and sunlight all facilitate virus reduction. Recent evidence indicates that COVID-19 virus (SARS-CoV-2) survival on surfaces is similar to that of SARS-CoV-1, the virus that causes severe acute respiratory syndrome (SARS),15 with survival on surfaces ranging from 2 hours to 9 days. The survival time depends on several factors, including the type of surface, temperature, relative humidity and the strain of the virus. The same study also found that effective inactivation could be achieved within 1 minute using common disinfectants, such as 70% ethanol or 0.1% sodium hypochlorite.

B. Safely managing wastewater and faecal waste

There is no evidence to date that the COVID-19 virus has been transmitted via sewerage systems with or without wastewater treatment. However, as viral fragments have been found in excreta and because of other potential infectious disease risks from excreta, wastewater should be treated in well-designed and well-managed centralized wastewater treatment works. Each stage of treatment (as well as retention time and dilution) results in a further reduction of the potential risk. A waste stabilization pond (that is, an oxidation pond or lagoon) is generally considered to be a practical and simple wastewater treatment technology that is particularly well suited to destroying pathogens, as relatively long retention times (20 days or longer) combined with sunlight, elevated pH levels and biological activity serve to accelerate pathogen destruction. A final disinfection step may be considered if existing wastewater treatment plants are not optimized to remove viruses. Best practices for protecting the health of sanitation workers should be followed. Workers should wear appropriate PPE, which includes protective outerwear, heavy-duty gloves, boots, goggles or a face shield, and a mask; they should perform hand hygiene frequently; they should avoid touching their eyes, nose or mouth with unwashed hands, and they should practice social distancing while working.

C. Keeping water supplies safe

Several measures can improve water safety, starting with protecting the source water; treating water at the point of distribution, collection or consumption; and ensuring that treated water is safely stored at home in regularly cleaned and covered containers. Such measures can be effectively planned, implemented and monitored using water safety plans. Conventional, centralized water treatment methods that utilize filtration and disinfection should inactivate the COVID-19 virus. Other human coronaviruses have been shown to be sensitive to chlorination and disinfection with ultraviolet (UV) light. For effective centralized disinfection, there should be a residual concentration of free chlorine of ≥0.5 mg/L after at least 30 minutes of contact time at pH < 8.0.10 A chlorine residual should be maintained throughout the distribution system.

In addition to effective water treatment, water utility managers can adopt several other preventive measures, as part of a broader water-safety planning approach. These measures include ensuring adequate stocks of chemical additives and consumable reagents for water-quality testing, ensuring that critical spare parts, fuel and contractors can still be accessed and that there are contingency plans for staff and training to maintain the required supply of safe drinking-water. In places where centralized water treatment and safe piped-water supplies are not available, a number of household water treatment technologies are effective in removing or destroying viruses, including boiling or using high-performing ultrafiltration or nanomembrane filters, solar irradiation and, in non-turbid waters, UV irradiation and appropriately dosed free chlorine.

D. WASH in health care settings

Existing recommendations for water, sanitation and hygiene measures in health-care settings are important for providing adequate care for patients and protecting patients, staff and caregivers from infection risks. The following WASH-related actions are particularly important:

• engaging in frequent hand hygiene using appropriate techniques;
• implementing regular environmental cleaning and disinfection practices;
• managing excreta (faeces and urine) safely;
• safely managing health-care waste produced by COVID-19 cases.

Other important and recommended measures include providing sufficient and safe drinking-water to staff, caregivers and patients; ensuring that personal hygiene can be maintained, including hand hygiene for patients, staff and caregivers; regularly laundering bedlinen and patients' clothing; providing adequate and accessible toilets (including separate facilities for confirmed and suspected COVID-19 cases); and segregating and safely disposing of health-care waste.

E. Hand hygiene practices

Hand hygiene is extremely important to prevent the spread of the COVID-19 virus. All health-care facilities should have regular programmes aimed at promoting best hand hygiene practices and ensuring the availability of the necessary infrastructure (equipment and supplies). All health-care facilities should establish hand hygiene programmes, if they do not have them already, or strengthen existing ones. In addition, rapid activities to prevent the spread of the COVID-19 virus are needed, such as procurement of adequate quantities of hand hygiene supplies; hand hygiene refresher courses and communications campaigns. Cleaning hands using an alcohol-based hand rub or with water and soap should be done according to the instructions known as "My 5 moments for hand hygiene". These are (1) before touching a patient, (2) before clean/aseptic procedures, (3) after body fluid exposure/risk, (4) after touching a patient, and (5) after touching patient surroundings. If hands are not visibly dirty, the preferred method is using

an alcohol-based hand rub for 20−30 seconds using the appropriate technique. When hands are visibly dirty, they should be washed with soap and water for 40−60 seconds using the appropriate technique. In addition to performing hand hygiene at all five moments, it should be performed in the following situations: before putting on PPE and after removing it; when changing gloves; after any contact with a patient with suspected or confirmed COVID-19 infection, their waste or the environment in that patient's immediate surroundings; after contact with any respiratory secretions; before food preparation and eating; and after using the toilet.

Functional hand hygiene facilities should be present for all health-care workers at all points of care, in areas where PPE is put on or taken off, and where health-care waste is handled. In addition, functional hand hygiene facilities should be available for all patients, family members and visitors, and should be available within 5 m of toilets, as well as at the entry/exit of the facility, in waiting and dining rooms and other public areas. An effective alcohol-based hand rub product should contain between 60% and 80% of alcohol and its efficacy should be proven according to the European Norm 1500 or the standards of the ASTM International (formerly, the American Society for Testing and Materials) known as ASTM E-1174. These products can be purchased on the market but can also be produced locally in pharmacies using the formula and instructions provided by WHO.

F. Sanitation and plumbing

People with suspected or confirmed COVID-19 disease should be provided with their own flush toilet or latrine. Where this is not possible, patients sharing the same ward should have access to toilets that are not used by patients in other wards. Each toilet cubicle should have a door that closes, to separate it from the patient's room. Flush toilets should operate properly and have functioning drain traps. When possible, the toilet should be flushed with the lid down to prevent droplet splatter and aerosol clouds. If it is not possible to provide separate toilets for COVID-19 patients, then the toilets they share with other non-COVID-19 patients should be cleaned and disinfected at least twice daily by a trained cleaner wearing PPE (impermeable gown, of if not available, an apron, heavy-duty gloves, boots, mask and googles or a face shield). Health-care staff should have toilet facilities that are separate from those used by all patients.

WHO recommends the use of standard, well-maintained plumbing, such as sealed bathroom drains, and backflow valves on sprayers and faucets to prevent aerosolized faecal matter from entering the plumbing or ventilation system, together with standard wastewater treatment. Faulty plumbing and a poorly designed air ventilation system were among the contributing factors for the spread of the aerosolized SARS-CoV-1 coronavirus in a high-rise apartment building in Hong Kong Special Administrative Region in 2003. Similar concerns have been raised about the spread of the COVID-19 virus from faulty toilets in high-rise apartment buildings. If health-care facilities are connected to sewers, a risk assessment should be conducted to confirm whether wastewater is contained and does not leak from the system before it reaches a functioning treatment and/or disposal site. Risks related to the adequacy of the collection system or to treatment and disposal methods should be assessed following a sanitation safety planning approach.

If health-care facility toilets are not connected to sewers, hygienic on-site treatment systems should be ensured such as pit latrines and septic tanks, or excreta should be safely stored and

transported for off-site treatment. For unlined pits, precautions should be taken to prevent contamination of the environment, ensuring that at least 1.5 m exist between the bottom of the pit and the groundwater table (more space should be allowed in coarse sands, gravels and fissured formations) and that the latrines are located at least 30 m horizontally from any groundwater source (including both shallow wells and boreholes). A properly designed septic tank will remove most solids from sewage, and the liquid effluent can infiltrate into the ground through a leach field or soakpit. If soil conditions are not favorable for infiltration, fully lined tanks can be used, however combined excreta and flushing water will necessitate frequent emptying. Latrines or holding tanks should be designed to meet patient demand, considering potential sudden increases in cases, and there should be a regular schedule for emptying them based on the wastewater volumes generated. There is no reason to empty latrines and holding tanks of excreta from suspected or confirmed COVID-19 cases unless they are at capacity. Faecal sludge can be treated in a faecal sludge treatment plant, either located off-site or on the premises of the health-care facility. Municipal authorities may position faecal sludge transfer stations near health facilities to reduce the time, cost and potential for uncontrolled dumping of sludge in drains and agricultural areas.

For those working with untreated sewage for which there are considerable infectious risks, in addition to standard PPE (heavy-duty gloves, boots, masks, and goggles or a face shield, a that is, a long-sleeved impermeable gown or if not available, an apron, is needed). It should always be worn when handling or transporting excreta offsite, and great care should be taken to avoid splashing and release of droplets. For sanitation workers, this includes pumping out tanks or unloading pumper trucks. After handling the waste and once there is no risk of further exposure, individuals should safely remove their PPE and perform hand hygiene before entering the transport vehicle. Soiled PPE should be put in a sealed bag for later safe laundering (see Environmental cleaning and laundry). Faecal sludge and wastewater from health facilities should never be released on land used for food production, aquaculture or disposed of in recreational waters.

G.Toilets and the handling of faeces

It is critical to perform hand hygiene (see Hand hygiene general recommendations) when there is suspected or known contact with faeces. If the patient is unable to use a toilet, excreta should be collected in either a diaper or a clean bedpan and immediately and carefully disposed of into a separate toilet or latrine used only by suspected or confirmed COVID-19 cases. In all health-care settings, including those with suspected or confirmed COVID-19 cases, faeces must be treated as a biohazard. After disposing of excreta, bedpans should be cleaned with a neutral detergent and water, disinfected with a 0.5% chlorine solution, and then rinsed with clean water. The rinse water should be disposed of in a drain, toilet or latrine. Other effective disinfectants include commercially available quaternary ammonium compounds, such as cetylpyridinium chloride, used according to manufacturer’s instructions, and peracetic or peroxyacetic acid at concentrations of 500−2000 mg/L.

Chlorine is not effective for disinfecting matter containing large amounts of solid and dissolved organic matter. Therefore, there is limited benefit to adding chlorine solution to fresh excreta and, possibly, such addition can introduce risks associated with splashing. Anyone handling

faeces should follow existing WHO contact and droplet precautions and use PPE to prevent exposure, including long-sleeved gowns, gloves, boots, masks, and goggles or a face shield. If diapers are used, they should be disposed of as infectious waste, as in all non-outbreak situations. Workers should be properly trained in how to put on and remove PPE, so that these protective barriers are not breached. If PPE is not available or the supply is limited, the frequency of correct hand hygiene should increase, and workers should keep at least 1m distance from suspected or confirmed cases.

H. Safe management of health care waste

Best practices for safely managing health-care waste should be followed, including assigning responsibility and sufficient human and material resources to segregate and dispose of waste safely. There is no evidence that direct, unprotected human contact during the handling of health-care waste has resulted in the transmission of the COVID-19 virus. All health-care waste produced during patient care, including those with confirmed COVID-19 infection, is infectious (infectious, sharps and pathological waste) and should be collected safely in clearly marked lined containers and sharp safe boxes. This waste should be treated, preferably on-site, and then safely disposed. If waste is moved off-site, it is critical to understand where and how it will be treated and disposed. Waste generated in waiting areas of health-care facilities can be classified as non-hazardous and should be disposed in strong black bags and closed completely before collection and disposal by municipal waste services. All those who handle health-care waste should wear appropriate PPE (boots, long-sleeved gown, heavy-duty gloves, mask, and goggles or a face shield) and perform hand hygiene after removing it. The volume of infectious waste during the COVID 19 outbreak is expected to increase, especially through the use of PPE. Therefore, it is important to increase capacity to handle and treat this health-care waste. Additional waste treatment capacity, preferably through alternative treatment technologies, such as autoclaving or high temperature burn incinerators, may need to be procured and systems may need to be put in place to ensure their sustained operation.

There is no reason to empty latrines and holding tanks of excreta from suspected or confirmed COVID-19 cases unless they are at capacity. In general, the best practices for safely managing excreta should be followed. Latrines or holding tanks should be designed to meet patient demand, considering potential sudden increases in cases, and there should be a regular schedule for emptying them based on the wastewater volumes generated. PPE (long-sleeved gown, gloves, boots, masks, and goggles or a face shield) should always be worn when handling or transporting excreta offsite, and great care should be taken to avoid splashing. For crews, this includes pumping out tanks or unloading pumper

trucks. After handling the waste and once there is no risk of further exposure, individuals should safely remove their PPE and perform hand hygiene before entering the transport vehicle. Soiled PPE should be put in a sealed bag for later safe laundering (see Cleaning practices). Where there is no off-site treatment, in-situ treatment can be done using lime. Such treatment involves using a 10% lime slurry added at 1-part lime slurry per 10 parts of waste.

I. Environmental cleaning and laundry

Existing recommended cleaning and disinfection procedures for health-care facilities should be followed consistently and correctly.34 Linen should be laundered and the surfaces where COVID-19 patients receive care should be cleaned and disinfected frequently (at least once a day), and after a patient is discharged.23 Many disinfectants are active against enveloped viruses, such as the COVID-19 virus, including commonly-used hospital disinfectants. Currently, WHO recommends using:

• 70% ethyl alcohol to disinfect small surface areas and equipment between uses, such as reusable dedicated equipment (for example, thermometers);

• sodium hypochlorite at 0.1% (1000 ppm) for disinfecting surfaces35 and 0.5% (5000 ppm) for disinfection of blood or bodily fluids spills in health-care facilities.

The efficacy of all disinfectants is affected, to different degrees, by organic material. Thus, it is essential to clean surfaces with a detergent and water before applying a disinfectant. The concentration and exposure time of any disinfectant are critical parameters for its efficacy. After applying disinfectant to a surface, it is necessary to wait for the required exposure time and drying to ensure that surface microorganisms are killed.

All individuals in charge of environmental cleaning, laundry and dealing with soiled bedding, towels and clothes from patients with COVID-19 infection should wear appropriate PPE, including heavy-duty gloves, a mask, eye protection (goggles or a face shield), a long-sleeved gown, and boots or closed shoes. They should perform hand hygiene after exposure to blood or body fluids and after removing PPE. Soiled linen should be placed in clearly labelled, leak-proof bags or containers, after carefully removing any solid excrement and putting it in a covered bucket to be disposed of in a toilet or latrine. Machine washing with warm water at 60−90°C and laundry detergent is recommended. The laundry can then be dried according to routine procedures. If machine washing is not possible, linens can be soaked in hot water and soap in a large drum using a stick to stir, taking care to avoid splashing. The drum should then be emptied, and the linens soaked in 0.05% chlorine for approximately 30 minutes. Finally, the laundry should be rinsed with clean water and the linens allowed to dry fully, if possible, in sunlight.

Excreta found on surfaces such as linen or the floor should be carefully removed with towels and immediately disposed of safely in a toilet or latrine. If the towels are single use, they should be treated as infectious waste; if they are reusable, they should be treated as soiled linens. The area should then be cleaned and disinfected following published guidance on cleaning and disinfection procedures for spilled body fluids.

J. Safe disposal of greywater or water from washing PPE, surfaces and floors

WHO recommends that utility gloves or heavy-duty, reusable plastic aprons are cleaned with soap and water, and then decontaminated with 0.5% sodium hypochlorite solution each time they are used. Single-use gloves made of nitrile or latex, and gowns should be discarded as infectious waste after each use and not reused; hand hygiene should be performed after PPE is removed. If greywater includes disinfectant used in prior cleaning, it does not need to be chlorinated or treated again. However, it is important that such water is disposed of in drains connected to a septic system, a sewer or in a soak-away pit. If greywater is disposed of in a soakaway pit, the pit

should be fenced off within the health facility grounds to prevent tampering and to avoid possible exposure in the case of overflow.

K. Considerations for WASH practices in homes and communities

Upholding recommended water, sanitation and health-care waste practices in the home and in the community is important for reducing the spread of COVID-19. The provision of water enables regular hand hygiene and cleaning. Water services should not be cut off because of consumers' inability to pay, and governments should prioritize providing access to people without access to water services, through other immediate actions such as. protected boreholes, tanker trucks, extending piped supplies etc.). Individuals and organizations involved in providing water and sanitation services such as treatment plant operators, sanitation workers and plumbers as well as those promoting hand hygiene in the community should be designated as providing essential services and be allowed to continue their work during movement restrictions and have access to PPE and hand hygiene facilities to protect their health.

L. Hand hygiene general recommendations

Hand hygiene has been shown to prevent respiratory illness. Handwashing is recommended after coughing and sneezing and/or disposing of a tissue, on entering the home having come from public places, before preparing food, before and after eating and feeding/breastfeeding, after using the toilet or changing a child's diaper and after touching animals. For people with limited WASH services it is vital to prioritize the key times for hand hygiene.

As part of a new hand hygiene campaign, WHO recommends that universal access to hand hygiene facilities should be provided in front of all public buildings and transport hubs -such as markets, shops, places of worship, schools and train or bus stations. In addition, functioning handwashing facilities with water and soap should be available within 5m of all toilets, both public and private.

The number or size of these hand hygiene stations should be adapted to the number and type of users such as children or those with limited mobility, to encourage use and reduce waiting times. The installation, supervision and maintenance of equipment, including where necessary, regular refilling of water and soap and/or alcohol-based hand rub should be under the overall leadership of the public health authorities. Maintaining supplies should be the responsibility of the manager of the building or store, transport provider etc. Civil society and the private sector can be engaged to support the functioning and correct use of such facilities and to prevent vandalism.

M. Hand hygiene materials

The ideal hand hygiene materials for communities and homes in order of effectiveness are:

- Water and soap **or** alcohol-based hand rub
- Ash or mud
- Water alone

Hand hygiene stations can consist of either water. Where alcohol-based hand rub or bar soap is not feasible, a liquid soap solution, mixing detergent with water can be used. Soap does not need to be antibacterial and evidence indicates that normal soap is effective in inactivating enveloped viruses, such as coronaviruses. Alcohol-based hand rub should contain at least 60% alcohol.

Such products should be certified and, where supplies are limited or prohibitively expensive, can be produced locally according to WHO-recommended formulations. The ratio of detergent to water will depend on types and strengths of locally available product. When soap or alcohol-based hand rub are not available, the use of ash or soil can be considered and has shown to be effective in some cases. Ash may inactivate pathogens by raising the pH. However, in communities with limited sanitation services, soil may be faecally contaminated, and thus it is important to weigh the benefits against the risk of contaminating hands. Finally, washing with water alone, although the least effective of the four options, this can result in reductions in faecal contamination on hands and in diarrhea. Regardless of the type of material, the washing and rubbing of hands, and the amount of rinsing water, are important determinants in the reduction of pathogen contamination on hands.

N**. Water quality and quantity requirements for handwashing**

The quality of water used for handwashing does not need to meet drinking-water standards. Evidence suggests that even water with moderate faecal contamination when used with soap and the correct technique can be effective in removing pathogens from hands.48 However, efforts should be made to use and source water of the highest quality possible (e.g. an improved water source)k. Reported quantities of water used for handwashing that have enabled reduction of faecal contamination ranges from 0.5-2 litres per person. Furthermore, the quantity of water used has been associated with less viral contamination of hands.49 Where water is limited, hands can be wetted with water, the water then turned off while lathering with soap and scrubbing for at least 20 seconds, and then the water can be turned on again to rinse. Water should always be allowed to flow to a drainage area or receptacle, and hands should not be rinsed in a communal basin, as this may increase contamination.

O. Handwashing facility options

A number of design features should be considered in selecting and/or innovating on existing handwashing facility options. These features include:

• Turning the tap on/off: either a sensor, foot pump, or large handle so the tap can be turned off with the arm or elbow

• Soap dispenser: for liquid soap either sensor-controlled or large enough to operate with the lower arm; for a bar of soap, the soap dish should be well-draining, so the soap doesn't get soggy

• Grey water: ensure the grey water is directed to, and collected in, a covered container if not connected to a piped system

• Drying hands: paper towels and a bin provided; if not possible encourage air drying for several seconds

• Materials: generally, the materials should be easily cleanable and repair/replacement parts can be sourced locally

• Accessible: should be accessible to all users, including children and those with limited mobility.

A number of handwashing designs have been implemented in households, schools and in public settings in both developed and developing countries

P. Treatment and handling requirements for excreta

When there are suspected or confirmed cases of COVID-19 in the home setting, immediate action must be taken to protect caregivers and other family members from the risk of contact with respiratory secretions and excreta that may contain the COVID-19 virus. Frequently touched surfaces throughout the patient's care area should be cleaned regularly, such as tables and another bedroom furniture. Cutlery and crockery should wash and dried after each use and

not shared with others. Bathrooms should be cleaned and disinfected at least once a day. Regular household soap or detergent should be used for cleaning first and then, after rinsing, regular household disinfectant containing 0.1% sodium hypochlorite (that is, equivalent to 1000 ppm or part household bleach with 5% sodium hypochlorite to 50 parts water) should be applied. PPE should be worn while cleaning, including mask, goggles, a fluid-resistant apron and gloves, and hand hygiene should be performed after removing PPE. Consideration should be given to safely managing human excreta throughout the entire sanitation chain, starting with ensuring access to regularly cleaned, accessible and functioning toilets or latrines and to the safe containment, conveyance, treatment and eventual disposal of sewage.

Q. Management of waste generated at home

Waste generated at home during quarantine, while caring for a sick family member or during the recovery period should be packed in strong black bags and closed completely before disposal and eventual collection by municipal waste services. Tissues or other materials used when sneezing or coughing should immediately be thrown in a waste bin. After such disposal, correct hand hygiene should be performed.

6. ESMF Processes and Implementation

6.1 Proposed screening and environmental management process

6.1.1 General

As clearly mentioned above, in section 3.13.1, the Ethiopian EIA guideline categorizes projects into three “schedules” according to their potential impacts: Schedule 1, Schedule 2 and Schedule 3. The UWSSP is likely to include several types of subprojects, resulting from the demand of towns and communities. These subprojects will vary in magnitude and technical scope, from the small shallow well and construction of communal or public toilets to full urban water and sewerage systems.

Table 0-1: Categorization of Subprojects to be considered under the UWSSP

System	Ethiopian regulations

System	Ethiopian regulations
Spring catchment, treatment and gravity transmission and distribution system	2
Raw water treatment plant	2
Transmission pipelines	2
Distribution pipelines and distribution network	2
Well or well fields with pumping station(s), treatment and pressure distribution system	2, unless groundwater withdrawal is more than 4,000 m3/day
Rehabilitation or expansion of existing transmission or distribution systems	2
New distribution systems	2
Latrines (communal, public or households) and other individual sanitation systems	2
Piped sewerage system and wastewater/ fecal sludge management treatment facilities	2
Leak detection	-
Institutional and capacity-building components	-

6.1.2 Environmental and Social Screening Processes

Subproject screening is the first important step in the ESMF processes that should be undertaken for determining whether or not a project requires ESIA/ESMP, and the level at which the assessment should occur. Screening will also help to propose whether a proposed subproject will further require a full-fledged RAP, per procedures outlined in the Resettlement Policy Framework. Environmental Screening will be conducted for each subproject contained in the endorsed annual plan for UWSSP, having specified a site location. The environment and social safeguard specialists in the water and sanitation utilities initiates the process by completing the form contained in Annex I: Environmental Screening Form.

Screening Principles: Screening of subprojects will be carried out after the specific site and location for the subprojects are identified. Conducting field visits to the subproject site and developing an understanding of the biophysical and social environments including the urban setting around the project site is essential to appraise how the subproject activities will interact with the environment. The aim of the screening form is to assist in identifying potential impacts based on field investigations in the area of the subproject site. The screening mechanism seeks to focus on those subprojects with potentially adverse environmental impacts or whose impacts are not fully known. Thus appraisal of the subproject site and having adequate level of information about future subproject activities is essential to anticipate, identify and imagine the magnitude of potential environmental impacts which is necessary for conducting the screening exercise. Based on the nature and size of the subproject, the environment safeguard specialist can seek assistance from either the regional or federal PMUs while carrying the environmental screening. The screening report will then be submitted to the REPAs with an official application for review and approval. The Screening Report will briefly describe:

- The proposed subproject and its potential adverse impacts;

- Categorization of the subproject;
- Characteristics of the location (sensitivity of the area);
- Degree of public interest;
- Institutional arrangement, environmental enhancement and monitoring considerations.

The REPAs will review the Screening Report and will:

- Approve the subproject categorization and recommend implementation;
- Seek for amendment and/or recommend for change on subproject categorization;
- Reject the document with comments as to what is required to submit an acceptable Screening Report.

Following the approval of the screening report by the REPAs, the subproject will be fed into one of the following processes based on its approved Categorization.

- **Category B** (Schedule 2): The potential environmental issues identified in such projects can be investigated and mitigation designed by preparing an Environmental and Social Impact Assessment (ESIA), to get a better understanding of the potential environmental and social issues that have been identified in the screening process, and an accompanying Environmental and Social Management Plan (ESMP). The contactor is required to incorporate the requirements of the ESIA and/or ESMP as well as the relevant measures in the environmental guidelines for construction contractors (Annex V) in their prepared Environment, Health and Safety Master Plan (EHS-MP).
- **Category C**: such projects are not subject to environmental assessment as no potential impacts are anticipated. Thus no further action is required. However, the contractor is required to prepare a EHS-MP that demonstrates how they will deliver the protection measures set out in the environmental guideline for construction contractors (Annex V).

6.1.3 Assignment of an Environmental Category to a Subproject

The outcome of environmental screening exercise will be classifying the proposed subproject into one of Category A, B or C. It should be noted that if any of the subprojects may fall under Category A, it will not be eligible for financing by the UWSSP and will not be proceeded with. Instead it will be subjected to redesign, re-routing or resizing the subproject.

Category "A" Subprojects

Category A subprojects are those for which the Environmental Baseline Assessment concludes that changes to the design or the sitting/routing of facilities are required. These changes may be needed to eliminate unacceptable adverse impacts such as:

- Impacts on a fragile eco-system;
- Impossibility to drain run-off water from the water point site;

- Impacts on inhabited dwellings;
- Potential adverse impacts on naturally sensitive areas;
- Impacts on graves or other Physical Cultural Resources;
- Impacts on land use and/or users.

Changes in the subproject designs may include:

- Re-siting of the water point or of another project component;
- Re-routing of a pipe-line or wastewater trunk lines;
- Change in the location of wastewater treatment facilities, or fecal sludge and other types of waste disposal sites;
- Changes in the location of an effluent discharge;
- Changes in processes used for raw water treatment or wastewater treatment for instance to improve efficiency or to reduce land take.

Category "B" Subprojects

A subproject categorized as "B" will either implement mitigation measures based on preparation of a separate ESIA report or by preparing a simplified (preliminary) ESMP that will be conducted by an independent consultant or by the Borrower's safeguards experts. For all category B subprojects the contractor is required to prepare an EHS-MP (see Annex V), to demonstrate how the environmental guideline for construction contractors will be applied and the requirements of the ESIA and ESMP will be incorporated. Examples of issues requiring further ESIA studies, in cases where specific environmental or social issues are identified include:

- Potential conflicts between upstream and downstream users;
- Possible impacts (but not adverse) on a fragile ecosystem;
- Impacts on land without physical displacement or significant impacts on livelihoods;
- Potential impacts in relation to the construction of wastewater treatment facilities;
- Potential for heavy traffic at construction phase through inhabited areas;
- Construction in water bodies (pipeline river crossings, construction of wastewater trunk lines);
- Construction through areas with contaminated soil.

The purpose of the ESIA is to generate sufficient information on significant impacts, which will be used to determine whether or under what conditions the subproject should proceed. The responsibility of preparing the ESIA is that of the project proponent, which in this case the water and sanitation utilities. The cost of conducting the ESIA will be covered by the same. Utilities will need to procure the services of an independent environmental consultancy service to prepare the ESIAs. Hence, there will be a need to develop a comprehensive Terms of Reference (ToR) to develop a comprehensive scope of work for consultants who will carry out the EIA for the

UWSSP subprojects. As a starting procedure to develop the ESIA ToR, scoping of the UWSSP subprojects will be needed. Based on the nature and type of the UWSSP subprojects, the scoping can be carried either by a team of experts or by the environment and social focal persons of the implementing agencies. Utilities can establish a scoping team drawing upon relevant sector experts, environmental and social focal persons from the regions and others as appropriate. The main purpose of the scoping exercise is to:

- ✓ Establish boundaries of the ESIA study;
- ✓ Identify the main issues or concerns to be assessed;
- ✓ Identify significant effects and factors to be considered;
- ✓ Involve and consult potentially affected groups;
- ✓ Evaluate concerns expressed;
- ✓ Consider reasonable alternatives.

The outcome of scoping is a ToR that will guide the undertaking of ESIA study for the proposed subproject under consideration. Before applying the ESIA ToR for selection of consultancy, it requires to be reviewed and agreed upon by the relevant REPA and the World Bank. The resulting agreed ESIA ToR is expected to consist of the following contents which are also required by the national ESIA laws:

- ✓ Executive summary;
- ✓ Policy, legal, and administrative framework;
- ✓ Project description;
- ✓ Baseline data;
- ✓ Environmental and social impacts;
- ✓ Analysis of alternatives;
- ✓ Proposed Mitigation Measures;
- ✓ Environmental and Social Management Plan (ESMP);
- ✓ Appendixes.

A generic ESIA ToR is attached in Appendix II of this ESMF that will be adapted to the specific requirements of the UWSSP subprojects. Following the approval of the ESIA ToR and hiring of a competent consultancy, undertaking the ESIA study based on the ToR will continue. The ESIA study involves:

- Impact prediction;
- Public consultations;
- Impact analysis;
- Consideration of alternatives;
- Recommending mitigation measures;
- Preparation of ESMP (mitigation, monitoring activities), etc.

The design of mitigation measures in the ESIA should seek to:

- Minimize or eliminate negative impacts;
- Enhance benefits; and
- Protect public and individual rights to compensation.

As part of the ESIA process ESMPs will be prepared and implemented. Effective implementation of the ESMP will ensure that the appropriate mitigation measures have been employed to avoid and/or minimize any potential impacts resulting from the proposed activity. The contents of an ESMP should include:

- A description of the possible adverse effects that the ESMP is intended to address;
- A description of planned mitigation measures, and how and when they will be implemented;
- A description of who will be responsible for implementing the proposed mitigation and enhancement measures;
- A description of who will be responsible for monitoring the implementation of the mitigation and enhancement measures;
- A program for monitoring the environmental and social impacts of the project, both positive and negative;
- A cost estimate and source of funds.

Mitigations will be detailed in the ESMP and may include, for example:

- Extensive consultation with upstream and downstream users to avoid conflict with the objective of reaching an agreement on water use that can be implemented and monitored by local authorities;
- Specific construction arrangements to minimize physical footprint and negative impacts on fragile ecosystems, topsoil and flora;
- Compensation per resettlement policy framework or Ethiopian proclamation,
- By-passes of heavy traffic out of inhabited areas, speed limits, speed bumps, safety awareness with children and adults;
- Control and management of discharge of wastewater effluents and disposal of fecal sludge;
- Excavation and disposal of contaminated soil prior to construction.

A monitoring and supervision plan for the ESMP that summarizes key areas on which internal and external monitoring and supervision will focus should be prepared. The monitoring and supervision plan should identify the critical risks to implementation of the ESMP and how such risks will be monitored during implementation. REPAs would advise utilities on its role for carrying out external environmental monitoring and supervision of the ESMP for Category B projects within the overall plan for the project. Finally the ESMP for the UWSSP subproject will

outline the appropriate budget required to implement measures for mitigation and monitoring. It will also indicate the costs of training and capacity building required.

During the study of the ESIA and ESMP, the environment focal person together with other members of the federal and regional safeguards team will have to ensure the quality of the assessment by conducting interim review of draft ESIA report submissions. The ESIA and ESMP will then be presented by the utilities environment focal person to the MoWIE for further internal review and approval. The draft ESIA will then be submitted to the relevant REPA with an official application for review and approval. In the case of Addis Ababa City Government and Dire Dawa City Administration, submission will be made to their own City level EPAs. Finally the ESIA will be send to the World Bank for no-objection and further disclosures.
A subproject that following scoping is considered likely to have only a small number of issues for further investigation may be considered for the preparation of a simplified (preliminary) ESMP only, rather than a full ESIA. The preparation of a limited ESMP could be carried out by the water and sanitation safeguards experts, and as required with the help of the regional or federal environmental and social safeguards experts. The draft table of content for preliminary ESMP is prepared in house by the ESIA department of Addis Ababa EPA and is not a published document. However, it is applied for guiding project proponents in some sectors (e.g. quarry developers) to prepare and submit their preliminary ESMP in accordance with it (please refer Annex III). The table of content, thus, gives an indication as to the level of depth of information required to be contained in a preliminary ESMP to satisfy the REPAs. The preliminary ESMP examines the subproject's few potential negative and positive environmental impacts identified during scoping and recommends any measures (additional to those presented in Annex V that will be included in the contractors EHS-MP) needed to prevent, minimize, mitigate, or compensate for adverse impacts and improve environmental performance which will be summarized in the ESMP. Undertaking the preparation of the Preliminary ESMP involves:

- ✓ A field assessment of the subproject area to identify likely environmental and social impacts;
- ✓ Proposal of possible mitigation measures;
- ✓ Impact analysis;
- ✓ Consultation with beneficiaries and affected communities; etc.

6.1.4 Consultation and disclosure for category ‘’B’’ subprojects

Public consultation

For all category “B” subprojects, public consultation will include the following steps:

- Identification of interested parties (beneficiary neighboring communities, communities potentially affected by the subprojects, downstream water users, communities downstream from effluent discharges, local authorities, regional authorities);

- Information on the proposed subprojects (that may or mayn't require further ESIA/ESMP studies) and its likely impacts, seeking feedback on impact identification and general mitigation measures as they are described in this ESMF.
- Initial step of consultation, before further environmental assessment work is undertaken: one initial meeting with each of the identified parties, presenting the subprojects and seeking input on the scope of work for further ESIA (as required) work;
- Second step of consultation, after further ESIA (as required) work is completed: presentation of the results of the environmental assessment, including presentation of identified impacts and proposed mitigations, seeking input on these proposed environmental management measures; this second step will include dissemination to identified interested parties of a brief summary of the environmental assessment in local language.

On average, it is estimated that 2 to 5 meetings will be required for each of the above two steps of consultation for Category "B" subprojects. The consultation will be undertaken by consultants or by the safeguards specialists in charge of further environmental work (ESIA/ESMP). Any consultation meeting will be documented.

Disclosure

In conformance with OP 4.01, ESIA reports related with Category "B" subprojects will be made available to the public as follows:

- Disclosure (one copy of the ESIA report, plus copies of the brief summary in local language mentioned in the previous section) at the Implementation Agency's office;
- Disclosure (at least one copy of the full report and copies of the summary in local language) at the World Bank country office in Addis Ababa;
- Disclosure through the World Bank Infoshop.

6.1.5 Category ''C'' subprojects

Subprojects for which the screening process does not identify any specific environmental or social issues are categorized as "C". A subproject categorized as "C" will not require any further environmental and social assessment work. However the contractor is still required to prepare an EHS-MP to demonstrate how it will deliver the protection measures set out in the "Environmental Guidelines for Construction Contractors" presented in Appendix V. This guideline is to be integrated to any request for proposals and construction contract related with the UWSSPs.

If any subprojects entails significant social impacts and requires the development of a RAP this will be conducted in accordance to the procedures outlined in the RPF (see RPF in a separate

document).

6.1.7 Review and clearance of ESIAs

In conformance with Ethiopian EIA guidelines, ESIAs and ESMPs will be reviewed by the Competent Agency or by MoWIE's environmental unit as follows:

- Review of the scope of work (Terms of Reference);
- Review of the draft ESIA/ESMP; and
- Clearance of the final ESIA/ESMP.

ESIAs will be reviewed by the World Bank as follows:

- No-objection on the scope of work (TOR) and consultant contract;
- Review of the ESIA in parallel to submission to the Competent Agency.

6.1.8 Environmental Guidelines for construction contractors

As clearly discussed in chapter 4, one of the beneficial project impacts of UWSSP is the production of job opportunities for citizens during construction as well as operation phases. Especially during these two phases of the projects, Occupational Safety and Health of workers should be given special attention. In this respect, Labour law of Ethiopia (Proclamation No 377/2003) gives exclusive right to workers to work in a safe and healthy environment and to use personal protective equipment whenever necessary. Additionally, Article 92 of this proclamation clearly narrates the requirements in terms of the protection of workforce health and safety. The proclamation requires an employer to take the necessary measures to adequately safeguard the health and safety of workers. To manage health, safety and environmental issues with regard to the community and workers; the environmental guideline for the construction contractors shall be used as a critical input.

This Environmental guideline for construction contractors is presented in Appendix V. They apply to all subprojects under the UWSSP, including Category "C" subprojects. This guideline will be used by the safeguards and procurement experts to supplement existing clauses within the standard contract documents as necessary for the UWSSP (as informed by the E&S screening form).

7. Monitoring of ESMF Implementation

7.1 Monitoring

There are a number of monitoring activities required to ensure adequate environmental and social safeguard measures are adhered to throughout project implementation. The monitoring requirements of the project are summarized in Table 7.1 below:

Table 0-1: Environmental and Social Safeguard Monitoring Requirements for UWSSP II

Requirement	Stage	By who (safeguard specialists)	Final review/ Approval
Environmental and social screening of each subproject	After identification of subproject sites	Implementing agencies (AAWSA or at secondary cities)	REPAs or WDC /MOWIE
ESIA/ESMP preparation (if required)	Prior to initiation of physical works of subprojects	Implementing agencies (AAWSA or at secondary cities) or by an independent consultant	REPAs or WDC/MOWIE and World Bank
Construction ESMP	Prior to initiation of physical works of subprojects	Contractor	Implementing agencies (AAWSA or at secondary cities)
Environmental and social safeguard monitoring (spot-checks)	Regularly during project implementation (minimum of 50% of subprojects visited annually)	Implementing agencies (AAWSA or at secondary cities)	
	Bi-annually during implementation	WDC/ Competent agency and/or World Bank	
Environmental monitoring reporting	Quarterly and Annually during project implementation	Implementing agencies (AAWSA or at secondary cities)	WDC/MoWIE
	After preparation of annual report from implementing agencies	WDC	The Environment unit under the WDC/MoWIE and the World Bank
Audits on ESMF and RPF implementation	Annually	Environmental and social specialists contracted by WDCE and AAWSA	The Environment unit under the WDC/MoWIE and the World Bank

As it is briefly set out in chapter six above, all subprojects are subject to environmental and social screening after identification, and would be categorized as B or C depending on the level of impacts. The screening forms will be completed by safeguard specialists at the implementing agencies (AAWSA or at secondary cities) and cleared by the respective REPAs or by the environment unit under MOWIE.

Based on the level of risks anticipated and categorization given, ESIA or/and ESMPs will be prepared, as required, prior to initiation of physical works of subprojects by safeguard specialists at the Implementing agencies (AAWSA or at secondary cities) or by an independent consultant. The ESIA/ESMP will be reviewed and approved by the Competent Agency or by WDC/MoWIE environmental unit and the World Bank. The findings of the ESIA/ESMP will feed into the formulation of the selected contractor's contract, along with the requirement for the contractor to prepare a Construction ESMP that detail exactly the actions they will take to achieve the requirements of the contract. This ESMP will be reviewed/finalized by the implementing agencies (AAWSA or at secondary cities).

To ensure proper implementation of the Contractors ESMP and/or address other unforeseen environmental impacts, environmental and social safeguards monitoring will be conducted at all levels (city, regional, federal and by the World Bank). Environmental monitoring is periodic

checkups of subprojects to look for efficiency of control measures and will take place on a "spot check" bases as it might be difficult to monitor all subprojects. Spot checks will be conducted as reviewing of reports produced and physical inspections on site. Every utility is required to monitor or conduct physical spot checks at regular intervals during the year and ensure on at least 50% or more of their respective subprojects annually. Subprojects that require preparation of an ESMP need to be monitored as per the proposed monitoring plan. Spot checks/inspections will be conducted bi-annually by WDC/competent agency or/and the World Bank to ensure compliance.

Quarterly and annual reporting on environmental and social safeguard compliance will be undertaken by the project implementing agencies (AAWSA and secondary cities). A brief annual environmental monitoring report will be developed and reviewed by WDC. Such reports will be consolidated and summarized into a federal level annual report that will be prepared by WDC and submitted to the Environment unit under the MoWIE and the World Bank.

Annual audits on ESMF and RPF implementation will be prepared by the environmental and social specialists contracted by WDC and AAWSA, and delivered to the Environment unit under MoWIE and the World Bank. Therefore, an independently-commissioned environmental and social audit will be carried out on an annual basis. This will be conducted as part of AAWSA's and WDC's annual audit of the UWSSPs.

An audit is necessary to indicate, among others:

- To what extent environmental and social considerations are being incorporated into the local government planning process during the project cycles of UWSSP;
- Whether the screening is being applied correctly
- Whether ESIAs and / or ESMPs are being prepared and the contracts reviewed and updated to reflect particular sub-project issues
- That mitigation measures are being identified and implemented by AAWSA and secondary cities; and,
- To check that UWSSP sub-projects are being correctly implemented.

The audit will be able to identify any amendments in the ESMF approach that are required to improve its effectiveness.

7.2 Reporting

7.2.1 Screening Forms

Subprojects will be properly screened as per the screening forms annexed in this ESMF (Annex I) and the report will be submitted by implementing agencies (secondary cities and AAWSA) to the REPAs and MoWIE for further clearance and documentation purposes.

7.2.2 Annual Reports

Project implementing entities (both AAWSA and secondary cities) will develop brief quarterly and annual environmental monitoring report to the review of the WDC. The report contents will be the following:

- A summary of Environmental and Social Screening reports, with a table summarizing which subprojecs have been assigned each of the screening categories;
- A summary of ESIAs developed during the year;
- A summary of environmental monitoring carried out on systems at both construction and operation phases;
- Lists of outstanding issues and the responsible body for implementation;
- Types of training provided or training demands;
- If an environmental permit was not granted by EPA, explain why;
- If no objection is obtained for ESIA studies from the World Bank, and whether these documents are disclosed on time both through the implementing agencies website and the World Bank info shop (please refer Disclosure requirements);
- Documentation practices for environmental instruments (ESS reports, ESMP, ESIA, etc.); and,
- Specific challenges encountered in the course of project implementation processes, including aggregated data from sites.

These reports from all implementing entities will be consolidated and summarized into a federal level annual report to be prepared by the WDC (please refer Annex VII, Quarterly and Annual Environmental Compliance Reporting Templates).

8. Major Gaps Observed and Lessons Learned During the UWSSP Implementation

The first phase of UWSSP was targeting to address WSS services in Addis Ababa and five other secondary cities (Gonder, Jimma, Dire Dawa, Hawasa and Mekelle) and hence helps to achieve the overall water supply and improved sanitation access goals under the MDGs. The project will be closed in the coming December 31, 2017. The three main components of the project is to realize increased access to WSS, improved operational efficiency & demand management and institutional reform in Addis Ababa and five other secondary cities. Tremendous results are being achieved during this phase and a significant number of WSS projects have been implemented, through which communities were able to utilize these services. While implementing this phase of the project, gaps were also observed both during the preparation and implementation processes of the safeguards instruments.

8.1 Major Gaps/Challenges Observed During Implementation of the ESMF

While implementing various World Bank financed infrastructure projects, the Borrower has gained enormous experiences in preparing and implementing safeguards instruments (ESMF, RPF, ESS, ESIA and RAP). However, experience has shown that there are still gaps that need to be further enhanced. For example; the limited technical capacity (especially at the secondary city levels) and lack of appropriate budget for implementation of the ESMP, were among the major gaps observed during implementation of the ESMF (prepared for phase I of the UWSSP). The following challenges or gaps were observed during preparation and implementation of the safeguard instruments (ESMF, RPF, ESIA, ESMP and RAP):

- Less attention was given for environmental and social safeguards by experts and managers. This is due to limited awareness of decision makers and experts in the implementing agencies;
- Lack of inclusion of budget for implementation of safeguards issues;
- Inadequate monitoring and evaluation of ESMF activities at all levels;
- Technical gap in the preparation of different types of safeguard tools and a shortage of experienced experts and consultants which ultimately led to the preparation of poor-quality safeguard instruments;
- Lack of involvement of key stakeholders at the planning stage;
- Preparation of safeguard tools after design study's and limitation of the involvement of multi-disciplinary experts during study; and,
- Lack of enforcement by the regulatory bodies (MoEFC and REPAs).

Major Challenges during Implementation of the E&S Safeguard Instruments

Some gaps were observed in terms of attitude (attention given) towards safeguard instruments, skills and knowledge to implement various safeguard instruments, coordination among different stakeholders (governmental, non-governmental and community-based organizations) and resource availability to implement the instruments. The following limitations were experienced during implementation of the ongoing UWSSP:

- There is limited knowledge about safeguard instruments and its contribution towards sustainability of projects in the eyes of contractors and project managers (higher officials);
- Lower priority for the safeguards compliance at all levels;
- Limited knowledge and skills of some experts about safeguards that leads poor monitoring and evaluation practices during project implementation. Monitoring of mitigation measures as per ESMP was poor in most secondary cities;
- Poor follow up and enforcement by the regulatory bodies (MoEFCC, and REPAs), due to a shortage of manpower to handle several projects at the same time;
- Low commitment of some professionals/consultants was observed during study and construction phases;
- Absence of safeguards experts in some secondary cities and hence most of the projects

were not properly monitored;

- Poor coordination and collaboration among sectors (implementing cities, the regulatory body, land management bureaus, urban plan institute, etc.);
- Delayed project performance due to wide time gap between ESIA study and project implementation;
- Absence of binding clauses in contractual documents causing the contractor to shoulder the responsibility of project sustainability; and,
- Lack of financial resources or budget for the safeguards implementation.

The safeguards performance of the project was rated as MS in Dec 2019 mainly due to a social safeguards issue in one of the beneficiary towns i.e. Dire Dawa. In this town, 10 persons were displaced as a result of the Project. The project affected persons (PAPs) were given replacements for the land they have lost because of the Project activities. In addition, the city has been paying house rent for the PAPs until they finalize construction of their houses in the new area (for two years). However, the PAPs could not move to the new resettlement site due to an unforeseen political violence in the area, over which the town has limited control. During a recent mission (conducted in January2020), the client has reported that new plots of land will be reallocated to the PAPs in a more secure area/in the inner part of town section. The team has requested the client to send an official report on the actions taken to resolve the issue. although the Client has been attempting to implement the project in compliance with the ES safeguards requirements of the Bank, the unpredicted political instability has caused delays in the resettlement of the PAPs. (The issue was transferred from the first phase project). There have also been gaps staffing and reporting. The client has been advised to address the gaps. Capacity building and training activities (which are listed in chapter 9) should especially target the safeguards focal persons/specialists who have been /will be deployed by the beneficiary town in addition to the relevant experts in utilities.

For the activities to be financed in this project, the client is preparing site specific safeguards instruments. Thus far, the preparation of site-specific safeguards instruments has not been finalized. This is because the actual implementation of the project activities has not commenced yet and hence any significant environmental non-compliance issue has been reported.

8.2 Lessons Learned and way forward

In order to rectify the major gaps listed above, reach better implementation levels and ensure sustainability of projects, the following solutions are proposed during the implementation of the upcoming second phase of UWSSP.

- A series of awareness creation or orientation training on safeguard instruments and their role for sustainability has to be given to various stakeholders including, but not limited to; project implementation organizations, regulatory organizations, city managers, decision makers, the community, managers of land management institutions, both in Addis Ababa and secondary cities where the projects are planned to be implemented. the

aim of which is to ensure safeguards are given the attention required by those decision makers at various bureaus and offices and ultimately project sustainability will be achieved;

- Improve public participation, involvement and decision making at all stages of the project cycles, starting from the planning stages, through project implementation, project operation and post operation stages;
- Periodic capacity building and skill improvement trainings should be planned and given to environmental and social safeguards specialists at all levels (in Addis Ababa and secondary cities). The aim of such is to produce successful implementation results with regard to safeguards management; and,
- Safeguards professionals should participate in the selection of bidders for preparation of ESIA, so that they can ensure that the consultants selected have the correct skills to conduct and implement the safeguard instruments as per the plan.

9. Capacity Building and Training

As it is clearly stated in chapter 8 above, capacity building is one of the intervention areas to be addressed for the successful implementation of the upcoming UWSSP. It is crucial to plan and execute general training and awareness/sensitization programs and specific technical trainings on the implementation of the ESMF for relevant stakeholders who will participate at various level of the project implementation (from planning through implementation to operation phases). In this regard, a special initiative is needed to develop the capacity of the project implementers like AAWSA-PIO, AAWSA- HQ, WDC Utilities at the secondary cities, city administrations, REPAs and various stakeholders at the federal, regional and, city and community levels to support implementation of the UWSSP, including social and environmental safeguard aspects.

To effectively deliver their responsibilities at each subproject of the UWSSP, the technical capacity of implementing agencies at each level has to be strengthened. Accordingly, a capacity need assessment will be conducted at all levels, and then based on the findings of the assessments, tailored capacity building packages will be provided.

Training packages on the ESMF process for implementing agencies at all levels

The following institutions will need environmental training to ensure effective implementation of the ESMF:

- 21 individuals from the main implementing agencies, (one staff member from each of the 21 secondary cities directly involved in the implementation of the UWSSP),
- 18 professionals from WDCE, AAWSA and Water Bureaus who are directly involved in the implementation of UWSSP (5 staffs members from MoWIE, 4 staffs from AAWSA and 9 staffs from Water Bureaus).
- Three experts from MoEFCC and 11 individuals from REPAs (one individual from each

region and the two city administrations). It is recommended to organize, prior to the UWSSP, a three-day workshop were the updated ESMF will be presented and discussed. The environmental and social specialists from AAWSA and WDC will lead this training with assistance from the World Bank.

- Prior to delivering all the above training packages, it is strongly recommended that a tailored technical training on the overall safeguards implementation, including experience sharing or practical exposure visits, should be provided for approximately 6 experts from WDC and AAWSA-PIO.

On the whole, a 6-day workshop is proposed that will target the training of the aforesaid environmental experts. The training will be given on the first, third and fifth years of the total six years project life cycle. This workshop will be facilitated by WDC. The training will be delivered by the WDC, AAWSA –PIO and federal EPA environmental and social specialists, with the support from the World Bank environmental and social specialists. The training will try to address the following topics:

- Review of the Ethiopian environmental policies, laws, regulatory and administrative frameworks;
- Review of the World Bank's safeguard policies;
- Environmental and social screening process (with one practical exercise on a real site);
- Assignment of environmental categories;
- Carrying out of the environmental work as discussed in the ESMF;
- Review and clearance of the screening results and separate ESIA reports;
- Preparation of terms of reference for carrying out ESIA/ESMPs;
- Monitor of safeguard implementation;
- Waste management issues (safe disposal of domestic wastes, construction wastes etc.);
- Social impacts as per the updated RPF;
- Resettlement (compensation for minor income/property loses);
- The benefits of public consultation;
- World Bank requirements related with public consultation;
- Areas of the UWSSP subprojects where public consultation is required;
- Public consultation process in view of the ESMF and RPF requirements;
- Public consultations during subproject design;
- Requirements and procedures for RAP;
- Case studies based on categorization of common cases (wastewater treatment plants, rehabilitation works).

This training will also aim at reviewing and refining some aspects of the process, particularly the forms, toolkits and guidelines proposed in this updated ESMF, for their effective implementation by the different parties involved in the process of implementing the UWSSP subprojects.

The workshop will be organized in Addis Ababa and its cost is estimated as follows:

- Participants' per-diem, including accommodation and meals:
  - ✓ USD 30 per day x 6 days x 50 participants
  - ✓ Subtotal: USD **9,000.00**
- Trainers' fees:
  - ✓ 16 days (including preparation) x 5 x USD 100.00 per day
  - ✓ Subtotal: USD **4,000.00**
- Logistics of the workshop, including participants' transport:
  - ✓ USD 15,000
- Contingencies (15 % of Total) : USD 4,200.00
- Total: USD **32,200.00**

It is also recommended that prior to the UWSSP kick-off, a four-day workshop for the following individuals should be organized, where the updated ESMF will be presented and discussed:

Developing awareness of the ESMF process:

- Representatives of town water boards (at least 1 from each project implementing utilities),
- Professionals involved with WSS at the municipal levels (at least 1 technical staff member for each towns),

To enhance the understanding and commitment towards the implementation of environmental safeguards, sensitization workshop will also be provided on environmental safeguards for the following individuals.

- Engineers and technicians and environmental specialists in municipal authorities with potential involvement on UWSSP implementation (at least 1 individual from each secondary cities and 2 individuals from AAWSA),
- Staff from construction supervision consultants and contractors, 1 from each (for each subproject).

This workshop will be facilitated by the WDC, AAWSA and each REPA. This environmental training will be conveyed by the Training of Trainers (ToT) members and will address the topics indicated above in this chapter. The workshop will be organized in Addis Ababa. Its cost is estimated as follows, (to be refined further as necessary):

- Participants' per-diem, including accommodation and meals:
  - ✓ USD 30 per day x 4 days x3000 participants (estimate)
  - ✓ Sub-total: USD **360,000.00**
- Consultants' fees:
  - ✓ 10 days (including preparation) x 3 ToT members x 60 (batches of trainees) USD 50.00 per day
  - ✓ Sub-total: USD **90,000.00**

- Estimated logistics of the workshop, including participants' transport from water utilities and meeting room and transport to site for practical exercise:
  - ✓ Sub-total: USD 70,000
- Contingencies (15 %) : USD 78,000.00
- Total: USD **598,000.00.**

Technical training/ experience sharing:

A practical exposure visit is very crucial to narrow down the existing gaps observed during the implementation of the ongoing UWSSP (as discussed in the previous chapter). It will enable to update the knowledge and skill of experts at WDCand AAWSA –PIO and to implement the safeguard instruments (especially ESMF, ESIA and ESMP) in a better capacity.

An overseas training and exposure visit (in one of African countries) for two weeks (on an average) is expected to cost about 36,000 USD, based on the experience obtained from AAWSA-PIO. It includes the cost of travel, full accommodation and cost of the training/workshop. The experts taking this training should train the lessons obtained to project implementers at secondary cities and AAWSA.

Summary of Total Cost of Capacity Building and Technical Assistance

As discussed above, the capacity building and technical assistance planned to be provided for various types of stakeholders are targeted to fill the gaps and limitations at each phase of the project cycle and ultimately realize the efficiency and effectiveness of the UWSSP. A brief summary of financial resource to realize this endeavor is described in the following table.

Table 0-1: Budget Estimate for Capacity Building & implementation of ESMF

Types of Activities	**Budget for the period 2016 – 2021 (USD)**					**Total (USD)**
	Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**	
Tailored Training on Strategic Environmental Assessment (ESA) / experience sharing/ exposure visits for WDC and AAWSA-PIO	36,000		36,000		36,000	**108,000**
Training for WDC, AAWSA – PIO, RWBs and Federal and REPAs	32,200	-	35,000	-	40,000	**107,000**
Training for cities and other regional experts	860,000	-	626,000	300,000	-	**1,486,000**
Conducting ESS	150,000	200,000		50,000		**350,000**
Conducting ESIA	400,000	300,000				**700,000**
Conducting RAP	175,000	150,000				**325,000**
Review processes	4500					**4500**
Implementation of mitigation measures						

- (ESS, ESIA, , ESMP and for contract clauses)	2,000,000	400,000	100,000	-	-	**2,500,000**
Monitoring and auditing	528,000	152,000	122,000	9,800	50,000	**852,000**
Total	**4,185,700**	**842,000**	**919,000**	**359,800**	**126,000**	**6,432,500**

Annexes

Annex I: Proposed Environmental and Social Screening Form

The Environmental and Social Screening Form (ESSF) has been designed to assist in the evaluation of sub-projects of the UWSS project in Ethiopia. The form is designed to place information in the hands of implementers and reviewers so that impacts and their mitigation measures, if any, can be identified and/or that requirements for further environmental analysis be determined.

The ESSF contains information that will allow reviewers to determine the characterization of the prevailing local bio-physical and social environment with the aim to assess the potential sub-project impacts on it. The ESSF will also identify potential socio-economic impacts that will require mitigation measures and/or resettlement and compensation.

The ESSF is to be completed by competent safeguard specialists from the implementing water utilities (AAWSA and 21 secondary cities); as required support to the screening process will be provided by the Regional Water Boards. The completed ESSF will be reviewed and approved by each respective REPAs.

In cases where information is 'not known', this should be clearly indicated at the relevant question or comment.

Scheme Type: _____

Sector: _____

Region: _____

Name of Town in which the sub-project to be implemented:

Name of the Reviewing and Approving Authority:

Name, job title, and contact details of the person responsible for filling out this ESSF:

Name:

Job title:

Telephone numbers:

E-mail address:

Date:

Signature:

Part A: Brief Description of the Sub - Project

Please provide information on the type and scale of the sub-project (area of location, required land).

Provide information about the type and components of the schemes, including support/ancillary structures, e.g. water source development, pipe linings, construction of reservoirs, access road, construction of toilet, etc.

Part B: Brief Description of the Environmental Situation and Identification of Environmental and Social Impacts

Environmentally sensitive areas or threatened species

Are there any environmentally sensitive areas or threatened species (specify below) that could be adversely affected by the project?

i. Intact natural forests: Yes_____ No _____

ii. Riverine forest: Yes _____No_____

iii. Surface water courses, natural springs: Yes _____No_____

iv. Wetlands (lakes, rivers, swamp, seasonally inundated areas): Yes ____No_____

v. How far is the nearest wetland (lakes, rivers, seasonally inundated areas)? ----------

vi. Area of high biodiversity: Yes _____No_____

vii. Habitats of endangered / threatened, or rare species for which protection is required under Ethiopian national law/local law and/or international agreements: Yes_____ No _____ Not Known_____

viii. Others (describe). Yes _____No_____

Rivers and Lakes Ecology

Is there a possibility that, due to construction and operation of the sub-project, the rivers and lake ecology will be adversely affected? Attention should be paid to water quality and quantity; the nature, productivity and use of aquatic habitats, and variations of these over time.

Yes _____No_____

Comments:

Site Hydrogeology (according to available information)

Type of aquifer (continuous, fracture)

Depth of aquifer

Seasonal fluctuations

Known quality problems

Surface Water

What is the water course in the surrounding of the site?

Nature (river, stream, spring, lake)

Distance to site

Downstream/upstream the site

Give an assessment of potential water course sensitivity to water point construction and operation

Drainage conditions on-site

Description of present drainage conditions on site (site topography, infiltration capacity of soil):

Risks of water retention (site in a low point):

Feasibility of simple drainage improvements to eliminate water retention problems:

Water Use and Water Users

Describe the water use in the vicinity of the site:

Is there potential for conflict between users; if so, how should this conflict be solved?

_____

_____

Dam Safety Issues

Is the dam to be repaired/upgraded a large dam as defined under OP 4.37?

Yes _____No_____

Please specify the dam height in meters_____

Would the proposed repair works involve conversion of natural habitats?

Yes _____No_____

Would the proposed dam repair works result in loss of asset or resettlement?

Yes _____No_____

Would the proposed repair works have the potential impacts on the health and safety of the local people?

Yes _____No_____

Would the proposed repair works have the potential impacts on surface water quality or water flows?

Yes _____No_____

Would the proposed repair works have the potential impacts on flooding?

Yes _____No_____

Would the proposed repair works have the potential impacts (interruption) on water supply?

Yes _____No_____

Protected areas

Does the sub-project area (or components of the sub-project) occur within/adjacent to any protected areas designated by government (national park, national reserve, world heritage site etc.)? Yes_____ No_____

If the project is outside of, but close to, any protected area, is it likely to adversely affect the ecology within the protected area areas` (e.g. interference with the migration routes of mammals or birds). Yes_____ No_____

Contamination and pollution hazards

Is there a possibility that the sub-project will be at risk of contamination and pollution hazards (from latrines, dumpsite, industrial discharge, drilling oils etc.)? Yes _____No_____

Landscape/aesthetics

Is there a possibility that the project will adversely affect the aesthetic attractiveness of the local landscape? Yes _____No_____

Historical, archaeological or cultural heritage site

Could the sub- project alter any historical, archaeological, cultural heritage traditional (sacred, ritual area) site, cemetery, graves, or require excavation? Yes _____No_____

Degradation and/or depletion of resources during construction and operation

Will the operation involve use of considerable amounts of natural resources (construction material, water spillage, land, energy from biomass etc.) or may lead to their depletion or degradation at points of source? Yes _____No_____

Will the quarries have to be rehabilitated?

Solid or Liquid Wastes

Will the project generate solid or liquid wastes? (Including human excreta/sewage, hospital waste,) Yes _____No_____

If "yes", does the sub-project include a plan for their adequate collection, treatment and disposal?

Yes _____No_____

Public Health

Will the sub-project contribute to an increase in malaria due to an increase in water supply?

Yes _____No_____

Comments: _____

Block of access and routes or disrupt normal operations in the general area

Will the project interfere or block access, routes etc. (for people, livestock and wildlife) or traffic routing and flows? Yes _____No_____

Will the sub-project activities reduce other people's access to their economic resources, like land, pasture, water, public services or other resources that they depend on? Yes _____No_____

Public Consultation

Has public consultation and participation been sought? Yes _____No_____

Document meetings in the meeting form and attach to this ESSF

Part D: Mitigation Measures

For all "Yes" responses above, describe briefly the measures taken to this effect.

S.N	Identified Impacts	Mitigation measures	Responsible body	Time Schedule	Cost Estimate	Remark

Based on the likely environmental and social impacts as deduced from the baseline features identified in section A, B and C, and knowledge of the project, categorize the subproject as follows.

Subprojects Categorization (tick applicable box)

A

- Category A: This sub-project has been categorized as A (Schedule 1) due to one or more major adverse impacts, and therefore cannot be funded under the UWSSP. It will be either re-designed or re-submitted to the environmental screening process after re-design, or abandoned.

B

- Category B: This sub-project has been categorized as B (Schedule 2) due potential environmental issues that are likely to be readily mitigated: further Environmental Assessment work is required. Preparation of separate ESIA (and/or ESMP) to get a better understanding of the potential and social issues that have been identified in the screening process will be carried out to identify necessary mitigation measures.

C

- Category C: No significant environmental issue identified, no specific mitigation required; sub-project implementation can proceed. Environmental Guidelines for Construction Contractors shall be incorporated into construction contract and applied.

Prepared by (name, position, and signature): Date: ----------

Reviewed by (name, position, and signature): Date: ----------

Cleared by (name, position, and signature): Date: ----------

Annex II: Typical ESIA Scope of Work

1. The Consultant will develop an ESIA for the following sub-project within the UWSSP (include description of the sub-project).

2. In preparing the ESIA, the Consultant will conform with the following set of regulations and policies:

- Ethiopian environmental regulations,
- The World Bank's OP 4.01 and other applicable safeguard policies,
- The UWSSP ESMF.

3. The Consultant's scope of work will include:

i. **Initial consultation:**
   - with the implementing agency (identify the implementing agency),
   - with the EPA at federal level,
   - with the REPA,
   - with the World Bank's country office.

ii. **Review of the regulatory and policy background:**

- Based on Ethiopian pieces of legislation and regulation identified in the ESMF, the Consultant will identify any relevant changes occurred since the time the ESMF was prepared, and identify the practical implications thereof in preparing the ESIA;
- Based on World Bank policies identified as applicable in the ESMF, the Consultant will review any relevant changes and identify practical implications thereof;
- The Consultant will summarize in the ESIA report the applicable regulatory and policy background with a focus on practical implications in terms of:
  - ESIA process, including public consultation and disclosure,
  - ESIA scope of work,
  - Contents of the ESIA report,
  - What the implications of the regulatory framework is for the sub-project: for example, what consents or permits will be required, what limit values will apply etc.

iii. **Public consultation:**

The Consultant will implement the following phases of public consultation, in coordination with the implementing agency, which may be willing to participate in this public consultation process:

- Identification of interested parties (beneficiary neighboring communities, communities potentially affected by the sub-project, downstream water users, local authorities, regional authorities);
- Initial step of consultation, before further environmental assessment work is undertaken:

one initial meeting with each of the identified parties, presenting the sub-project and seeking input on the scope of work for further environmental assessment work and to seek to identify any concerns or issues that the local communities and stakeholders may have in relation to the sub-project;

- Second step of consultation, after further environmental assessment work is complete: presentation of the results of the environmental assessment, including presentation of identified impacts and proposed mitigations, seeking input on these proposed environmental management measures and to demonstrate the measures that have been taken in the design to address the concerns raised by the local communities/stakeholders; this second step will include dissemination to identified interested parties of a brief summary of the environmental assessment in local language (generally Amharic and/or Oromigna);
- Any public consultation meeting undertaken by the Consultant will be documented using the form appended to these Terms of Reference (see Appendix 6);
- Main issues raised during consultation meetings will be summarized in the ESIA report, with a description of the manner in which these issues were addressed in the ESIA process.

iv. **Baseline assessment:**

The baseline assessment will address:

- Physical and bio-physical environment (climate, topography at the sub-project site(s), geology, hydrogeology, surface water, soils, erosion sensitivity, flora, fauna, including the identification of any protected or endangered species);
- Land use at the sub-project site(s) and in its (their) vicinity;
- Human environment: description of neighboring communities (population size, population structure and demography, socio-political organization, livelihoods, access to public services);

The baseline assessment will be summarized using the format presented in the "typical ESIA report structure" hereunder. Reports of field observations and bibliography used will be presented as appendices.

v. **Impact assessment:**

The methodology for impact assessment shall be briefly presented. Typically, impacts will be assessed along the following lines:

- Extension in space,
- Duration in time,
- Probability of occurrence,
- Magnitude

The combination of these parameters will be summarized in an all-encompassing measure of "significance", which will be the basis for impact assessment and prioritization of mitigations. Where changes in the project design (such as the re-siting or re-routing of a sub-project facility) may allow to eliminate one or several identified impacts, these changes (and generally any project alternative) will be discussed.

vi. **Mitigations and ESMP:**

Based on the typical ESMP presented in the UWSSP ESMF, the Consultant will develop a sub-project ESMP, which will include as a minimum for each identified impact:

- A description of the mitigation measures,
- A description of monitoring measures,
- Implementation responsibilities,
- Cost,
- Assessment of residual impact after implementation of the mitigation

As necessary, specific additional protection measures to those included in the Environmental Guidelines for Construction Contractors presented as an appendix to the ESMF will be proposed by the Consultant.

vii. **Deliverables:**

The Consultant will produce:

- A summary project description in local language for purposes of public consultation (see above),
- A draft 1 ESIA report for submission to the Client,
- After initial Client's comments have been included in a revised version, a second draft ESIA report, including a brief summary in local language for purposes of public consultation,
- After public consultation results have been included, a final draft ESIA will be circulated for Competent Agency and World Bank comment.
- After satisfactory incorporation of comments, a final ESIA report for public disclosure according to arrangements presented in the ESMF.

TYPIAL STRUCTURE OF AN ESIA REPORT

1. **Executive summary**
2. **Introduction**
   - Scope of the ESIA
   - Team in charge of the EIA, with list of consultants involved and task of each
   - Summary of requirements applying to the EIA:
   - General Ethiopian legal requirements
   - ESMF requirements

- RPF requirements
- Other World Bank requirements if applicable
- Time frame for implementation of the EIA

3. **Description of the Proposed Development Sub-Project**

- Brief sub-project description with a focus on those physical components of the sub-project that may entail environmental and/or social impacts.
- Technical components, including description of the methods used for construction and operation
- Outline of the main alternatives
- Sub-Project decommissioning at the end of the operation period
- Implementation arrangements
- Implementation schedule and cost

4. **ESIA Methods**

- Terms of Reference of the EIA, and process through which they were arrived at
- Description of the methods used for the EIA, including description of field investigations, mathematical models, social investigations, available literature
- Description of standards and guidelines used
- Statement on the extent of involvement
- Identification of information gaps and uncertainties

5. **Consultation**

- Identification of interested parties
- Description of consultation with affected parties (timeframe, methods)
- Main issues arising from consultation and how they were addressed in the ESIA process

6. **Description of the baseline environmental, socio-economic and health conditions**

- Focus of the baseline assessment depending on the nature of the sub-project and on its likely impacts
- Description of the physical environment (climate, topography, geology, hydrogeology, surface water, soils in the sub-project area)
- Flora and fauna - brief description of the baseline situation at the project site, with a specific focus on endangered species if any, and assessment of the general biodiversity situation in the project area
- Description of the human environment:
    - Identification of neighboring communities, description thereof demography, sociopolitical conditions,
    - Land use pattern, land tenure, and related social organization,
    - Livelihoods,
    - Water usages,
    - Noise,
    - Health situation

7. **Project Impacts**

Generally, prediction and assessment of each impact at all stages of the project cycle for each alternative, including, but not limited to;

- Construction phase
- Employment
- Impact on land use
- Impact on flora and fauna, with a specific focus on endangered species if any
- Noise, Dust and Vibration
- Impact on ground water quality
- Impact on surface water quality (related with erosion at the vicinity of the work site for example)
- Impact on surface water usage
- Impact on ground water usage
- Impact on soils (compaction by drilling equipment, removal of top soil)
- Potential uses of the environment that will be affected
- Operation phase
- Impact on ground water levels, flow and quality
- Impact on surface water (quantity - flow, quality)
- Impact on surface water usage with a focus on potential conflicts between upstream and downstream users if relevant
- Impact on ground water usage
- Impact of changes in water regimes on flora and fauna, and bio-diversity in general, with a specific focus on wet zones if any
- Potential uses of the environment that will be affected
- Decommissioning phase
- Summary table assessing the significance of each identified impact in terms of magnitude, extension, duration or frequency of occurrence and probability of occurrence

8. **Consultation Process**

- Description of the consultation process (who was consulted, how, when)
- Results: main issues raised and how they are addressed in the project design and in the EIA in general

9. **Mitigation Measures**

- Table showing for each identified impact at each of the main three phases of the project the proposed mitigation measures, with narrative justifying them
- Table showing the residual impacts once the mitigation measures are implemented

10. **Monitoring & Evaluation**

- Table showing for each identified impact the monitoring measures that will be taken,

with indication of indicators used, frequency of measurement, frequency of reporting and any relevant details on the methods to be used for collecting and treating monitoring data

11. **Environmental and Social Management Plan (ESMP)**

- Table showing for each identified impact both the mitigation and the monitoring measures proposed in the EIA, with for each the implementation arrangements, including responsibilities for implementation, the timeframe, and the budgetary implications

Annex III: Guideline for Environmental and Social Management Plan

When a subproject includes distinct mitigation measures (physical works or management activities), an ESMP needs to be included with the subproject application. An ESMP usually includes the following components:

- **Description of adverse effects**: The anticipated effects are identified and summarized.
- **Description of mitigation measures**: Each measure is described with reference to the effect(s) it is intended to deal with. As needed, detailed plans, designs, equipment descriptions, and operating procedures are described.
- **Description of monitoring program**: Monitoring provides information on the occurrence of environmental effects. It helps identify how well mitigation measures are working, and where better mitigation may be needed. The monitoring program should identify what information will be collected, how, where and how often. It should also indicate at what level of effect there will be a need for further mitigation. How environmental effects are monitored is discussed below.
- **Responsibilities:** The people, groups, or organizations that will carry out the mitigation and monitoring activities are defined, as well as to whom they report and are responsible. There may be a need to train people to carry out these responsibilities, and to provide them with equipment and supplies.
- **Implementation schedule:** The timing, frequency and duration of mitigation measures and monitoring are specified in an implementation schedule, and linked to the overall subproject schedule.
- **Cost estimates and sources of funds**: These are specified for the initial subproject investment and for the mitigation and monitoring activities as a subproject are implemented. Funds to implement the EMP may come from the subproject grant, from the community, or both Government agencies and NGOs may be able to assist with monitoring.
- **Monitoring methods:** Methods for monitoring the implementation of mitigation measures or environmental effects should be as simple as possible, consistent with collecting useful information, so that community members can apply them themselves (see example below). For example, they could just be regular observations of subproject activities or sites during construction and then use. Are fences and gates being maintained and properly used around a new water point; does a stream look muddier than it should and, if so, where is the mud coming from and why; are pesticides being properly stored and used? Most observations of inappropriate behavior or adverse effects should lead to commonsense solutions. In some cases (e.g. unexplainable increases in illness or declines in fish numbers), there may be a need to require investigation by a technically qualified person.

Table 0-1: ESMP Preparation Template Form

Potential environ-mental & social impacts	**Proposed mitigation measures**	**Responsible for implementing the mitigation measures**	**Responsible for monitoring the implementation of mitigation measures**	**Time Horizon**		**Cost Estimate**	
				Mitigation	**Monitoring**	**Mitigation**	**Monitoring**

Annex IV: Proposed Effluent Discharge Requirements

Source: World Bank

The WWTP will be designed and operated to achieve discharges that fall within the maximum values set out in the table below. These values comply with National requirements or the WBG EHS Guidelines, whichever is the more stringent.

Parameter	Maximum Value	Unit
pH	6-9	pH
BOD	30	mg/l
COD	125	mg/l
Oil and Grease	10	mg/l
Total Suspended Solids	50	mg/l
Ammonium	10	mg/l
Phosphorus	2	mg/l
Sulfate	1	mg/l
Coliforms	400	Most probable number per 100 ml
Temperature increase	3	°C

Annex V: Environmental Guidelines for Construction Contractors

This guideline will be used by the safeguards and procurement experts to supplement existing clauses within the standard contract documents (particularly the Technical and Special Specifications) for the sub-project being undertaken. In addition to this guideline, project specific mitigation requirements identified in any ESIA or ESMP prepared for a sub-project shall also be incorporated into the contractual documentation, taking care to ensure that they do not result in confusion, repetition or dilution of existing requirements. . .

General: Applicability of This Environmental Guideline

This Environmental Guideline applies to the Contractor. It also applies to any sub-contractors present on Project work sites at the request of the Contractor with permission from the Client. Besides, the regular inspection of the sites by the supervisor appointed by the Client for adherence to the Contract conditions and specifications, the Client may appoint an environmental inspector to oversee the compliance with these environmental conditions and any proposed mitigation measures. Regional Environmental Authorities may carry out similar inspection duties. In all cases, as directed by the Client's supervisor, the Contractor shall comply with directives from such inspectors.

Contractor's Health, Safety and Environment Management Plan (HSE-MP)

Within 6 weeks of signing the Contract, the Contractor shall prepare an EHS-MP for the Client's approval. No works shall commence until the EHS-MP has been approved. The plan is to ensure the adequate management of the health, safety, environmental and social aspects of the works.

The Contractor's HSE-MP will set out the precise actions that the contractor will take to deliver: the mitigation measures and environmental performance requirements set out in the ESIA and the ESMP; any conditions or recommendations associated with the consenting process of the ESIA; relevant requirements of the contract (as set out in the General/Particular Conditions and General/Specific Specifications); the General Protection Measures and the Specific Protection Measures (as appropriate) as set out in this ESMF.

As a minimum it shall include:

- A description of procedures and methods for complying with the E&S requirements stated above;
- A description of specific mitigation measures that will be implemented in order to minimize adverse impacts;
- A description of all planned monitoring activities and the reporting thereof;
- The internal organizational, management, inspecting, monitoring and reporting mechanisms, including the roles and responsibilities for the contractors personnel**.**

The Contractor's HSE-MP will be a focused document/manual in the order of 50-100 sides and

shall be reviewed and approved by the Client before start of the works.

General Protection Measures

In general, environmental protection measures to be taken at any work site shall achieve the following aims:

(a) Minimize the effect of dust on the environment resulting from earth mixing sites, vibrating equipment, construction related traffic on temporary or existing access roads, etc. to ensure safety, health and the protection of workers and communities living in the vicinity of work sites and access roads.

(b) Ensure that noise levels emanating from machinery, vehicles and noisy construction activities (e.g. excavation, blasting) comply with the most stringent of the Ethiopian legal requirements or the World Bank EHS Guidelines and are generally kept at a minimum for the safety, health and protection of workers within the vicinity of high noise levels and nearby communities.

(c) Ensure that existing water flow regimes in rivers, streams and other natural or irrigation channels are maintained and/or re-established where they are disrupted due to works being carried out.

(d) Prevent any construction-generated substance, including bitumen, oils, lubricants and wastewater used or produced during the execution of works, from entering into rivers, streams, irrigation channels and other natural water bodies/reservoirs. Maintain water quality of these water resources.

(e) Avoid or minimize the occurrence of standing water in holes, trenches, borrow areas, etc. (to minimize breeding grounds for mosquitos etc)

(f) Prevent and minimize the impacts of quarrying, earth borrowing, piling and building of temporary construction camps and access roads on the biophysical environment including protected areas and arable lands; local communities and their settlements. Restore/rehabilitate all sites to acceptable standards.

(g) Ensure that all drums, containers, bags, etc. containing oil/fuel/surfacing materials and other hazardous chemicals or materials shall be stored at construction sites on a sealed and/or bonded area in order to contain potential spillage. All waste containers, litter and any other waste generated during the construction shall be collected and disposed of at designated disposal sites in line with applicable Ethiopian government waste management regulations.

(h) Ensure that all drainage and effluent from storage areas, workshops, housing quarters and generally from camp sites shall be captured and treated before being discharged into the drainage system in line with the more stringent of the national and World Bank EHS Guidelines

applicable water pollution limit values. Sufficient and appropriate spill kits (as agreed with the client) shall be provided and workers trained in their use to contain and clear up spills.

(i) Ensure used oil from maintenance shall be collected, properly stored in sealed containers, and either disposed of appropriately at designated sites or be re-cycled.

(j) Restriction of entry of runoff into construction sites, staging areas, camp sites, by constructing diversion channels or holding structures such as berms, drains, dams, etc. to reduce the potential of soil erosion and water pollution.

(k) Inhibit the leaving of construction waste along the road in stockpiles, but ensure it is removed and reused or disposed of on a daily basis.

(l) Ensure, where temporary dump sites for clean excavated material are necessary, that they shall be located in areas, approved by the Client's supervisor, where they will not result in supplemental erosion. Any compensation related with the use of such sites shall be settled and all necessary consents obtained prior to their use.

(m) Ensure areas for temporary storage of hazardous materials such as contaminated liquid and solid materials are approved by the supervisor and appropriate local and/or relevant national or local authorities before the commencement of work: these shall be sufficiently constituted to prevent accidental or intentional discharge to the environment. Disposal of such waste shall be in existing, approved sites.

(n) Restrict vegetation clearing to the area required for safe operation of construction work. Vegetation clearing shall not be done more than two months in advance of operations.

(o) Ensure Stockpile areas are located in areas where trees or other natural obstacles can act as buffers to prevent dust pollution, and generally at a distance from human settlements. Wind shall be taken into consideration when siting stockpile areas. Perimeter drains shall be built around stockpile areas.

(p) Upon discovery of graves, cemeteries, cultural sites of any kind, including ancient heritage, relics or anything that might or believed to be of archeological or historical importance during the execution of works, immediately stop works and report such findings to the Client so that the Ministry in charge of Culture may be expeditiously contacted for fulfillment of the measures aimed at protecting such historical or archaeological resources. In this instance the chance finds procedures (Annex VI) should be followed.

(q) Compliance with a workers code of conduct that amongst its measures, shall prohibit construction workers from engaging in the exploitation of natural resources such as hunting,

fishing, and collection of forest products or any other activity that might have a negative impact on the social and economic welfare of the local communities, and prohibit explicitly the transport of any bush meat in Contractor's vehicles.

(r) Prohibit the transport of firearms in Project-related vehicles.

(s) Prohibit the transport of third parties in Project-related vehicles.

(t) Implement soil erosion control measures in order to avoid surface run off and prevent siltation, etc.

(u) Ensure that garbage, sanitation and drinking water facilities are provided in construction workers camps.

(v) Ensure that, in as much as possible, local materials are used to avoid importation of foreign material and long distance transportation.

(w) Ensure public safety, and meet Ethiopian traffic safety requirements for the operation of work to avoid accidents.

(x) Ensure that any trench, pit, excavation, hole or other hazardous feature is appropriately demarcated and signposted to prevent third-party intrusion and any safety hazard to third parties.

(y) Comply with Ethiopian speed limits, and for any traffic related with construction at UWSSP sites, comply with the following speed limits unless Ethiopian speed limits are lower:

- Inhabited areas: 50 km/h
- Open road: 90 km/h.

(z) Ensure that, where unskilled daily-hired workforce is necessary, such workers are hired from neighboring communities.

(aa) Generally comply with any requirements of Ethiopian law and regulations.

Specific Protection Measures: Drilling

The Contractor will make sure that any drilling fluid, drilling mud, mud additives, and any other chemicals used for drilling at any UWSSP construction site complies with the more stringent of the Ethiopian environmental, health and safety legal and regulatory requirements and World Bank EHS Guidelines. In general, only bio-degradable materials will be used. The Contractor may be required to provide the detailed description of the materials he intends to use for review and approval by the Client.

Drilling fluids will be recycled or disposed of in compliance with Ethiopian regulations in an authorized disposal site. If drilling fluids cannot be disposed of in a practical manner, and if land is available near the drilling site that is free of any usage rights, the Contractor may be authorized

to dispose of drilling fluids near the drilling site. In this occurrence, the Contractor will be required to provide to the Client due evidence of their total absence of potential environmental impacts, such as leachate tests certified by an agreed laboratory. In this case, drilling fluids will be dried at site, mixed with earth and spread at site.

Any site affected by drilling work will be restored to its initial condition. This applies to drilling pads, access roads, staging areas, etc. Topsoil will be stripped ahead of any earthmoving, stored near the construction site, and replaced in its original location after the re-contouring of the area affected by the works.

Where successive aquifers are intersected by the drilling works and upon order by the work supervisor, the Contractor may be required to take measures to isolate aquifers from contamination by each other.

The Contractor will take all measures to avoid bacteriological or chemical contamination of the intersected aquifers by the drilling equipment. Similarly, the Contractor will take all measures to avoid bacteriological or chemical contamination of the intersected aquifers from the surface by providing an adequately sealed well-head.

When greasing drilling equipment, the Contractor will avoid any soil contamination.

In the event of a limited hydrocarbon spill, the Contractor will recover spilled hydrocarbons and contaminated soils in sealed drums and dispose of them in an authorized waste management facility.

Unless duly requested by the Contractor and authorized by the supervisor, no servicing of drilling equipment or vehicles is permitted at the drilling site.

Specific Protection Measures: Pipelines

No trench shall be left open for more than 7 days, unless duly authorized by the supervisor upon Contractor’s request. Trenches and other excavation works shall be established, demarcated/fenced and/or signposted sufficient to prevent accident or injury to workers or the public, including during hours of darkness. .

General conditions related with topsoil stripping, storage and restoration apply.

The Contractor will take measures to dispose of water used for pressure tests in a manner that does not affect neighboring settlements.

Specific Protection Measures: Quarries and Borrow Areas and deposit sites

The Contractor shall obtain appropriate licenses/permits from relevant authorities to operate quarries or borrow areas prior to their first use. The location of quarries and borrow areas shall be subject to review and approval by relevant local and national authorities.

New sites:

a) Shall be located 1km or more from settlement areas, archaeological areas, and cultural sites - including churches and cemeteries, wetlands or any other valued ecosystem component, or on high or steep ground.

b) Shall not be located in water bodies, or adjacent to them, as well as to springs, wells, well fields.

c) Shall not be located in or near forest reserves, natural habitats or national parks.

d) Shall be designed and operated in the perspective of an easy and effective rehabilitation. Areas with minimal vegetation cover such as flat and bare ground, or areas covered with grass only or covered with shrubs less than 1.5m in height, are preferred.

e) Shall have clearly demarcated and marked boundaries to minimize vegetation clearing and safety hazards for third parties.

f) Shall be operated in accordance with the General Environmental Protection Requirements, the Construction ESMP for the project and in accordance with any consent / permit conditions.

The Contractor shall deposit any excess material in accordance with the principles of these guidelines, and any applicable ESMP, in areas approved by local authorities and/or the supervisor.

General Protection Measures: Rehabilitation of Work and Camp Sites

Topsoil shall be stripped, removed and stored for subsequent rehabilitation. Soils shall not be stripped when they are wet. Topsoil shall not be stored in large or high heaps more than 3m in height: low mounds of no more than 1 to 2m high are recommended to preserve topsoil structure.

Generally, rehabilitation of work and camp sites shall follow the following principles:

- To the extent practicable, reinstate natural drainage patterns where they have been altered or impaired.
- Remove toxic materials and dispose of them in designated sites. Backfill excavated areas with soils or overburden that is free of foreign material that could pollute groundwater and soil.
- Ensure reshaped land is formed so as to be stable, adequately drained and suitable for the desired long-term land use, and allow natural regeneration of vegetation.
- Minimize erosion by wind and water both during and after the process of reinstatement.
- Compacted surfaces shall be deep ripped to relieve compaction unless subsurface conditions dictate otherwise.

General Protection Measure: Management of Water Needed for Construction Purposes

The Contractor shall at all costs avoid conflicting with water needs of local communities. To this effect, in the case of any temporary water abstraction for construction needs from either ground or surface water maps outlining current water shortage and drought situation should be first consulted. Following this proposed abstraction plans shall be submitted to the following community consultation process:

- Identification of water uses that may be affected by the planned water abstraction,
- Consultation with all identified groups of users about the planned water abstraction,
- In the event that a potential conflict is identified, report this to the supervising authority.

This consultation process shall be documented by the Contractor (minutes of meeting) for review and eventual authorization of the water withdrawal by the Client's supervisor.

Abstraction of both surface and underground water shall only be done with the consultation of the local community as mentioned and after obtaining a permit from the relevant authority.

Abstraction of water from wetlands is prohibited.

Temporary damming of streams and rivers is subject to approval by the Client's supervisor and any permits/consents required by law or regulation to be in place prior to works occurring. It shall be done in such a way as to avoid disrupting water supplies to communities downstream, and to maintain the ecological balance of the river system.

No construction water containing spoils or site effluent, especially cement and oil, shall be allowed to flow into natural water drainage courses. Similarly, wash water from washing out of equipment shall not be discharged into water courses or road drains. Washing bays shall be sited accordingly. Washout waters should be collected and appropriately treated prior to discharge in accordance with legal requirements and meeting the most stringent of limit values (national or World Bank EHS guidelines.)

Site spoils and temporary stockpiles shall be located away from the drainage system, and surface run off shall be directed away from stockpiles to prevent erosion.

General Protection Measures: Traffic Management and Community Safety

The contractor shall prepare a Traffic Safety Management Plan that sets out the approved routes and safety measures (such as signalization, fencing safe crossings, diversions, traffic sign locations etc.) to be taken, for the approval of the Client's supervisor.

Location of temporary access roads shall be done in consultation with the local community and based on the screening results, especially in important or sensitive environments. Temporary access roads shall not traverse wetland areas or other ecologically sensitive areas. The construction of any access roads shall be submitted to a prior consultation process with

potentially affected communities that will have to be documented (minutes of meetings) for supervisor's review and approval.

Upon the completion of civil works, all temporary access roads shall be ripped and rehabilitated.

Measures shall be taken to suppress dust emissions generated by Project traffic.

Maximum speed limits for any traffic related with construction at UWSSP sites shall be the following, unless Ethiopian speed limits are locally lower:

- Inhabited areas: 50 km/h
- Open road: 90 km/h.

General Protection Measure: Salvaging and Disposal of Obsolete Components Found by Rehabilitation Works

Obsolete materials and construction elements such as electro-mechanical equipment, pipes, accessories and demolished structures shall be salvaged and disposed of in a manner approved by the supervisor. The Contractor has to agree with the supervisor which elements are to be surrendered to the Client's premises, which will be recycled or reused, and which will be disposed of at approved landfill sites.

Any asbestos cement material that might be uncovered when performing rehabilitation works will be considered as hazardous material. Upon discovery it shall be segregated and covered as necessary to prevent the spread of fibres/dust. A plan shall be prepared by the contractor for the safe removal to a suitable facility, and the plan shall be affected only following its approved by the client.

General Protection Measure: Compensation of Damage to Property

Compensation of land acquired permanently for Project purposes will be handled under Client responsibility based on the provisions of the RPF. However, in the event that the Contractor, deliberately or accidentally, damages property, he shall repair the property to the owner's satisfaction and at the contractor's own cost. For each repair, the Contractor shall obtain from the owner/user a certificate that the damage has been made good satisfactorily in order to indemnify the Client from subsequent claims.

In any case where compensation for inconveniences, damage of crops etc. are claimed by the owner, the Client has to be informed by the Contractor through the supervisor.

General requirement: HSE Reporting

The Contractor shall prepare bi-monthly progress reports to the Client on compliance with the HSE-MP. The content of the Contractor's reports will agreed with the client and will include as a minimum information on:

- HSE management actions/measures taken, including approvals sought from local or national authorities;
- Problems encountered in relation to HSE aspects. For example number of time lost accidents, accidents involving non-worker personnel, injuries, fatalities, environmental incidents and infringements, grievances recorded and closed, no. of inspections undertaken;
- Non-compliance with contract requirements on the part of the Contractor;
- Changes of assumptions, conditions, measures, designs and actual works in relation to HSE aspects; and
- Observations, concerns raised and/or decisions taken with regard to HSE management during site meetings.

The reporting of any significant HSE incidents shall be done as soon as practicable and within 24 hours of the contractor becoming aware of the incident. Such incident reporting shall therefore be done individually. The Contractor shall keep his own records on health, safety and welfare of persons, incident reports and damage to property and shall provide access and copies of these records to the Supervising Engineer and/or Client upon request.

General requirement: Training of Contractor's Personnel

The Contractor shall provide sufficient training to his own personnel to ensure that they are all aware of and suitable equipped to comply with the approved Contractors HSE-MP. Specific training will be provided to those employees that have particular responsibilities associated with the implementation of the HSE-MP. Training activities will be documented for potential review by the Client.

Amongst other issues, training will include an awareness session for all employees on HIV-AIDS addressing the following topics:

- What is HIV/AIDS?
- How is HIV/AIDS contracted?
- HIV/AIDS prevention.

General Requirement: Code of Conduct

The Contractor shall prepare, for the client's approval, a code of conduct for all workers (including sub-contractors) and provide details of the methods that the contractor will use to ensure compliance with the code.

Annex VI: Chance Find Procedure

Contracts for civil works involving excavations will require contractors to prepare and submit for approval by the supervising engineer/borrower a Chance Finds Procedure. This Annex provides guidance on the structure and content of an acceptable Chance Finds Procedure which are the procedures the contractor will follow in the event of buried Physical Cultural Resources (PCR) being unexpectedly encountered. The approved procedure will meet the local regulatory authority, including any "chance find" procedures already incorporated in Ethiopian legislation dealing with antiquities or archaeology.

1: Physical Cultural Resources (PCR) Definition

PCRs are defined as "movable or immovable objects, sites, structures or groups of structures having archaeological, paleontological, historical, architectural, religious, aesthetic, or other cultural significance". This section should define the types of PCR that are likely to be present and that will be covered by the procedure. In some cases the Chance-Finds Procedure will be confined to archaeological finds; more commonly it will apply to all types of PCR. The types of PCR that are likely to be present will be determined following review of the ESIA/ESMP and in consultation with relevant local authorities.

2. Ownership

This paragraph should state the identity of the owner of the artifacts found. Depending on the circumstances, the owner could typically be, for example, the state, the government, a religious institution, the land owner, or could be left for later determination by the concerned authorities.

3. Recognition

This section should set out the training that will be provided to the relevant members of the workforce to ensure that they are able to recognize likely PCR that are encountered during works. In areas of high risk of finds being encountered (as indicated in the ESIA and through consultation) the training should be provided by qualified cultural heritage or archaeological experts.

4. Procedure upon Discovery

This section should set out the procedure that should be followed in the event of a discovery of a PCR during works

Suspension of Work

This paragraph may state that if a PCR comes to light during the execution of the works, the contractor shall stop the works in the area of the find, and secure the site such that no further activity that could damage the find can be undertaken.

After stopping work, the contractor must immediately report the discovery to the Resident Engineer.

Demarcation of the Discovery Site

To the approval of the Resident Engineer, the contractor will demarcate, and limit access to, the site.

Investigating the Find

This section shall set out any procedures that will need to be followed to investigate PCRs to accord with regulatory requirements. This begins with the process for notifying the project environmental specialists, the responsible local authorities and other relevant governmental organizations, and then agreeing with the responsible agencies and to the satisfaction of the Resident Engineer how the find will be protected, preserved, studied and evaluated, and when and which archaeologists or cultural heritage experts should be involved.

The significance and importance of the find will determine the actions that are required, which could include a change in work locations, conservation, preservation in situ, restoration or salvage

Non-Suspension of Work

Only once the relevant authorities have agreed the actions to be taken and these actions have been taken, will works re-commence.

5. Chance Find Report

The contractor will ensure that a report is prepared detailing the find and the action taken and issued to the Resident Engineer and other relevant authorities within 1 week of the find. The report shall be updated as necessary each week until the suspension of works is lifted. The report will include as a minimum the following details:

- Date and time of discovery;
- Location of the discovery;
- Description and photographs of the PCR, including estimated weight/dimensions etc;
- Temporary protection implemented;
- Plan of the actions agreed with the relevant authorities;
- Details of the actions taken.

Annex VII: Quarterly and Annual Environmental Compliance Reporting Template

Quarterly and Annual Environmental Compliance Reporting Template to be completed at Federal, Regional and Town levels

Monitoring of implementation of the ESMF, ESMP and PMP is an important aspect of ensuring that the commitment to environmental sustainability of the project is being met. The regular monitoring of implementation of the ESMF and ESMP will be overseen at federal and/or regional level. The environmental specialists from the Ministry may receive the relevant information from Addis Ababa and each secondary city.

1. General

Ministry/City: [Type the correct name here]
Reporting Quarter/Year: [type here]
Date of the report: [Type here]

2. Report summary (narrative):

Here the narrative of the overall environmental and social safeguards implementation during the reporting period is summarized. Activities carried out in implementing the ESMF (including aspects monitored), issues identified, proposed solutions and follow up activities are summarized here. Figures will be discussed in the reporting table below. Please also consider other issues, like for e.g.:

- Types of training provided or training demands;
- If an environmental permit was not granted by EPA, explain why;
- If no objection is obtained for ESIA studies from the World Bank, and whether these documents are disclosed on time both through the implementing agencies website and the World Bank info shop (please refer Disclosure requirements);
- Documentation practices for environmental instruments (ESS reports, ESMP, ESIA, PMP, etc.); and,

Specific challenges encountered in the course of project implementation processes; including the number of environmental and social incidents that have occurred, accidents & injuries during works, legal infringements etc. .

I. Environmental Compliance Reporting Format (To be Completed at Federal and Regional Levels)

Ministry: ---------- Region: ----------
Project Type; UWSSP: ----------
Total Number of Project Participating Cities: ---------- Date: ----------

S/N	City	Total Nº of sub projects[5]	Screened & approved (in Nº)	Environmental Category			ESIA Prepared & approved (in Nº)	Prepared & approved (in Nº)		Implementation[6] of EMP/PMP (please use separate sheet if necessary)	Remark
				A	B	C		ESMP	PMP		
1											
2											
	Total										

NB: **in Nº** stands for the total number of subprojects

List of Outstanding Issues and Responsible Body for Implementation

S/N	Name of City	Name of subproject site	Type of subproject	Outstanding Issues[7]	Recommended actions	Responsible body for implementation	Time schedule
1							
2							
3							
4							
5							

Completed by: [Name ----------, Email: ----------, Phone: ----------]
Position: [type here – positions of all contributors]
Date: [type here]

[5] Water supply (Surface water, Borehole, RPS, spring, HDW), sewage system, Toilet, irrigation, soil and water conservation, Feeder road, market center, etc**. in the budget year**
[6] State whether all the proposed mitigation measures (outlined in the ESMP and/or PMP) are properly implemented as per the schedule
[7] Types of environmental impacts, accidents, litigations, complaints or fines

II. Environmental Compliance Reporting Format (To be completed at City Level)

Name of Region: ---------- City: ----------
Project Type; UWSSP: ---------- Date: ----------

S/N	Name of subproject site[8]	Types of subprojects /activities[9]	Screened & approved (Yes/No)	Environmental Category	ESIA Prepared & approved (Yes/No)	Prepared & approved (Yes/No)		ESMP/PMP implemented [10] (Yes/No)	Remark
						ESMP	PMP		
1									
2									
3									
4									
5									
Total									

List of Outstanding Issues and Responsible Body for Implementation

S/N	Name of the City	Name of subproject site	Type of subproject	Outstanding Issues[11]	Recommended actions	Responsible body for implementation	Time schedule
1							
2							
3							
4							
5							

Completed by: [Name ----------, Email: ----------, Phone: ----------]
Position: [type here – positions of all contributors]*; Date*: [type here]

[8] Please specify the exact location of the subproject site (Kebele, village name or specific site name of the subproject)
[9] Water supply (Surface water, Borehole, RPS, spring), sewage system, toilet, SS irrigation, soil and water conservation, Feeder road, market center, etc.
[10] State whether all the proposed mitigation measures (outlined in the ESMP and /or PMP) are properly implemented on time, please use separate sheet if necessary
[11] Types of environmental impacts, accidents, litigations, complaints or fines

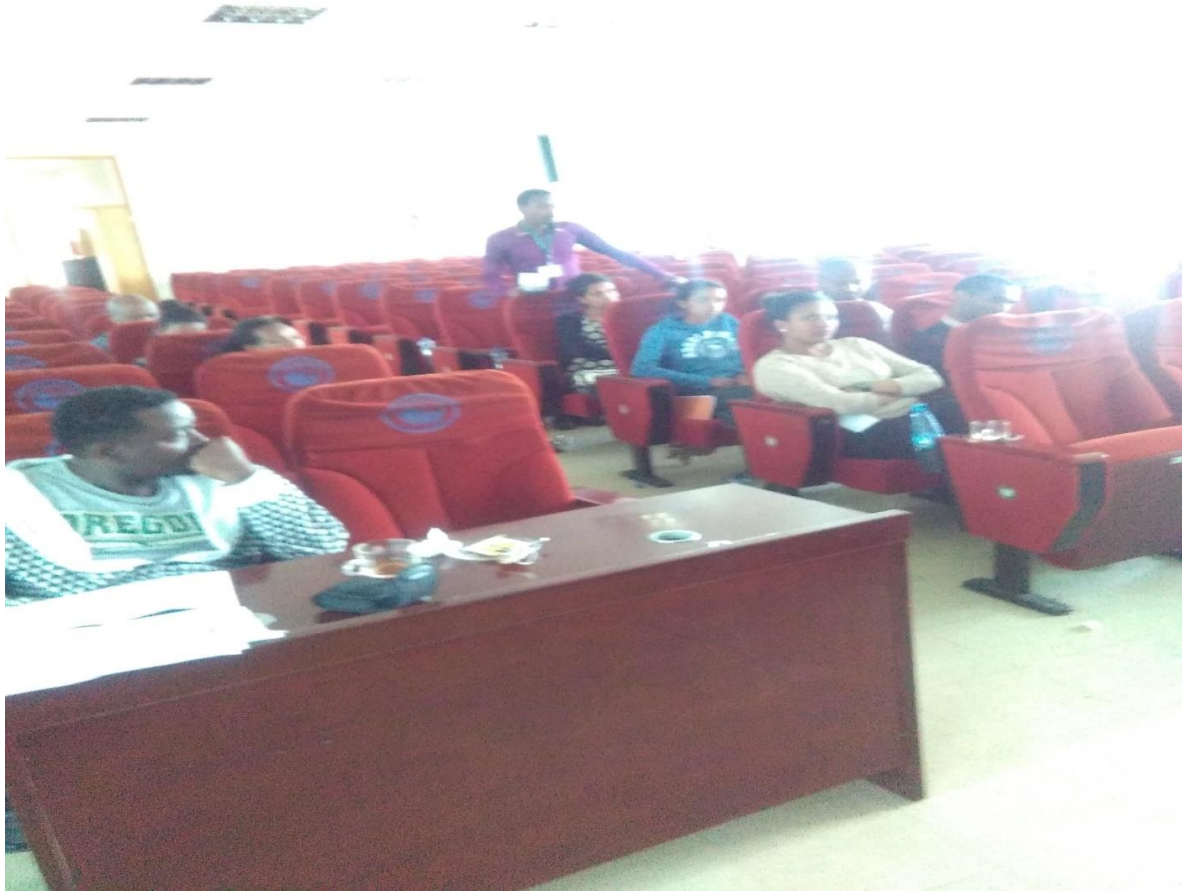
Annex VIII: List of Peoples Consulted

Consultation meeting with Stake holders
UWSSP-Phase II

Date Sept 28, 2016
Venue - AAWSA-PO, 5th floor

List of attendants has to present as follows

S.No	Name	Title	Organization/office	E- mail	Mobile/phone	Signature
1	[illegible]	Engineer IV	AAWSA PO	akalugem@gmail.com	0911795890	[signature]
2	[illegible]	Engineer IV	AAWSA PO	hannaonthemove@yahoo.com	0913013683	[signature]
3	[illegible]	ESE officer	[illegible]	mererabe2016@gmail.com	0918028080	[signature]
4	[illegible]	EIA officer	[illegible]	lakech970@Gmail.	0911189251	[signature]
5	[illegible]	Environmentalist	AAWSA PO	mengeshame@yahoo.com	0912061567	[signature]
6	[illegible]	Environmentalist	AAWSA-PIO	juleiatt@gmail.com	0911143915	[signature]
7	[illegible]	[illegible]	[illegible]	akalumelkamu@yahoo.com	09-20-83-63-72	[signature]
8	[illegible]	[illegible]	AAWSA	solomonyonas73@yahoo.com	0913092927	[signature]
9	[illegible]	[illegible]	AAWSA	—	0911141328	[signature]
10	[illegible]	Sociologist	AAWSA	hailumarew@gmail.com	0911622741	[signature]
11	[illegible]	[illegible]	[illegible] 12 [illegible]	-	0918712664	[signature]
12	[illegible]	[illegible]	[illegible]	[illegible]	0911535554	[signature]
13	[illegible]	[illegible]	[illegible]	-	0942215647	[signature]
14	[illegible]	[illegible]	[illegible]	[illegible]	0982098554	[signature]
15	[illegible]	[illegible]	[illegible] 12	—	0937-64-24-61	[signature]
16	[illegible]	››	››	-	0913816017	[signature]
17	[illegible]	››	›› [illegible]	—	0911053002	[signature]



Sample of Peoples Consulted