PROJECT: Four Towns Water Supply and Sanitation Improvement Programme
COUNTRY: Ethiopia

ENVIRONMENTAL AND SOCIAL MANAGEMENT FRAMEWORK SUMMARY

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ENVIRONMENTAL AND SOCIAL MANAGEMENT FRAMEWORK (ESMF)

SUMMARY

Project Name : Four Towns Water Supply and Sanitation Improvement Program
Country : ETHIOPIA
Project Code : P-ET-E00-011

1. Introduction

Ethiopia’s Growth and Transformation Plan I (GTP, 2011-2015), which focuses on inclusive accelerated and sustained economic growth and eradication of poverty, underpins water service expansion as one of the priority growth-enhancing pro-poor sectors. It has targeted to achieve 98.5% national water supply access coverage (98% for rural and 100% for urban) by the year 2015 based on the Universal Access Plan (UAP) minimum standard. Though the country made significant strides, the target was not achieved, mainly due to the discrepancy in the original baseline which led to its rebasing, and the financing gap. According to the performance report for 2013/14 of the GTP (4th year), access to potable water supply reached 76.7% nationally, disaggregated at 75.5% for rural and 84.5% for urban areas.

As a successor to the UAP, Government prepared the One WaSH National Program (OWNP), which provides an overarching framework for all water supply and sanitation interventions. Its implementation began in 2013 with support from several development partners including the Bank. The overall program cost was estimated at US$ 2.4 billion for phase 1 in which the Bank contributed an amount of UA 66.81 million for the rural component. The requirement for the urban component was estimated at US$ 880 million.

Taking into account the lessons and experiences from GTP-1, Government of Ethiopia (GoE) is currently preparing the second phase of the GTP covering 2015/16 – 2020/21 (2008-2012 Ethiopian Calendar). GoE will continue to expand access while improving service quality standards during the GTP-2 period. As part of its focus on sustained human development, the plan will place increased emphasis on quality of service and keep with the increasing demand for and consumption of water, particularly in the urban areas, and improving standards of living of the population. However on the basis of the GTP 1 service standard, GoE intends to achieve a universal access by the end of the period 2020.

The proposed four towns water supply and sanitation improvement program contributes to the objectives of OWNP being implemented nationally. The urban component of OWNP is being implemented through Water Resources Development Fund (WRDF). Furthermore, Government is mobilising additional resources estimated at EUR 84 million from European Investment Bank (EIB), French Development Cooperation (AFD) and Italian Development Cooperation (IDC) for urban on-lending through WRDF. This is in addition to the OWNP channelled through WRDF.
The proposed Bank support will increase the average access from 53% in 2015 to 100% by 2020 based on the GTP2 service standard for the four beneficiary towns. Access in Gode town is the lowest of all and is currently estimated at 7%. The lack of adequate water supply is one of the limiting factors for the improvement of social services and health of the population as well as economic opportunities and growth in multiple sectors. For instance, Adama is highly attractive for industrial, livestock, and tourism development. It is also a transport hub for the country, as it is on the main route to the country’s port and connects several parts of the country. Its development is highly constrained due to lack of adequate water supply. The Government recently announced the establishment of industrial park in the town and the provision of adequate water supply would be a critical input for the private sector development.

2. Description of the Programme

The Four Towns Water Supply and Sanitation Improvement Program aims to contribute towards the improvement of the health and socio-economic development of the population of the four beneficiary towns of Adama, Bichena, Adwa and Gode through increased access to sustainable water supply and sanitation services and improvement in service delivery. The proposed Program is composed of 4 components namely: (i) Construction of Water and Sanitation Improvement; (ii) Institutional Capacity Development; (iii) Environmental Management; (iv) Program Management

**Component I: Development of Water and Sanitation Infrastructure**

The objectives of this component are to increase the supply of potable water and ensure its reach to the population at an acceptable service standard; and to improve environmental sanitation. The interventions will include the financing of water diversion or intake structures, conveyance/transmission systems, drilling and equipping boreholes, service reservoirs, pumping stations, water treatment systems, and strengthening of distribution systems. For sanitation it will cover support for improving existing faecal waste management disposal and provision of public latrines in essential locations such as market centres and other public areas. Further details are contained in annex 2 of this aide memoire.

**Component II: Institutional Capacity Development**

This will address the capacity constraints in Water Utilities and the Municipalities, in order to improve post completion operations, governance and efficiency of sustainable service delivery. It will include the financing of institutional and capacity assessments, strategic business plan development, trainings/seminars (tariff setting, customer relation, O&M, water quality, performance management, corporate and business management, social inclusion and gender mainstreaming, regulation and private sector and community participation), provision of basic operation and maintenance equipment including utility vehicles and billing systems where appropriate.

**Component III: Environmental Management**

The objective of the component is to ensure compliance with GoE’s and AfDB’s environment and social policies and environmental sustainability of the catchment around the water sources. The component will specifically finance the compensation of the project-affected people. The
Government will be responsible for the compensation and any resettlement that may be required under the program.

Component IV: Program Management
This will ensure effective program implementation and will include the financing of technical assistances for program management, program operation costs, baseline validation, project end-line evaluation, and program audit.

3. Policy, Legal and Administrative Framework

Ethiopian Legislation

The GoE has issued several provisions that have direct policy, legal and institutional relevance for the appropriate implementation of environmental protection and rehabilitation action plans to avoid, mitigate or compensate the adverse effects of development actions including water supply projects.

The Ethiopian Constitution (adopted in 1995) provides the framework and provisions for environmental protection. The concepts of sustainable development and environment rights are entrenched in the rights of the people of Ethiopia through Articles 43 and 44 of the Constitution, which state among others, the right to development and the right to live in a clean and healthy environment. A wide range of policies and legislation/proclamation build on the Constitutional requirement for environmental protection and stakeholder consultation.

The Environmental Policy of Ethiopia (EPE), issued in April 1997, supports the Constitutional Rights through its guiding principles. The overall policy goal is to improve and enhance the health and quality of life for all Ethiopians, to promote sustainable social and economic development through sound management and use of natural, human-made and cultural resources and their environment as a whole. The policy establishes the Environmental Protection Authority (EPA) as the body to harmonize sectoral development Plans and to implement the environmental management program for the Country.

The Proclamation of Environmental Impact Assessment (Proc. No. 299/2002) is the legal tool that mandates the preparation of EIAs for the specified categories of activities underken either by the public or private sectors and facilitates environmental planning, management and monitoring. To put the Proclamation into effect, the EPA issued EIA Guidelines which provide details of the EIA process and its requirements. According to the guidelines, projects/programs are categorized into three “schedules” based on their potential impacts (i) Schedule 1 include projects which may have adverse and significant environmental impacts and therefor require full EIA (such projects include construction of dams, impounding of reservoirs with a surface area of 100 ha or more, ground water development greater than 4000m3/day, canalization and flood-relied work, drainage plans in towns close to water bodies, and programs that cause resettlement of more than 100 families); (ii) Schedule 2 include projects whose type, scale or relevant characteristics have potential to cause some significant environmental impacts and may not require a full EIA (projects include rural WSS, sewage system and electricity transmission lines); and (iii) Schedule 3 projects which would have no impact and do not require EIA assessment.
Furthermore, the Proclamation on the Expropriation of Land Holding for Public Purposes and Payment of Compensation (Proc. No. 455/2005) defines the basic principles that need to be considered in determining compensation to a person whose landholding has been expropriated and responsible organs that have the power to determine and pay the compensation. The proclamation is complementarity to the Ethiopian Land Tenure Policy which strongly supports that project plans must include sustainable resettlement strategies to the people who are going to be displaced as a result of the development plans, and have to be fully convinced, compensated and obligated to participate in all phases of the project implementation.

Other legal and political provisions that promote environmental and social sustainability and have a bearing on the proposed Program include Proclamation on Environmental Pollution Control, Universal Access Program, Proclamations on Ethiopian Water Resources Management, Proclamation on Establishment of Environmental Protection Organs, The National Policy of Women, Proclamation on Rural Land Administration and Use, Solid Waste Management Proclamation, Guideline on Ambient Environment Standards, and the Regional Environmental Protection Authority, among others.

**The Bank’s Environmental and Social Safeguards Policy**

The African Development Bank’s Integrated Safeguards System (ISS) provides the overarching framework that promotes social and environmental sustainability of the Bank’s interventions. The ISS, which consists of an Integrated Safeguards Policy Statement, Operational Safeguards (OSs), Environmental and Social Assessment Procedures (ESAPs) and Integrated Environmental and Social Impacts Assessment (IESIA) Guidance Notes, is designed to promote the sustainability of project outcomes by protecting the environment and people from the potentially adverse impacts of projects. The Bank requires borrowers/clients to comply with these safeguards requirements during project preparation and implementation.

The Integrated Safeguards Policy Statements sets out the basic tenets that guide and underpin the Bank’s approach to environmental safeguards, while the five Operational Safeguards are intended to better integrate the environmental consideration and social impacts into Bank operations and specifically aims to avoid/mitigate/minimise/compensate the adverse effects of project activities on environment and local communities as well as systematically consider the impact of climate change on sustainability of the project.

As part of the requirements for OS 1, the proposed Program was assessed as environmental category 2 and required the preparation of an Environment and Social Management Framework (ESMF), which establishes a mechanism to determine and assess future potential environmental and social impacts of the Four Towns Program. The safeguard policies triggered by the Four Towns program are highlighted and described:
The Four Towns Water Supply and Sanitation Improvement Program was assessed as category I according to the Climate Safeguard Screening tool because of the program’s vulnerability to climate risk. Following field assessment of climate risks and possible adaptation measures for each sub-project was undertaken using the Bank’s Adaptation Review and Evaluation Procedures (AREP) under the Bank’s Climate Safeguards System (CSS).

<table>
<thead>
<tr>
<th>Safeguard Policies Triggered</th>
<th>Yes</th>
<th>No</th>
<th>TBD</th>
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<tbody>
<tr>
<td><strong>Environmental and Social Assessment (OS 1)</strong></td>
<td>X</td>
<td></td>
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<tr>
<td>OS 1 is triggered because of the Program’s planned construction activities which are likely to pose environmental and social risks associated with the physical, biological, socio-economic and health and safety profile of the sub-project areas. These risks will be managed through implementation of mitigation measures resulting from site specific Environmental and Social Impacts Assessments (ESIAs)/Environmental and Social Management Plans (ESMPs).</td>
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<tr>
<td><strong>Involuntary Resettlement: Land Acquisition, Population Displacement and Compensation (OS 2)</strong></td>
<td>X</td>
<td></td>
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<tr>
<td>The Program is expected to entail limited land acquisition and possible resettlement. Majority of the land in the affected project area are agricultural lands owned and managed by communities in the rural kebeles/Woredas. The details of the land to be acquired and number of people to be compensated will be addressed in the site specific ESIAs, ESMPs and RAPs.</td>
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<tr>
<td><strong>Biodiversity and Ecosystems Services (OS 3)</strong></td>
<td>X</td>
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<tr>
<td>The planned construction activities may impact the ecosystem service on which the local population depend in terms of sustenance, livelihood and/or primary income. The associated risks will be avoided/mitigated in accordance to the measures elaborated in the site-specific ESMPs.</td>
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<tr>
<td><strong>Pollution Prevention and Control, Hazardous Materials and Resources Efficiency (OS 4)</strong></td>
<td>X</td>
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<tr>
<td>Potential environment and social impact due to emissions of pollutants and waste is anticipated during the construction phase of the Program. These will be managed as per measures recommended in the site-specific ESMPs.</td>
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<tr>
<td><strong>Labour Conditions, Health and Safety (OS 5)</strong></td>
<td>X</td>
<td></td>
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<tr>
<td>The Program’s construction works will require the establishment of workforce. The Contractor shall comply with the Labour laws and Best Practice Occupational Health and Safety requirements. Occupational safety risks will be mitigated through the selection and effective use of mechanical and protective equipment</td>
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</table>
4. Environmental and Social Baseline Information

Ethiopia is a landlocked country located in the Horn of Africa, with an area of 1.1 million km² and a biophysical environment consisting of a variety of ecosystems, biodiversity and water resources. The altitude ranges from 4,620m above sea level at the highest peak, Ras Deshen, to 110m 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 southwestern highland from the southeastern highland. In contrast with these highlands, hot and semi-arid to arid lowlands lie in the Eastern and Western parts of the country.

Ethiopia has five major climatic zones, which reflect the different altitudes characterizing the country including:

(i) **Wurch and High Dega** – Altitudes of 3200 and above, cold climate, and an annual rainfall of 1000-1600mm, grassland vegetation

(ii) **Dega** – Altitudes of 2400 – 3200, average annual rainfall of 1000-2000 mm, vegetation is mostly coniferous trees and shrubs,

(iii) **Weyna Dega** – Altitudes of 1500 – 2400, annual rainfall of 800 and 1600 mm, temperate climate, most densely populated (70% of the country’s population);

(iv) **Kolla** – Altitudes of 500 – 1,500, annual rainfall of 200-800 mm, vegetation is that of a dry savanna, low population density (10% of the total country’s population); and

(v) **Berha** – found in arid lowlands with an annual rainfall of less than 200mm and high temperatures; predominantly nomadic groups occupying less than 5% of the country’s population.

According to Ethiopia’s Climate Resilience Green Economy Vision report, future projections of temperature and rainfall show an upward trend. Climate models suggest that Ethiopia will see further warming in all seasons of between 0.7°C and 2.3°C by the 2020’s and between 1.4oC and 2.9oC by the 2050s. Rainfall is also projected to increase by 0.4 -1.1% between the 2020’s and 2050’s.

The Four Towns WSS Improvement Program will be implemented in four towns of the country, Adama, Adwa, Bichena and Gode, these towns are located in the Oromiya, Tigray, Amhara and Somali regions respectively (see Fig. 1). The table below captures the biophysical and socio-economic environment profile of the respective beneficiary towns.
Figure 1: Map of Ethiopia and Sub-Project Location

Beneficiary Town

Administrative Regions and Zones of Ethiopia

GODE

ADAMA

BICHEMA

ADWA
<table>
<thead>
<tr>
<th>Region</th>
<th>Adama</th>
<th>Adwa</th>
<th>Bichena</th>
<th>Gode</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Biophysical Environment</strong></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Climate</td>
<td>Tropical climatic zone with four major climatic seasons of “Weyna-Dega” with some part of Dega and Kolla</td>
<td>Kiremt (rainy season), Bega (dry season), Belg (small rains) Meher (a spell between the long and small rains).</td>
<td>Weyna Dega with bimodal rainy seasons in March and July.</td>
<td>Berha</td>
</tr>
<tr>
<td>Mean Annual rainfall:</td>
<td>800 - 1000 mm</td>
<td>350 - 600mm</td>
<td>2,961 mm</td>
<td>39 mm - 361 mm.</td>
</tr>
<tr>
<td>Mean Annual temperature:</td>
<td>19 – 22°C</td>
<td>25- 27°C.</td>
<td>15.6 – 19.4°C</td>
<td>28.8°C</td>
</tr>
<tr>
<td>Geographic Location</td>
<td>Ranges from 8°27.5’N - 8°35.7’N and 39°13.5’E to 39°19’E</td>
<td>14°10’0”N, 38°54’0”E</td>
<td>11°27’ Latitude and 38°12’ Longitude with an elevation of 2541 masl.</td>
<td>Latitude 5053’ N and longitude 43036’ E and approximately at average altitude of 275 m.a.sl.</td>
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<tr>
<td>Landscape/Topography</td>
<td>Mostly Flat</td>
<td>Rolling to mountainous topography with scrubs, bush and bare land cover.</td>
<td>Undulated ridges characterize the western part of the area while the eastern and the southern part is more or less flat plain plateau like landscape.</td>
<td>Flat plain. A very gentle slope is observed along north-south direction.</td>
</tr>
<tr>
<td>Water Resources/Hydrology</td>
<td>Awash and Mojo Rivers.</td>
<td>Mai Enta and Mai Shana springs. Mariam Shewito stream</td>
<td>Suha, Minase and Muga, perennial rivers that flow into Abay River as tributaries.</td>
<td>Wabi Shebele River catchment, with a drainage area of 127,300km² into Gode</td>
</tr>
<tr>
<td>Fauna</td>
<td>Monkey, Ape, Hyena, and local birds.</td>
<td>Apes, Porcupines, Hyenas, Foxes</td>
<td>Monkey, Hyena</td>
<td>Hyena, leopard, foxes, reptiles, birds, etc</td>
</tr>
<tr>
<td><strong>Socio-Economic Profile</strong></td>
<td></td>
<td></td>
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<tr>
<td>Population</td>
<td>471,100 (51% female)</td>
<td>65,000 (53% female)</td>
<td>29,000 (52% female)</td>
<td>56,000 (50%)</td>
</tr>
<tr>
<td>Economic Activities: Agriculture:</td>
<td>Subsistence agriculture comprising crop</td>
<td>Mixed farming (crop and livestock production.</td>
<td>3% engaged in farming activities</td>
<td>Agriculture farming (crop production and</td>
</tr>
<tr>
<td><strong>Farming Practice</strong></td>
<td>production</td>
<td>Traditional farming based on animal traction and human labour</td>
<td>animal husbandary</td>
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<tr>
<td>Other Income Activities</td>
<td>Rain-fed with some traditional and modern irrigation practices along the Mojo River. - Trade, small-scale industry and urban agriculture.</td>
<td>Industrial sector (Textile, marble, blanket, mining and small-scale industries), Government Commerce</td>
<td>Informal sector (small-scale trading activities)</td>
<td></td>
</tr>
<tr>
<td><strong>Crops</strong></td>
<td>Teff, Wheat, Chick Pea, Haricot bean, Maize, Barley, Lentil and Field pea</td>
<td>Teff, Wheat, finger millet, sorghum and barely maize</td>
<td>Teff, Wheat…etc</td>
<td></td>
</tr>
<tr>
<td><strong>Education</strong></td>
<td>Around 189 educational institutions</td>
<td>107 educational institutions</td>
<td>12 educational institutions</td>
<td></td>
</tr>
<tr>
<td><strong>Health Infrastructures</strong></td>
<td>105 Public and Private Health institutions (100% coverage) - Helmentiasis (water-borne disease)</td>
<td>2 health centers, one hospital, six clinics, 9 drug shops and 2 pharmacies (95% health coverage) - Malaria and respiratory-tract infections</td>
<td>1 health centre, 3 private clinics and 2 drug vendors</td>
<td></td>
</tr>
<tr>
<td><strong>Prevalent Diseases:</strong></td>
<td></td>
<td>- Intestinal Parasite and Fever</td>
<td>Intestinal diseases and Malaria</td>
<td></td>
</tr>
<tr>
<td><strong>Water Supply Coverage (current source)</strong></td>
<td>51% (Awash River)</td>
<td>96% (Midimar Dam)</td>
<td>7% (Wabi-Shebelle River)</td>
<td></td>
</tr>
</tbody>
</table>
5. Procedures to Assess Potential Environmental and Social Impacts and Developing ESMPs

Ethiopia’s EIA guidelines categorize programs/projects into three schedules based on their potential impacts: Schedule 1, 2 and 3. The water supply and sanitation sub-projects fall under Schedule 2 hence requiring ESIA studies to elaborate their level of impacts. This corresponds with the African Development Bank’s Operational Policy on Environmental Assessment, which has categorised the Four Towns Program a Category 2.

The Environmental and Social Management Framework has been recommended since the environmental and social assessments and other safeguard measures can only be confirmed during the program’s implementation. The ESMF is expected to cover the unknowns, to help in the screening, and to recommend mitigation measures. The screening and review process aims at categorizing the sub-projects into the appropriate environmental and social categories, determining whether a particular subproject will trigger a safeguard policy, and what mitigation measures will need to be put in place. Screening will also help to propose whether a sub-project will further require a full-fledged Resettlement Action Plan (RAP), ESIA and/or ESMP. The screening process is as follows;

Step 1: Screening of Project Activities and Sites: The Executing agency (MoWIE through WRDF) and Implementing Agencies - Regional Water Resources Bureaus (RWBs) safeguard staff will carry out the initial screening in the field, by completing the Environmental and Social Screening Form. The screening form formalizes a rapid field investigation to screen on-site whether any environmental and social issues may require specific attention and supplemental environmental assessment work.

Step 2: Assigning the Appropriate Environmental and Climate Risk Categories: The completed environmental and social screening form will provide information on the assignment of the appropriate environmental category to a particular sub-project.

Step 3: Carrying out Environmental and Social Impact Assessment: Ethiopia’s guidelines for the ESIA/EIA process include (i) application, (ii) pre-screening, (iii) screening, (iv) scoping, (v) EIA report, and (vi) review and decision by the “Competent Agency” in this case, the MoWIE environment. The ESIA studies of the four towns will focus on issues requiring the implementation of specific mitigation in cases where specific environmental and social issues are identified and where a change in the design or sitting of the sub-program is not possible including among others:

- Potential conflicts between upstream and downstream users,
- Impacts on a bio-physical ecosystem,
- Impacts on land without physical displacement or significant impacts on livelihoods,
- Potential for heavy traffic at construction phase through inhabited areas,
- Construction in water bodies (pipeline river crossings, water works in river beds-intakes),

The WRDF Environment Staff supported by MoWIE Environmental and Social Impact Unit will determine whether (a) the application of simple mitigation measures outlined in the
Environmental and Social Checklist will address the potential impacts, (category 2 or Schedule 2); (b) no additional Environmental Assessment will be required (category 3 or Schedule 3); or (c) a comprehensive Environmental Impact Assessment (EIA) will need to be carried out, using the national EIA guidelines (Category 1 or Schedule 1).

For the Climate Risk, the Bank has already categorised the program as Category 1 in terms of Climate Risk and the Bank’s Climate Adaptation Review and Evaluation Procedures (AREP) has been applied in the assessment of adaptation measures to be incorporated in the project design.

Step 4: Review, Approval and Disclosure of Subproject Information: The results and recommendations presented in the environmental and social screening forms and the proposed mitigation measures presented in subproject or site-specific ESIAs, ESMPs and/or RAPs, as deemed appropriate, will be reviewed by WRDF Environmental Unit and validated by MoWIE. This shall include the results of the AREP and adaptation measures selected.

In compliance with Bank’s guidelines and in the national EIA legislations, the applicable documents (EIA, EMP and/or RAP) must be made available for public review at a place accessible to local people (e.g. at a district council office, at the Ministry of Environment), and in a form, manner, and language they can understand.

Step 5: Public Consultation: This will involve notification (to publicize the matter to be consulted on), consultation (a two-way flow of information and opinion exchange) as well as participation involving interest groups. Public consultation will include the following steps:

- Identification of interested parties (beneficiary neighboring communities, communities potentially affected by the sub-program, 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-program and seeking input on the scope of work for further environmental assessment work;
- 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; 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 as a Schedule “2” sub-program. Consultants in charge of the ESIAs in collaboration with RWBs and MoWIE (through WRDF) Safeguard specialists will undertake the consultation with the responsible stakeholders at region or town level.

Step 6: Integration of environmental and social provisions in tendering documents
The Project Coordination Unit (PCU) will ensure that the recommendations and other environmental and social management measures and adaptation measures from subproject/site-specific safeguard instruments are integrated in bidding documents and works to be performed by contractors.
Step 7: Environmental Monitoring and Indicators: This describes the processes and activities that need to take place to characterize and monitor the quality of the environment in the project sites.

The table below highlights the roles and responsibilities of Program stakeholders with regards to the environmental and social screening and review process.

Table 2: Environmental Management Process - Implementation Responsibilities

<table>
<thead>
<tr>
<th>Level</th>
<th>Responsibilities</th>
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<tbody>
<tr>
<td>Implementing Agencies (RWBs):</td>
<td>• Contract consultants for ESIA\s of subprojects based on ToRs prepared for each subproject and reviewed by the relevant institutions.</td>
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<td></td>
<td>• Designate focal staffs (at least 2 in each region and in the two city administrations) that will take responsibility for environmental screening and generally for environmental management and get trained accordingly- this staff will ultimately prepare Environmental and Social Screening Forms and supervise the implementation by contractors of the Environmental Guidelines for Construction Contractors</td>
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<td></td>
<td>• Designate technical supervisor of works, who, in the absence of the environmental focal staff mentioned above, will supervise the implementation by contractors of the Environmental Guidelines for Construction Contractors,</td>
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<td>• Prepare (see above) environmental screening forms for all sub-programs and submit them to the Ministry of Water and Energy and to the African Development Bank,</td>
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<td></td>
<td>• Supervise the implementation of environmental mitigation measures at construction and operation phases, including those related to land occupation and compensation</td>
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<td>• Supervise the implementation of monitoring measures</td>
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<td>• Provide an annual environmental monitoring report to the review of the Ministry of Water and Energy</td>
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<td>Construction contractors</td>
<td>• Implement Environmental Guidelines for Construction Contractors</td>
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<td>ESIA Consultants</td>
<td>• Develop ESIA\s where required (Category B2 or A sub-programs)</td>
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<tr>
<td>Regions and Regional EPAs</td>
<td>• Participate in the provisions of training for regional, woreda and community experts</td>
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<td>• Participate in the finalization of the screening forms based on the framework proposed in this ESMF</td>
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<td></td>
<td>• Review and clear screening forms submitted by implementing agencies or consultants</td>
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<td></td>
<td>• Supervise the development by consultants of ESIA\s where required, review Terms of Reference, review draft ESIA\s, participate in public consultations</td>
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<td></td>
<td>• Supervise the monitoring of environmental mitigations implemented by construction contractors</td>
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<td></td>
<td>• Supervise the implementation of this ESMF in the entire regions</td>
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</tbody>
</table>
MoWIE, WRDF

- Supervise and monitor the overall implementation of ESMF and RPF
- As required, update the ESMF and RPF
- Review TORs and ESIAs for schedule 1 and 2 sub-programs
- Facilitate and provide training for regional water bureaus’ and other institutions’ environmental and social specialists.

AfDB

- Review the draft ESMF and SESA
- Review ESIAs for sub-programs
- Monitor the overall implementation of ESMF and SESA, including the review of annual environmental reports provided by the MoWIE

6. Potential Environmental and Social Impacts, Climate Change Risks and Mitigation & Adaptation Measures

Positive Impacts

The Program is expected to bring considerable positive impacts to the population in the four towns by contributing to increased and sustainable access to water supply that will improve health and socio-economic livelihoods as well as address capacity constraints of water utilities that will facilitate improved governance and efficiency of sustainable service delivery. Specifically, the proposed water supply and sanitation improvement program will directly benefit over 635,000 (50% women) people in the urban and rural communities of Adwa, Adama, Bichena and Gode towns through promoting (i) socio-economic development of the towns, (ii) educational enrolment and attendance for children, (iii) household health status, (iv) time savings to engage in other productive activities (women), (v) climate resilience status of the population and environment.

Additionally, the program will leverage the Government of Ethiopia’s commitment to fully address the outstanding compensation issue of the 1997 Midmar Dam project. The Midmar dam was constructed in 1997 by the Tigray Regional Government as a source of water supply for Adwa town. Though built long ago, the dam has a pending resettlement and compensation issue that has not been finalized. Through the preparation of the proposed Program and consultations with stakeholders in Adwa Town, the Regional State of Tigray has initiated the process for the compensation of the PAPs to fully secure the environmental sustainability of the dam.

Negative Impacts and Mitigation Measures

Land Acquisition, Resettlement and Compensation: The principal negative impact envisaged from the program is connected with limited land acquisition that may arise from the construction phase of the program. The proposed water infrastructures will be located on cultivated agricultural lands, which could adversely affect the individual family land use and thereby livelihood of these farmers and their family. The Government of Ethiopia has a comprehensive
Land Tenure Policy that ensures full compensation of people affected by development projects. According to Zonal and Woreda administrative officers, households displaced by projects are provided with not only financial compensation but also technical, regulatory and capacity building support to engage in alternative livelihood options. The Environmental Management Component for the proposed Program will ensure compliance with the GoE and the Bank’s policies on resettlement and compensation. These and other impact mitigation measures will be reflected in the ESMP/RAPs to be developed and implemented in each of the four towns. These guiding documents will be developed before the commencement of any physical works of the sub projects using a participatory community consultation approach.

Soil Erosion – Site clearance and removal of vegetation precedes construction activities. This makes the soil susceptible to erosion. In addition, soils can be affected due to soil pollution resulting from wasters from machinery chemicals (oils and lubricants). The proposed mitigation measures will include scheduling construction activities involving earthworks for dry season to reduce soil erosion, refilling the exposed or excavated soil soon after completion of works and avoiding or minimizing compaction of soils.

Impact on Water Quality – Increase in suspended particles due to construction works; risk of human contamination from construction camps; and competition for water will affect the water quality especially where investment projects are close to natural water bodies. Mitigation measures shall include strict monitoring of construction methods and protection of watercourses during construction.

Impact of Groundwater Extraction – Groundwater extraction may impact and change the hydrological regime when schemes are constructed. This risk will be mitigated by strengthening the utilities capacity for periodic monitoring of groundwater level of the wells in the impact zone as well as establishing an efficient water management system.

Public Health - The increased production of drinking water may lead to an increased generation of wastewater and will affect the sanitation in the sub-project areas. This will be avoided/minimized by educating communities on personal hygiene and environmental sanitation.

Climate Change Risks and Adaptation Measures

The Four Towns Water Supply and Sanitation Improvement Program was assessed as category I according to the Climate Safeguard Screening System because of the program’s vulnerability to climate risk, thus requiring the implementation of adaptation measures to increase the resilience of communities and the infrastructure to be constructed/rehabilitated to withstand the impacts of climate change. Assessment of the climate risks and adaptation measures was based on the Bank’s AREP procedure and the Ethiopia’s climate resilient green economy strategy (2011). Some of the adaptation measures considered in the project design include (i) catchment protection through afforestation and awareness activities (ii) strengthen groundwater and surface water monitoring including water quality monitoring, and (iii) Capacity building and training of town water utilities and community on water conservation and water-use efficiency.
7. ESMF and ESMP Implementation and Monitoring Program

Appropriate implementation of the proposed mitigation and enhancement measures requires establishment of an appropriate environmental and social monitoring and reporting system. It is a very essential part of the project implementation and helps capture unforeseen environmental and social impacts of the project. Monitoring and reporting of environmental parameters will timely signal of potential problems and allow for prompt implementation of effective corrective measures. Specifically, the purpose of the ESMF Monitoring plan are to: (i) alert the PCU by providing timely information about the success or otherwise of the environmental and social management process outlined in this ESMF in such a manner that changes can be made as required and ensure continuous improvement to the proposed Program environmental and social management process; and (ii) make a final evaluation in order to determine whether the mitigation measures incorporated in the technical designs and the ESMP & other safeguard instruments have been successful in such a way that the pre-project environmental and social condition has been restored, improved upon or is worse than before, and to determine what further mitigation measures may be required.

The ESMP will outline the institutional arrangements and cost estimates for environmental and social management during the implementation, operation and decommissioning of the projects. The MoWIE (WRDF) safeguard specialists with assistance from Regional Water Bureau (RWB) safeguard officers will monitor the implementation of the ESMP.

Capacity Building and Training Gaps

Lessons learnt from other operations (particularly the OWNP) and preliminary capacity needs assessments undertaken during project preparation and appraisal suggests significant shortcoming in the capacities of RWBs and local Woreda officers to effectively implement the ESMF and SESA.

Accordingly, the Four Towns WSS Improvement Program will: (i) conduct capacity assessment of each region and implementing agencies at each level (Woreda and kebele) to take inventory of existing capacity and identify gaps, and (ii) based on the findings of the assessments tailored capacity building packages will be provided.

Capacity building and technical assistance for appointed safeguard staffs will be valuable in strengthening their skills to screen, review and monitor environmental issues in the sub-projects in compliance with requirements of the Ethiopia’s legislations and the AfDB safeguard policies. The capacity building program is also important in relation to the development of general environmental management and monitoring capabilities within the Region.

Hence, a training workshop to be delivered to experts working at National, Regional (RWB and EPA), Town (Water Boards Utility) and Woreda levels to implement the EMP should include:

- Review of the Ethiopian environmental policies, laws, regulatory and administrative frameworks,
- Review of the AfDB’s safeguards policies,
• Screening process (with one practical exercise on a real site),
• ESMP and environmental guidelines applicable to construction contractors,
• 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 and SESA,
• Review and clearance of the screening results and separate ESIA reports.
• Public consultation,
• Environmental monitoring and evaluation in the context of the WSS improvement program, and
• Environmental guidelines applicable to construction contractors,

Cost for technical assistance and capacity building is estimated at USD 33,880.

Monitoring plan: a monitoring plan (comprising process and result monitoring activities) will be developed as part of the ESMP for each sub-project in order to measure the effectiveness of the mitigation measures. The monitoring and reporting procedures will ensure early detection of conditions that necessitate particular mitigation measures and will furnish information on the progress and results of mitigation. A number of environmental and social monitoring indicators and parameters will be used to track the performance of the ESMF (see table 3 for propose ESM plan). The monitoring component will involve some cost implications. Monitoring costs is estimated at USD 40,000.
<table>
<thead>
<tr>
<th>Major Impacts</th>
<th>Performance indicators</th>
<th>Responsible body for monitoring</th>
<th>Frequency of measurement</th>
<th>Frequency of reporting</th>
<th>Cost in Birr per year</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Land Acquisition and loss of income</td>
<td>- On time payment of compensation before construction</td>
<td>Wereda and Kebele administrations</td>
<td>Two to three times before the initiation of construction</td>
<td>At of every assessment</td>
<td>50,000.00</td>
</tr>
<tr>
<td>2. Rivers, streams and springs as well as Ground water pollution from spillage of fuel, oil, grease, etc.</td>
<td>Water quality analysis of the nearby streams/surrounding water bodies especially groundwater</td>
<td>- Town/regional Water Resources Office - Water Supply and Sewerage Authority</td>
<td>Any time such problem is anticipated or occurs or biannually during the rainy and dry seasons.</td>
<td>During project construction</td>
<td>10,000.00</td>
</tr>
<tr>
<td>3. Water table drawn and depletion</td>
<td>- Changes to Results of water table level and amount produced from well</td>
<td>Regional water bureau and Water Supply and Sewerage Authorities of each town</td>
<td>Every 6 months (during rainy and dry season)</td>
<td>Twice a year</td>
<td>50,000.00</td>
</tr>
<tr>
<td>4. Soil erosion and degradation enhancement caused by construction work</td>
<td>- Erosion rate - Formation of gullies - Silt accumulation</td>
<td>- Town/regional Agriculture Offices and EPAs - MoWIE Environmental and Social experts</td>
<td>At the time of heavy rain during construction and operation</td>
<td>After every rainy season.</td>
<td>50,000.00</td>
</tr>
<tr>
<td>5. Clearances of vegetation cover due to construction work.</td>
<td>- Change in type and diversity of flora and fauna species and the implementation of reforestation program.</td>
<td>EPAs and Agriculture offices of each town</td>
<td>Once a year</td>
<td>Once a year</td>
<td>50,000.00</td>
</tr>
</tbody>
</table>
Table 3: Cost for ESMF Implementation

<table>
<thead>
<tr>
<th>ESMF Proposed Action</th>
<th>Concerned Institutions</th>
<th>Costs (US$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Training and Capacity Building</td>
<td>MoWIE (WRDF), RWBs, Town Utilities, local Woredas &amp; Kebeles</td>
<td>33,800</td>
</tr>
<tr>
<td>Screening and Reviewing</td>
<td>MoWIE (WRDF), RWBs</td>
<td>40,000</td>
</tr>
<tr>
<td>ESMP and AREP Preparation</td>
<td>MoWIE (WRDF), RWBs</td>
<td>40,000</td>
</tr>
<tr>
<td>Monitoring Activities</td>
<td>MoWIE (WRDF), RWB, Regional EPAs, Town Water Boards, Utility, Woredas, Kebeles</td>
<td>40,000</td>
</tr>
<tr>
<td><strong>Total Costs</strong></td>
<td></td>
<td><strong>160,000</strong></td>
</tr>
</tbody>
</table>

The estimates reflect the level of cost but the actual costs will be determined during the implementation phase, when the specific number of people required for training will be identified and the level of technical assistance required.

8. Public Consultations and Public Disclosure

Consistent with the African Development Bank and Government of Ethiopia’s consultation requirements, the project preparation and appraisal as well as initial ESIA preparation studies have involved various levels of consultation with different stakeholders and potential project affected populations.

Consultations were based on stakeholder analysis and were preceded by disclosure of adequate project information and environmental and social information to ensure that participants are fully informed. Specifically, the stakeholder consultation process aimed at (i) disseminating information about the scale and scope of the project to ensure all stakeholders have a good understanding of the project, (ii) to enhance ownership of the project by the community, and local leadership, (iii) to understand the concerns and expectations of all affected and interested parities; and (iv) to understand and characterise potential environmental, social and economic impacts of the project.

Generally, stakeholders have expressed broad support and positive attitude towards the program, as the proposed interventions will address the poor water supply, health and economic challenges faced in the towns. Some of the concerns raised by stakeholders included (i) compensation for land loss due to construction activities, (ii) the need for Woredas, affected by construction activities, to benefit from the water supply interventions, among others. The recommendations of the consultations were adequately reflected in the project design and in the project documentation.

Consultations have been held with various stakeholders including relevant government agencies, development partners, and officials at the regional and national level throughout the development of the program. The key stakeholders of the program include MoWIE (including the WASH
coordinating unit, WRDF, etc), Ministry of Finance (MoFED), Regional Water Bureaus (for each town), the Ministry of Forest and Environment (Environmental Protection Agency), Town Water utilities, local official and representatives at the Woreda and rural Kebele levels and several development partners financing the water sector in Ethiopia (WB, DFID, EU, AFD, IDC, UNICEF, Finland, etc).

The consultation and public participation is a continuous process during the project cycle, further consultations will be held accordingly throughout the program implementation.

9. Conclusion

The proposed Four Towns Water Supply and Sanitation Improvement Program is expected to bring considerable benefits to communities and businesses within the sub-project areas as well as adjoining settlements. Anticipated benefits include increased access to safe water supply, improvement in public health status and sanitation conditions, time and energy savings particularly for women and children, among others.

This Environmental and Social Management Framework (ESMF) is meant to ensure that the implementation of the Program will be carried out in an environmentally and socially sustainable manner. The ESMF provides the project implementers with an environmental and social screening process that will enable them to identify, assess and mitigate potential environmental and social impacts of sub-project activities, including the preparation of site-specific Environmental Assessments (EIA) and Environmental and Social Management Plans (ESMP) where applicable, in accordance with Ethiopia’s proclamations and policies, as well as AfDB safeguard policies particularly Environmental Assessment (OS1).

The ESMF recognizes existing gaps and weaknesses for implementing the ESMF under this project and realizes the importance of strengthening the capacity of key implementing institutions. The capacity development will provide an enabling environment to address environmental and social issues by MoWIE (WRDF) and the Regional institutions to implement the ESMF.

Consequently, in view of the long-term socio-economic benefits that can be gained, there are no significant environmental and social justifications for not proceeding with the proposed Programme in the form in which has been presented. The potential benefits from the Program far outweigh the negative impacts and inconveniences that accompany project implementation in as much as the recommended mitigation measures and mechanisms are duly considered and implemented.

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