Environmental and Social Impact Assessment of the Kombolcha Market Upgrading Project

FINAL REPORT

Kombolcha City Administration

Prepared by: Sileshi Consult PLC, 2012
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EXECUTIVE SUMMARY

PREAMBLE

The Kombolcha City Administration is proposing the Kombolcha Market Upgrading Project, which aims to upgrade the infrastructure and amenities of the existing market situated in Kebele 3 in Kombolcha town. The City Administration has retained Sileshi Consultants PLC as its consultant to prepare the architectural design, Environmental and Social Impact Assessment (ESIA), Environmental and Social Management Plan (ESMP) and Resettlement Action Plan (RAP) for the proposed project.

LOCATION & ACCESSIBILITY

The proposed Kombolcha Market Upgrading Project is located at Kebele 3, in Kombolcha town, Debub Wello zone of Amhara National Regional State (ANRS). Kombolcha is situated about 376 Kms North of Addis Ababa, the capital of Ethiopia. The coordinates and elevations of Project area is given below.

| Coordinates: | Latitude: 09°27’28" to 09°28’25”N |
| Longitud: 38°34’31" to 38°35’23”E |
| Elevation: | 1,842 meters above Mean Sea Level (MSL) |

POLICY, LEGAL AND ADMINISTRATIVE FRAMEWORK

The ESIA study for the proposed project was carried out within the framework of local, national and international environmental regulations. The legislative framework applicable to the proposed project is governed by the Federal Democratic Republic of Ethiopia (FDRE) and the World Bank Group.

Regulatory Framework of FDRE

Ethiopia adopted its Constitution in 1995, which provides the basic and comprehensive principles and guidelines for environmental protection, and management in the country. The FDRE consists of the Federal State and Regional States. Proclamation Nos. 33/ 1992, 41/ 1993 and 4/1995 define the duties and responsibilities of the Regional States which include planning, directing and developing social and economic development programs as well as protection of natural resources.

The Environment Protection Authority (EPA) has established an Environmental Impact Assessment system for Ethiopia including the preparation of Procedural and Sectoral Guidelines as a prerequisite for the approval of new development activities and projects.

"Environmental Protection Organs Establishment Proclamation (Proclamation no. 295 of2002)" stipulates the need to establish a system that enables to foster coordinated but differentiated responsibilities among environmental protection agencies at Federal and Regional levels. The proclamation requires the establishment of Sectoral and Regional Environmental Units and agencies, respectively.
“Environmental Impact Assessment Proclamation (Proclamation no. 299 of 2002)” has made EA a mandatory legal prerequisite for the implementation of major development projects, programs and plans. This proclamation is a proactive tool and backbone to harmonizing and integrating environmental, economic and social considerations into a decision making process in a manner that promotes sustainable development.

“Environmental Pollution Control Proclamation (Proclamation no. 300 of 2002)” is promulgated with a view to eliminate or, when not possible to mitigate pollution as an undesirable consequence of social and economic development activities. This proclamation is one of the basic legal documents, which need to be observed as corresponding to effective EA administration.

EIA requirements, process and procedures are detailed in:

- the Amhara National Regional State - Environmental Protection, Land Administration and Use Bureau’s (BoEPLAU’s) General Environmental Impact Assessment Guideline (2007)

As per the EIA screening report, ANRS-BoEPLAU has classified the project as Schedule I (project that requires a full EIA study). The Kombolcha City Administration will be responsible for implementing environmental management plans in coordination with the ANRS-BoEPLAU. The environmental performance of the project will be monitored on a regular basis through the City Administration’s own set up and through external/third party audits.

Applicable Proclamations/ Guidelines

The Proclamations and EPA Guidelines applicable to the proposed market upgrading project are listed below:

- Environmental Impact Assessment Proclamation (No. 299/2002)
- Environmental Pollution Control Proclamation (No. 300/2002)
- Environmental Protection Organs Establishment Proclamation (No. 295/2002)
- Solid Waste Management Proclamation (No. 513/2007)
- Environmental Impact Assessment Directive (No. 1/2008)
- Prevention of Industrial Pollution - Council of Ministers Regulation (No. 159/2008)

IFC/World Bank Guidelines

The proposed market upgrading project falls under Category B as per the World Bank safeguards. Category B projects are those with potential significant adverse social or environmental impacts that are diverse, irreversible or unprecedented. The WB and IFC also provide detailed guidelines for the Environmental Assessment process and Environment, Health and Safety (EHS).
PROJECT DESCRIPTION

In order to reverse socio-economic challenges of cities and improve public service delivery, the Government of Ethiopia has devised the Urban Local Government Development Project (ULGDP), which is financed by the World Bank. The Project encompasses activities that better facilitate and enhance the undertakings of Urban Local Governments/City Administrations that aim to improve infrastructure and services. In this context the Kombolcha City Administration as one of the ULGDP eligible towns has identified the current market upgrading project, as a priority taking into account the anticipated growth and fast-track industrialization of Kombolcha. To this end, the Local Development Plan (LOP) for the market center and the surroundings has observed that the existing market center at Kebele 3 has chronic problems pertaining to accessibility, shelter, sanitation, drainage and waste disposal. Moreover, as per the City Administration's Local Development Plan (LOP) the market is observed to be amorphous in terms of land use and characterized by old buildings, deteriorated and narrow road networks, polluted and congested environment, and below standard services and facilities.

In order to improve this, the market upgrading project has proposed the following civil works:

- The construction of two-storey buildings to accommodate vendors that are currently using basic built-shed for their day to day operations,
- The construction of improved sheds to accommodate vendors that are currently using open sheds for their day to day operations,
- The improvement of the access infrastructure (construct cobblestone access roads) within the market area,
- The construction of several public latrines and septic tanks.

Environment Management

Air Pollution

Currently air pollution is not a significant issue within the market area. However, dust is being released from grain mills situated in the premise of the market. Similarly, wood and metal workshops situated in the market premise release air pollutants. The project proposes to relocate semi-manufacturing activities such as wood and metal workshops that do not fit well into the existing market operation to an appropriate location outside the market. This is particularly important considering environmental, health and safety implications of such operations in a market area where predominantly edible products are being sold. Regarding grain mills the project proposes the establishment of a vegetation cover as a screen between the grain mills and other areas of the market.

In the context of civil works for market infrastructure upgrading, these activities will be cognizant of the prevalent environmental laws of the country and the importance attached to maintaining environmental standards. Water spray controlled dust suppression (i.e. applying water to dust generating activities) will be a prime objective, as this is a well-established and effective method for reducing dust.
Water Pollution

Currently the market is served with only one public latrine which is insufficient for the over 3,000 market vendors and the thousands of consumers that come to the market on major market days (on Wednesdays and Saturdays). Hence, the Borkena River banks (the River shares boundary with the market) is being used as an open sewer. Moreover, there is an open sewage canal containing fecal and other wastewater draining directly into the River. Wastewater, which is being drained directly to the Borkena, is also being generated from:

- small scale processing of wood and metal products in workshops located within the market,
- the current abattoir, which is situated in close proximity to the market,
- various solid and liquid waste discharges from market activities.

In this context, the market upgrading design proposes measures for improving the market's sanitation and hygiene conditions and for reducing water pollution. The proposed measures include:

- Availing sufficient public latrines, the wastewater from which will be let into septic tanks. The overflow from the septic tanks will be connected to the wastewater collection mains.
- establishing a buffer zone (green area) between the market and the Borkena River, which will serve the purpose of retaining/removing pollutants from the wastewater draining directly into the River,
- Constructing a canal parallel to the Borkena, which will prohibit the direct flow of pollutants into the River. It is also anticipated that this drainage canal will be part of a larger network of similar canals that should be built to feed municipal wastewater to the city wastewater treatment plant that would need to be constructed by the City Administration in the near future,
- Relocating polluting activities which are inherently incompatible with the market activities. These activities include semi-processing activities like wood and metal workshops.

Non Hazardous Waste

The main types of solid waste generated from the market are organic food wastes, containers of products, plastic bags, paper, etc. The market upgrading design incorporates sufficient solid waste collection bins. Recommendations are also made for improving the existing solid waste collection and disposal system, which needs to be more efficient and effective.

Hazardous Waste

In general, the hazardous waste generated is highly limited taking into account that a major share of the items being sold in the market are edible products. However, containers of pesticides and insecticides, waste oil and grease containers and scrapped automobile batteries were observed. Moreover, containers of hazardous waste were observed to be used for unintended purposes including use as measuring containers for grain and edible oil. The project proposes to address the hazardous waste issue by:

- relocating to appropriate locations semi-processing activities, like metal and wood workshops which require as inputs hazardous wastes like used oil containers and scraped automobile batteries for their operation,
• developing an operational guideline for food safety and hygiene which prohibits the use of containers of hazardous products as measuring containers for edible items,
• Putting in place solid waste containers delegated specifically for hazardous solid wastes.

The project also proposes the implementation of regular awareness trainings to market vendors on the environmental and health implication of hazardous wastes and the measures that would need to be put in place to reduce the associated implications.

ENVIRONMENT BASELINE

In order to assess the baseline environmental status in the proposed project area, a primary and secondary data collection programme was undertaken during the period May-July 2012. The environmental components studied include:

• Physical environment: topography, climate, soil type, land use, water resources,
• Biological environment: flora and fauna,
• Socio-economic components: population and settlement, social services, education, health, industry, commerce and investment, water supply and sanitation services, drainage system, historical and archeological sites.

Topography and Drainage

Topography of the Kombolcha and of the surroundings consists of plains, mountains and valleys. The drainage of the project area is governed by the catchments of Awash River, particularly the Borkena River which is a tributary of the Awash.

Climate

The rainfall in the study area is bimodal. The longer rainy season extends from June to September, which supports the major crop production. The shorter rainy season comes in March and April and allows minor crop production. The physiographic characteristics of the study area include: altitude of 1,700 -1800m a.s.l., mean annual rainfall 900-1000mm , mean annual temperature 19°C, mean maximum annual temperature 27°C, mean minimum annual temperature 20°C, and the crop growing period 60-180days.

Hydrogeology

The Borkena valley has three hydrological sub-basins:

• The Dessie sub-basin to the North, which is mountainous and volcanic.
• The central Kombolcha sub-basin, which is a half graben with fault scarp in the east and a volcanic mountain in the west.
• The southern Chefa sub-basin is a graben bounded by fault scarps in the east and west.

Tertiary Flood Basalt, Dessie Basalt and Kemise Rhyolite, and Quaternary unconsolidated sands of the plain constitute the geology of the area. Hydrogeological, hydrogeochemical and isotopes data show that groundwater feeds the Borkena River at places in the Dessie sub-basin. Almost all ground and surface waters in the area are fit for domestic and irrigation purposes. However, some aquifers, especially in Dessie and Kombolcha towns, are vulnerable to pollution.
Soil Type

The major soil type in the study area is loam (Boda), sandy loam. The soil is fertile and is highly suitable for cereal. However, as the area is highly populated there is severe erosion. Since the landscape has lost its natural vegetation, the soil of the surrounding hills are degraded with frequent rock outcrops.

Ecology

Flora

Between May-July 2012 primary and secondary data collection had been carried out in the area and the vegetation composition, abundance, cover, and other relevant ecological information were assessed. The survey covered the market, the Borkena River basin, Kombolcha town and the surroundings.

The immediate vicinity of the market has highly limited species composition with the major vegetation types being Eucalyptus. Indigenous and exotic Acacia species were also observed in the city of Kombolcha and the surroundings, although these indigenous species were not observed in the vicinity of the market. Similarly, within the market there are established areas for the sale of fuel and construction wood.

Fauna

Few fauna were observed in the immediate vicinity of the market and in the city of Kombolcha, mainly due to deforestation and wildlife hunting. The fauna recorded were in general monkeys, baboons and hyenas. There are no faunal species recorded from the Kombolcha valley area that can be categorized as endangered, threatened or vulnerable. The species encountered are common forms that are observed in other parts of Ethiopia.

The Borkena River feeds into the ecologically diverse Cheffa wetlands situated about 100 kms south of Kombolcha. According to Seifu Bekele (2011) the wetland has a range of uses including:

• **Socioeconomic benefits:** as a source of wood, and sedge for construction, water supply for domestic use, crop farming, and dry season grazing land;

• **Hydrological:** ground water recharge and discharge, sediment trap and flood control; and

• **Cultural values:** traditional medicine for skin disease because of the hot springs and source of raw material for traditional mat making.

The area is also known for its biodiversity hosting a total of over 2700 macro invertebrates (belonging to 34 families in 10 orders) and 3000 birds belonging to 57 species (Melaku Getachew et al, 2011).

Socio-Economic Scenario of the Study Area

A detailed socio-economic survey has been carried out in the immediate project site:
Demography – Population and Settlement

Based on the 2007 national census conducted by the Central Statistical Agency of Ethiopia (CSA), Kombolcha woreda has a total population of 85,367, of whom 41,968 are men and 43,399 women; 58,667 or 68.72% are urban inhabitants living in town of Kombolcha and the rest are living in rural kebeles around Kombolcha. The majority of the inhabitants (73.92%) were Muslim, while 23.44% and 2.32% were respectively were Ethiopian Orthodox and Protestant Christians.

The 1994 national census reported a total population for Kombolcha of 39,466 in 8,643 households, of whom 18,995 were men and 20,471 were women. The three largest ethnic groups reported in this town were the Amhara (91.34%), Tigrayan (5.85%), and the Oromo (1.29%); all other ethnic groups made up 1.52% of the population. Amharic was spoken as a first language by 93.02%, 5.2% Tigrinya, and 1.11% spoke Oromiffa; the remaining 0.67% spoke all other primary languages reported. The majority of the inhabitants were Muslim, with 57.42% of the population having reported they practiced that belief, while 41.71% of the population said they professed Ethiopian Orthodox Christianity.

The project site, i.e. the Kebele 3 market, has about 3,000 registered operators from Kombolcha and the surrounding villages and urban centres including Kemissie, Dessie, Tita, Haq, Degan and Bati. There are also thousands of farmers coming to the market to trade their belongings and buy the necessities.

Social Services

Education

The town has four elementary, two junior and one senior secondary school. The student section ratio in the primary (1-8) and secondary schools of the town is about 76 and 81, respectively (Kombolcha District Education Office, 2001: unpublished documents) compared to 56 and 63.4 for urban areas of Amhara Region (Amhara Region Planning and Economic Development Bureau, 2001:127-133). Wollo University, Kombolcha Institute of Technology (KIOT) is established at Kombolcha and offering engineering courses at undergraduate level. KIOT is offering Mechanical Engineering, Textile Engineering, Electrical Engineering, Civil Engineering, Computer and Information Science courses etc.

In addition, the town has one agricultural training center serving the whole of Amhara region and rural technology promotion center serving south Wollo and nearby administrative zones.

Health

From the point of view of health services, the town has no hospital and has limited number of government health center, 19 clinics (one governmental clinic), 5 physicians, 16 nurses and 30 health assistants (Kombolcha District Health Office, 2001: unpublished). The main health service problem in the town is the absence of hospital. Moreover, the existing government health center and clinic do not have the required level of facilities such as laboratory, medicine
etc. In the vicinity of the project area, a health centre shares a boundary with the market in the North side.

**Industry, Commerce and Investment**

Due to its location as a route center, cheap labour market, high consumption (surrounded by areas of high population density) and access to port, Kombolcha has attracted a number of private investors both foreign and domestic. In the 1994-1995 Ethiopian fiscal year a total of 76 investors have received investment permits either from the Ethiopian Investment authority or from Amhara National Regional State Investment Bureau to invest their capital in Kombolcha town. The figure includes only those projects with an investment capital of Birr 250,000 and above.

The Sectoral distribution of approved projects shows that the tertiary sector (trade and services) has the highest share in terms of number of projects (72.4 percent), followed by the secondary (manufacturing) sector which accounts for 19.7 percent. The primary (agricultural) sector amounts to 1.4 percent of the total number of approved projects. The remaining 6.6 percent are not stated by sector (Kombolcha Wereda Administration, Department of economic Affairs, April 2001: unpublished document).

Fourteen investment projects in the industrial sector have been approved in the period between 1994 and 1999. They had a total investment capital of 371.5 million Birr.

**Water supply, sanitation and electricity services**

According to the report of Kombolcha wereda Administration, 93 percent of the town's population have access to clean water (Kombolcha Wereda Administration, 2000:11). The total number of water meters in the town increased from 1174 in 1991 to 2678 in the year 2000 (Kombolcha Wereda Water Service department 2001: unpublished documents). This shows an annual increase of 9.6 percent or 112.7 water meters were added annually. This growth rate is higher than the estimated annual average population growth rate of the town between 1994 and 2000 (4.92 percent). At present the ratio of housing units per water meter is about 3:1.

In 1995 and 2000 the annual water consumption of the town was 346,640 and 466,690 cubic meter (Ibid). This shows an annual increment of 21.1 thousand cubic meters or increased by 6.1 percent annually. The average daily water consumption for the town is about 1200 cubic meters for both residential and non-residential purposes. The annual average per-capita consumption for the town is 8.9 cubic meters. In the context of the project site, the market at Kebele 3 is not served sufficiently with clean potable water. Moreover, the market is also served with one public latrine.

The percentage of housing units with electric meter (both private and shared) has increased from 70 percent in 1984 (OPHCC, 1991:339) to 90 percent in 1994 (CSA, 1995, Vol.I, Part V:139). This indicates that the vast majority of the residents of the town have access to electric service as a source of lighting. The number of electric meters in 1995 both residential and non-residential was 3574 and 4189 in the year 2000 (Ethiopian Electric Light and Power Authority, Kombolcha District, 2001: unpublished documents). Only 615 electricity meters are added in 5 years with annual growth rate of 3.2 percent (114.4 electric meters annually) compared to the estimated annual population growth rate of 4.92 percent for the same period. In the context of the market site, the Kebele 3 market is also not sufficiently served with electric power.
Religious, Cultural, Historical and Archaeological Features

No visible archaeological remains, which have scientific, cultural, public, economic, ethnic and historic significances, have been observed in the area. The risk value of the project is very low, where no significant observable archaeological evidence is found. The sites have no archaeological importance.

To the South of the market site a church is situated. The sitting of the infrastructure development associated to the market upgrading project and the subsequent operation will not affect the Church.

PROJECT ALTERNATIVES

Prior to arriving at the current architectural design for the market upgrading project, different project alternatives were examined and reviewed. The alternatives considered were:

- alternatives to the project, namely the no project alternative, which was not found to be feasible taking into consideration that the area already had an existing market, and
- alternatives within the project including:
  - the type of infrastructure to be developed,
  - the physical location/sitting of infrastructure within the project area,

In this context, three possible types of shelters were considered:

- **Multi-storey buildings** (three storey and above)
  - This option can bring about positive effects as it would:
    - Entail minimal displacement of existing market operators and vendors.
    - Accommodate more people using less space, thereby availing more land along the banks of the Borkena River for environmental rehabilitation work.
  - However, provided that it entails major negative impacts the alternative was not considered as a feasible option. The negative implications considered were:
    - the high investment required and as a consequence its affordability to the existing market vendors is in question,
    - the requirement for a more elaborate civil work for such buildings, particularly deeper foundation work, which has potential negative implication on groundwater resources in the locality,

- **Two-storey buildings**: In general this scenario retains most of benefits of a multi-storey building, while reducing the associated negative implications stated above. Hence this was considered a feasible alternative, mainly for market vendors that were relatively well off and currently utilizing built-sheds for their day to day business operation. However, provided that such a modern buildings were not appropriate and affordable to all vendors, a basic shed was also considered as an alternative.

- **Improved basic-sheds**: Although it required more space to accommodate the required number of vendors, this alternative was considered to be more environment friendly and economically feasible for market operators that are currently using open-shed for their day-to-day market operation.
Hence, the type of shelters that are to be constructed in the context of the market upgrading project will be two-storey buildings and improved basic-sheds.

Regarding access infrastructure (roads), considering that the selection of an appropriate construction material will significantly reduce the associated environmental implication, the use of cobblestone was taken as a feasible option.

As regards to the physical placement of the shelters and access roads to be constructed, it is important to balance the possible environmental, health and safety implications of the infrastructure developed with its functionality. In this context, the EIA team, in collaboration with design team has developed the following land use plan taking into account the need to move highly polluting activities from the Borkena River and the need to rehabilitate its banks. Considerations were also given to create a ‘green’ access route (pedestrian and pack animal route) to the market.

POTENTIAL IMPACTS & MITIGATION MEASURES

The following potential environmental and social implications are identified in relation to the construction and operation phases of the market upgrading project.

<table>
<thead>
<tr>
<th>Project Stage</th>
<th>Project Activity</th>
<th>Potential Environmental Impacts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction Phase</td>
<td>• Transportation of construction material&lt;br&gt;• Construction activities</td>
<td>• Disturbance (noise) of the community and safety issues&lt;br&gt;• Dust and gaseous pollutants release&lt;br&gt;• Noise&lt;br&gt;• Generation of solid and liquid wastes which pollute water and soil</td>
</tr>
<tr>
<td>Operation Phase</td>
<td>• Transportation of products/items to be sold in the market,&lt;br&gt;• Operation of grain mills in the market premise&lt;br&gt;• Trade and commercial transaction</td>
<td>• Safety issues&lt;br&gt;• Dust and gaseous pollutants release&lt;br&gt;• Noise&lt;br&gt;• Generation of solid and liquid wastes which pollute water and soil.</td>
</tr>
<tr>
<td>Socio-economic</td>
<td>• Acquisition of land&lt;br&gt;• Improvement of health and sanitation conditions&lt;br&gt;• Development of infrastructure&lt;br&gt;• Employment of construction workers&lt;br&gt;• Increased demand for local products, including agricultural products&lt;br&gt;• Development of green areas in the market vicinity</td>
<td>• Loss of agricultural land&lt;br&gt;• Employment to locals&lt;br&gt;• Business opportunities to locals&lt;br&gt;• Increase in per capita income&lt;br&gt;• Change in living standard</td>
</tr>
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Qualitative Impact Assessment

The criteria adopted for identifying the significance of impact assessment takes into account the probability of occurrence and severity of an impact. A detail of the qualitative assessment approach is presented below:
## PROBABILITY

<table>
<thead>
<tr>
<th>Very Low</th>
<th>Low</th>
<th>Medium</th>
<th>High</th>
<th>Very High</th>
</tr>
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<tbody>
<tr>
<td>Occurred in globally but not in similar projects.</td>
<td>Has occurred in other group of projects</td>
<td>Has occurred in specific group of companies</td>
<td>Happens several times per year in specific group of companies</td>
<td>Happens several times</td>
</tr>
<tr>
<td>Almost impossible for this site</td>
<td>Slight probability but no occurrence observed for this site</td>
<td>Probable or frequent for this type of project but very few occurrences observed for this site</td>
<td>Highly probable for this type of project and several occurrences observed for this site</td>
<td>Regular occurrence at this site.</td>
</tr>
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## SEVERITY

<table>
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<tr>
<th>Catastrophic (Very high)</th>
<th>Medium</th>
<th>Medium-High</th>
<th>High</th>
<th>High-Very High</th>
<th>Very High</th>
</tr>
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<tbody>
<tr>
<td>Severe (High)</td>
<td>Low - Medium</td>
<td>Medium</td>
<td>Medium-High</td>
<td>High</td>
<td>High-Very High</td>
</tr>
<tr>
<td>Critical (Medium)</td>
<td>Low</td>
<td>Low-Medium</td>
<td>Medium</td>
<td>Medium-High</td>
<td>High</td>
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<tr>
<td>Marginal (Low)</td>
<td>Very Low – Low</td>
<td>Low</td>
<td>Low-Medium</td>
<td>Medium</td>
<td>Medium – High</td>
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<tr>
<td>Negligible (Very Low)</td>
<td>Very Low</td>
<td>Very Low-Low</td>
<td>Low</td>
<td>Low – Medium</td>
<td>Medium</td>
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## SIGNIFICANCE = SEVERITY (X) PROBABILITY

### LOWER SIGNIFICANCE

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<tr>
<th>SIGNIFICANCE</th>
<th>SEVERITY</th>
<th>PROBABILITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very Low</td>
<td>Very Low</td>
<td>Very Low</td>
</tr>
<tr>
<td>Between Very Low and Low Significance</td>
<td>Very Low</td>
<td>Low</td>
</tr>
<tr>
<td>Low</td>
<td>Very Low</td>
<td>Medium</td>
</tr>
<tr>
<td>Low Significance</td>
<td>Very Low</td>
<td>Medium</td>
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<tr>
<td>Low</td>
<td>Low</td>
<td>Low</td>
</tr>
<tr>
<td>Low</td>
<td>Medium</td>
<td>Very Low</td>
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<tr>
<td>Between Low and Medium</td>
<td>Very Low</td>
<td>High</td>
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<tr>
<td>Low</td>
<td>Medium</td>
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<tr>
<td>Medium</td>
<td>High</td>
<td>Very Low</td>
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<td>High</td>
<td>Medium</td>
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<td>Medium</td>
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<tr>
<td>High</td>
<td>Medium</td>
<td>Very High</td>
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<td>High</td>
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<td>Very High</td>
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<tr>
<td>Very High</td>
<td>Very High</td>
<td>Very High</td>
</tr>
</tbody>
</table>

### HIGHER SIGNIFICANCE

<table>
<thead>
<tr>
<th>SIGNIFICANCE</th>
<th>SEVERITY</th>
<th>PROBABILITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Medium and High</td>
<td>Low</td>
<td>Very High</td>
</tr>
<tr>
<td>Low</td>
<td>Medium</td>
<td>High</td>
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<tr>
<td>Medium</td>
<td>High</td>
<td>Medium</td>
</tr>
<tr>
<td>Very High</td>
<td>Low</td>
<td>High</td>
</tr>
<tr>
<td>High</td>
<td>Medium</td>
<td>Very High</td>
</tr>
<tr>
<td>Very High</td>
<td>High</td>
<td>Medium</td>
</tr>
<tr>
<td>Very High</td>
<td>High</td>
<td>Very High</td>
</tr>
</tbody>
</table>
The qualitative impacts of the proposed project during construction and operation phases are summarized here.

### Construction Phase

<table>
<thead>
<tr>
<th>Particulars</th>
<th>Effect Rating</th>
<th>Nature</th>
<th>Duration</th>
<th>Probability</th>
<th>Degree of implication</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Air Quality</td>
<td>Adverse</td>
<td>Medium</td>
<td>Short term</td>
<td>Medium</td>
<td>Medium</td>
<td>Medium</td>
</tr>
<tr>
<td>Noise level</td>
<td>Adverse</td>
<td>Medium</td>
<td>Short term</td>
<td>Low</td>
<td>Low-medium</td>
<td>Low-medium</td>
</tr>
<tr>
<td>Water Resources/ water quality</td>
<td>Adverse</td>
<td>Medium</td>
<td>Short term</td>
<td>Medium</td>
<td>Medium</td>
<td>Medium</td>
</tr>
<tr>
<td>Wastewater</td>
<td>Adverse</td>
<td>Medium</td>
<td>Short term</td>
<td>Medium</td>
<td>Medium</td>
<td>Medium</td>
</tr>
<tr>
<td>Solid waste</td>
<td>Adverse</td>
<td>Medium</td>
<td>Short term</td>
<td>Low</td>
<td>Low-Medium</td>
<td>Low-Medium</td>
</tr>
<tr>
<td>Ecology</td>
<td>Adverse</td>
<td>Medium</td>
<td>Short term</td>
<td>Low</td>
<td>Low-Medium</td>
<td>Low-Medium</td>
</tr>
<tr>
<td>Traffic movement</td>
<td>Adverse</td>
<td>Medium</td>
<td>Short term</td>
<td>Medium</td>
<td>Medium</td>
<td>Medium</td>
</tr>
<tr>
<td>Socio-Economic and Employment</td>
<td>Beneficial</td>
<td>Medium</td>
<td>Short term</td>
<td>High</td>
<td>Medium-High</td>
<td>Medium-High</td>
</tr>
</tbody>
</table>

### Operational Phase

<table>
<thead>
<tr>
<th>Particulars</th>
<th>Effect Rating</th>
<th>Nature</th>
<th>Duration</th>
<th>Probability</th>
<th>Degree of implication</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Air Quality</td>
<td>Adverse</td>
<td>Medium</td>
<td>Long term</td>
<td>Low</td>
<td>Low-Medium</td>
<td>Low-Medium</td>
</tr>
<tr>
<td>Noise Level</td>
<td>Adverse</td>
<td>Medium</td>
<td>Long term</td>
<td>Low</td>
<td>Low-Medium</td>
<td>Low-Medium</td>
</tr>
<tr>
<td>Traffic Movement</td>
<td>Adverse</td>
<td>Medium</td>
<td>Long term</td>
<td>Medium</td>
<td>Medium</td>
<td>Medium</td>
</tr>
<tr>
<td>Water resources/ water quality</td>
<td>Adverse</td>
<td>Medium</td>
<td>Long term</td>
<td>High</td>
<td>Medium-High</td>
<td>Medium-High</td>
</tr>
<tr>
<td>Wastewater</td>
<td>Adverse</td>
<td>Medium</td>
<td>Long term</td>
<td>High</td>
<td>Medium-High</td>
<td>Medium-High</td>
</tr>
<tr>
<td>Solid waste</td>
<td>Adverse</td>
<td>Medium</td>
<td>Long term</td>
<td>High</td>
<td>Medium-High</td>
<td>Medium-High</td>
</tr>
<tr>
<td>Ecology</td>
<td>Adverse</td>
<td>Medium</td>
<td>Long term</td>
<td>Low</td>
<td>Low-Medium</td>
<td>Low-Medium</td>
</tr>
<tr>
<td>Employment and economic growth</td>
<td>Beneficial</td>
<td>Medium</td>
<td>Long term</td>
<td>High</td>
<td>Medium-High</td>
<td>Medium-High</td>
</tr>
</tbody>
</table>

### Mitigation Measures

The mitigation measures for the identified impacts during implementation phase are described below.

<table>
<thead>
<tr>
<th>Potential Impact</th>
<th>Main Source of Risk</th>
<th>Mitigation Measures</th>
</tr>
</thead>
</table>
| Dust and particulates | Transport trucks, Construction activities, grain mills | • Appropriate vegetation as a dust screen  
• Dust suppression system (water spraying)  
• A speed limit to be defined for transportation trucks to reduce dust generation  
• Construction workers will be provided with dust masks to reduce exposure |
| Noise Emissions  | Transport trucks, Construction activities, grain mills | • Cumulative noise level a walkways, work areas and market vicinity will be <55 dB(A) without hearing protection  
• Noise level at the boundary between the grain mills and other parts of the market will be 70dB(A)  
• Construction and grain mill workers will be provided with ear plugs and ear mufflers.  
• Provision of silencers whenever possible  
• Vegetation cover between grain mills and the other parts of the market as a barrier for reducing noise |
<table>
<thead>
<tr>
<th>Potential Impact</th>
<th>Main Source of Risk</th>
<th>Mitigation Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wastewater</td>
<td>Domestic</td>
<td>The market will be provided with sufficient latrines.</td>
</tr>
<tr>
<td></td>
<td>Wastewater from market activities</td>
<td>Wastewater from latrines will be let into septic tanks, the overflow from which will be connected to the wastewater collection mains.</td>
</tr>
<tr>
<td>Solid waste (hazardous and non-hazardous)</td>
<td>Organic food wastes, containers of products, plastic bags, paper, etc. generated from the market</td>
<td>Incorporate sufficient solid waste collection bins.</td>
</tr>
<tr>
<td></td>
<td>Waste oil and grease containers and scrapped automobile batteries from wood and metal workshop</td>
<td>Improve the existing solid waste collection and disposal system, which needs to be more efficient and effective.</td>
</tr>
<tr>
<td></td>
<td>Containers of insecticides and pesticides used from unintended purposes including use as measuring containers from grain and edible oil.</td>
<td>Relocate (to appropriate locations outside the market) semi-processing activities, like metal and wood workshops which require as inputs hazardous wastes like used oil containers and scraped automobile batteries for their operation.</td>
</tr>
<tr>
<td></td>
<td>wastewater from domestic and other sources in the vicinity of the market</td>
<td>develop an operational guideline for food safety and hygiene which prohibits the use of containers of hazardous products as measuring containers for edible items.</td>
</tr>
<tr>
<td></td>
<td>Hazardous and non-hazardous solid waste leachates from various sources.</td>
<td>Put in place solid waste collection bins delegated specifically for hazardous solid wastes.</td>
</tr>
<tr>
<td>Water pollution</td>
<td>wastewater from domestic and other sources in the vicinity of the market</td>
<td>Establish a buffer zone (green area) between the market and the Borkena River, which will serve the purpose of retaining/removing pollutants from the wastewater draining directly into the River.</td>
</tr>
<tr>
<td></td>
<td>Hazardous and non-hazardous solid waste leachates from various sources.</td>
<td>Construct a canal parallel to the Borkena, which will prohibit the direct flow of pollutants into the River.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Relocate polluting activities which are inherently incompatible with the market activities. These activities include semi-processing activities like wood and metal workshops.</td>
</tr>
</tbody>
</table>
ENVIRONMENTAL MANAGEMENT PLAN

The ESMP:

- Draws together the measures proposed to mitigate environmental impacts, and group them logically into components with common themes;
- Defines the specific actions to be taken, roles and responsibilities for these actions, timetables for implementation, and associated costs; and
- Describes the contingency planning and training requirements for the implementation of the ESMP.

The ESMP consists of environment, health and safety issues identified thematically in the EIA report. Cross cutting topics are also addressed as individual element. A summary of the EMP is presented in the table below and provides a logically grouped task list that would enable the implementation of the mitigation measures developed for the significant impacts identified in the context of the project.

<table>
<thead>
<tr>
<th>Project Phase</th>
<th>Impact</th>
<th>Mitigation Measures</th>
<th>Parameters to be monitored</th>
<th>Location</th>
<th>Monitoring method</th>
<th>Frequency</th>
<th>Responsible</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction</td>
<td>Air Quality</td>
<td>• Implement a system for dust suppression (water spraying)</td>
<td>Dust (generation and release)</td>
<td>The construction site</td>
<td>Visual inspection, audits, photographic documents and interviews</td>
<td>Quarterly (every 3 months)</td>
<td>City Admin</td>
<td>1000–2000 ETB per audit</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• A speed limit to be defined for transportation trucks to reduce dust generation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Construction workers will be provided with dust masks to reduce exposure</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Noise</td>
<td></td>
<td>• Construction workers will be provided with ear plugs and ear mufflers</td>
<td>Noise level, use of PPEs</td>
<td>The construction site</td>
<td>Analytical measurement, visual inspection</td>
<td>Quarterly (every 3 months)</td>
<td>City Admin</td>
<td>5,000 ETB to procure noise meter</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Scheduling the use of high noise level equipment at a less busy period.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Water resources/ water quality</td>
<td>Sufficient latrines will be provided</td>
<td>Oil content, suspended solids, BOD, COD, metals</td>
<td>Groundwater wells, Borkena River,</td>
<td>Sampling and analysis</td>
<td>Quarterly</td>
<td>City Admin</td>
<td>500–1,000 ETB per batch of analysis at FEPA</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• An established system for used oil collection will be put in place</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Solid Waste</td>
<td></td>
<td>• Put in place sufficient solid waste collection bins.</td>
<td>Generation, storage, recycling, transport and disposal</td>
<td>The construction site</td>
<td>Audits, photographic documents and interviews</td>
<td>Quarterly</td>
<td>City Admin</td>
<td>1000–2000 ETB per audit</td>
</tr>
<tr>
<td>Project Phase</td>
<td>Impact</td>
<td>Mitigation Measures</td>
<td>Parameters to be monitored</td>
<td>Location</td>
<td>Monitoring method</td>
<td>Frequency</td>
<td>Responsible</td>
<td>Cost</td>
</tr>
<tr>
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</tr>
<tr>
<td>Waste water</td>
<td></td>
<td>Put in place solid waste collection bins delegated specifically for hazardous solid wastes.</td>
<td>Effectiveness of retention system and wastewater collection system</td>
<td>Monitoring of solid waste collection bins</td>
<td>Quarterly</td>
<td>City Admin</td>
<td>1000-2000 ETB per audit</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Put in place solid waste collection bins.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>500-1000 ETB per batch of analysis at FEPA</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Construct (using drums) a waste incinerator and ensure its proper use</td>
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<tr>
<td></td>
<td></td>
<td>Provide sufficient latrines with septic tanks (i.e. wastewater will be let to septic tanks with the overflow connected to collection mains).</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flora</td>
<td></td>
<td>Avoid vegetation removal and if necessary ensure that this is compensated for.</td>
<td>General condition of floral cover</td>
<td>Monitoring of flora condition</td>
<td>Continuous</td>
<td>City Admin</td>
<td>Negligible</td>
<td></td>
</tr>
<tr>
<td>Health and safety</td>
<td></td>
<td>Prepare the site for vehicular access during construction</td>
<td>Proper use of PPEs, Presence of safety signs, first aid kit, fire-fighting devices</td>
<td>Health and safety surveys</td>
<td>Continuous</td>
<td>City Admin</td>
<td>Negligible</td>
<td></td>
</tr>
<tr>
<td>Operation</td>
<td></td>
<td>Relocate semi-manufacturing activities such as wood and metal workshops that do not fit well into the existing market operation to an appropriate location outside the market.</td>
<td>Dust and air pollutants (generation and release)</td>
<td>Grain mills, the market area</td>
<td>Quarterly</td>
<td>City Admin</td>
<td>1000 – 2000 ETB per audit</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Develop a vegetation cover as a screen between the grain mills and other areas of the market, and</td>
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<td></td>
<td></td>
<td>Define and implement a lower speed limit for transport trucks.</td>
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<tr>
<td></td>
<td></td>
<td>Avail dust masks to workers in grain mills</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Noise</td>
<td></td>
<td>Avail personal protective equipments to exposed persons and ensure that these protective equipments are used</td>
<td>Noise Level</td>
<td>Monitoring of noise level</td>
<td>Quarterly (every 3 months)</td>
<td>City Admin</td>
<td>Purchase of Noise meter which is allocated cost above</td>
<td>500 – 1,000 ETB per batch of analysis at FEPA</td>
</tr>
<tr>
<td>Water resource and water quality</td>
<td></td>
<td>Avail sufficient public latrines with septic tanks.</td>
<td>Suspended solids, BOD, COD, metals</td>
<td>Monitoring of suspended solids and BOD, COD, metals</td>
<td>Quarterly</td>
<td>City Admin</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>establish a buffer zone (green area) between the market and the Borkena River to reduce wastewater draining directly into the River.</td>
<td>Groundwater wells, Borkena River,</td>
<td>Sampling and analysis</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Project Phase</td>
<td>Impact</td>
<td>Mitigation Measures</td>
<td>Parameters to be monitored</td>
<td>Location</td>
<td>Monitoring method</td>
<td>Frequency</td>
<td>Responsible</td>
<td>Cost</td>
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</tr>
</tbody>
</table>
|               |        | • construct a canal parallel to the Borkena, which will prohibit the direct flow of pollutants into the river.  
• relocate polluting activities which are inherently incompatible with the market activities. These activities include semi-processing activities like wood and metal workshops. | Effectiveness of buffer zone and drainage canal | The construction site and wastewater collection system | Sampling and analysis of receiving environment, Audits, photographic documentation and interviews | Quarterly | City Admin | 1000-2000 ETB per audit  
500-1000 ETB per batch of analysis at FEPA |
| Waste water   |        | • Same as mitigation described under impact on water resources/water quality | Generation, storage, recycling, transport and disposal | The construction site | Audits, photographic documentation and interviews | Quarterly | City Admin | 1000-2000 ETB per audit |
| Solid waste   |        | • To put in place sufficient solid waste collection bins.  
• To improve the solid waste collection and disposal system in the market vicinity  
• To designate solid waste collection bins for hazardous solid waste. | General condition of floral cover | The construction site | Visual inspection and photographic documentation | continuous | City Admin | Negligible |
| Flora         |        | • Increase vegetation cover within the market  
• Regulate the wood and charcoal stands in the market and ensure that these are not from unsustainable sources  
• Reduce pollution of the Borkena thereby reducing the potential impact on species in the ecologically rich areas in close proximity to Kombolcha | | | | | |
| Health and safety |        | • Regulate the food hygiene and ensure that hazardous containers are not used food preparation and distribution.  
• Avail fire fighting equipments in case of such hazards. | Proper use of PPCs, Presence of safety signs, first aid kit, fire-fighting devices | The Construction site | Health and safety surveys | continuous | City Admin | Negligible |
PUBLIC CONSULTATION

Regarding public consultation, the consultants' have already undertaken focus group discussions with various actors in the market to identify the environment, health and safety concerns. Moreover, a wider consultation of the public consultation was undertaken on 19 September 2012. A summary on the public consultation undertaken, including the list of attendees and the discussion points is presented as an Annex.

Socio-Economic Development Plan

The project will actively contribute to improve the socio-economic conditions of the market. The details of the Socio-economic Development Plan are given below:

Employment and Business Opportunities

The post-upgrading market operation will give preference to existing business operators. Employment preference will also be given to locals whose land and property has been permanently acquired for the project.

Infrastructure Development

The project will improve infrastructure (road network) within the market premise. A green 'pedestrian’ walkway is also proposed by the project, which will further improve congestion within the market. This will also provide consumers with safe 'pedestrian only' walkways further improving their shopping experience.

Water Supply

The project will help in improving the water supply in the area. As observed during the survey, currently the market is not sufficient served with potable water supply. With the implementation of the project water supply access will dramatically increase.

Communication

The market upgrading project will also facilitate the provision of modern communication facilities like telephone lines in the area.

Electric Power

The project will also facilitate the provision of electric power in the vicinity of the market.

Audits and Monitoring

Environmental monitoring and audits will be undertaken during and after the construction and development phase and during operation phase to check that the environmental management measures are being satisfactorily implemented and that they are delivering the appropriate level of environmental performance. A summary of the proposed monitoring plan is given below.
<table>
<thead>
<tr>
<th>Impact</th>
<th>Monitoring Method</th>
<th>Parameters</th>
<th>Location</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Air Quality</td>
<td>Visual inspection, audits, photographic documentation and interviews</td>
<td>Generation and release</td>
<td>Grain Mills</td>
<td>Every six months (biannually)</td>
</tr>
<tr>
<td>Noise</td>
<td>Measurement</td>
<td>Noise level in d(B)A</td>
<td>Grain Mills</td>
<td>Biannually</td>
</tr>
<tr>
<td>Surface and groundwater</td>
<td>Sampling</td>
<td>Oil content, suspended solids, BOD, COD, metals</td>
<td>Groundwater wells, Borkena River</td>
<td>Quarterly</td>
</tr>
<tr>
<td>Solid waste</td>
<td>Audits, photographic documentation and interviews</td>
<td>Generation, storage, recycling, transport and disposal</td>
<td>The market premise</td>
<td>Quarterly</td>
</tr>
<tr>
<td>Flora</td>
<td>Visual inspection and photographic documentation</td>
<td>General condition of floral cover</td>
<td>The market premise</td>
<td>Continuously</td>
</tr>
<tr>
<td>Health and safety</td>
<td>Health and safety surveys</td>
<td>Proper use of PPEs, Presence of safety signs, first aid kit, firefighting devices</td>
<td>Grain mills, the market premise</td>
<td>Continuously</td>
</tr>
<tr>
<td>Socio-economic</td>
<td>Field questionnaire</td>
<td>The local population</td>
<td>The market and surroundings</td>
<td>Continuously</td>
</tr>
</tbody>
</table>
1. INTRODUCTION

In order to reverse socio-economic challenges of cities and improve public service delivery, the Government of Ethiopia has devised the Urban Local Government Development Project (ULGDP), which is financed by the World Bank. The Project encompasses activities that better facilitate and enhance the efforts of Urban Local Governments/City Administrations to improve infrastructure and services. In this context, the Kombolcha City Administration has identified the Kombolcha Market Upgrading Project as one of its priority undertakings, in due consideration of the need for such an improved market in line with anticipated growth and fast-track industrialization of the City. To this end, The City Administration has retained Sileshi Consultants PLC as its consultant to prepare the architectural design, Environmental and Social Impact Assessment (ESIA) and Resettlement Action Plan (RAP) for the proposed project.

The proposed project is located at Kebele 3, in Kombolcha town, Debub Wello zone of Amhara National Regional State (ANRS). Kombolcha is situated about 376 Kms North of Addis Ababa, the capital of Ethiopia. The coordinates and elevations of Kombolcha areas are given below.

<table>
<thead>
<tr>
<th>Coordinates</th>
<th>Elevation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Latitude: 09°27'28&quot; to 09°28'25&quot;N</td>
<td>1,842 meters above Mean Sea Level (MSL)</td>
</tr>
<tr>
<td>Longitude: 38°34'31&quot; to 38°35'23&quot;E</td>
<td></td>
</tr>
</tbody>
</table>

Regarding the development objectives of the project, Kombolcha's Local Development Plan (LDP) has identified the existence of chronic problems in the vicinity of the market and its surroundings, pertaining to accessibility, shelter, sanitation, drainage and waste disposal. Moreover, as per the LDP the market is observed to be amorphous in terms of land use and characterized by old buildings, deteriorated and narrow road networks, polluted and congested environment, and below standard services and facilities. Hence the proposed project aims to improve the facilities, services and amenities of the market thereby improving the existing environmental, health and safety conditions.

Regarding the environmental aspects and requirements, the Kombolcha City Administration has already undertaken an environmental screening study pursuant to the Environmental Impact Assessment Proclamation (Proclamation No. 299/2002) and in line with the requirements of the World Bank. This report was submitted by the City Administration to the Amhara National Region State Environmental Protection, Land Administration and Use Bureau (ANRS-BoEPLAU), which is the concerned regional Bureau for the review of EIA studies. Based on the review and feedback of the BoEPLAU, the Office of City Services has been requested to undertake an EIA study that would be appropriate for activities that fall under Schedule 1 as per the Federal Environmental Protection Authority’s EIA Procedural Guideline.

The following Environmental and Social Impact Assessment Study Report is prepared giving due consideration to the above-mentioned requirements. The ESIA study and report is prepared by a team of three experts - an environmentalist, sociologist and economist and serves as an

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1As per the Federal Environmental Protection Authority's Procedural Guideline (FEPA, 2003), development activities falling under Schedule 1 would require a full EIA study (refer to FEPA Procedural Guideline Series 1; Annex III; Schedule of Activities; Schedule 1)
input for addressing the environmental impacts associated to the design, construction and operation phases of the market upgrading project. In this regard, the report clearly identifies the environmental, health and safety impacts of the project and the associated mitigation measures. The study also identifies the specific actions that need to be taken in the way of implementing the mitigation measures recommended, the roles and responsibilities of the different stakeholders for undertaking these actions, the timetable for implementation and the associated costs.

The methodology employed for the ESIA study included:

- Consultation with and interview of personnel of the Kombolcha city Administration,
- Consultation with and interview of business operators in the current Kebele 3 market,
- Comprehensive desk review of the applicable policies and legal and institutional frameworks in the country;
- Comprehensive desk review of existing documents of the government that focus on the identified environmental impacts of the proposed project,
- Field survey of the baseline environmental and socio-economic conditions in the vicinity of the existing market

A digital camera was used to take evidence pertaining to the existing environmental, health and safety issues. Following the preparation of the preliminary EIA report a consultation of project affected persons, the public at large and experts from various stakeholder organizations is expected to be undertaken, in line with the stipulated requirements of the EIA Proclamation and the World Bank safeguard policy. This final consultation process will help solicit inputs on the EIA study, based on which the current report will be finalized.

2. BACKGROUND AND PROJECT JUSTIFICATION

2.1. Objectives of the proposed development project

The Urban Local Government Development Project (ULGDP) was designed to support the Ethiopian Government's Urban Development and Urban Good Governance Programs. To this end, the main development objective of ULGDP is to provide support for improving the planning, delivery and sustainability of priority municipal services and infrastructure by urban local governments. In line with this, the Kombolcha City Administration is undertaking the current market upgrading project, which aims to design and build modern sheds in the way of improving the existing informal gulits through the financial support provided under ULGDP. The rationale for the current project emanates from the coupled effect of the expansion of the city of Kombolcha and the numerous challenges identified within the existing market which is characterized by:

- makeshift shelter and deteriorated buildings,
- no vehicle parking and bus stop
- narrow and muddy weathered roads,
• congested and non-hygienic environment,
• no formal market structure and land-use
• below standard services such as toilets, power, telephone and water supply,
• inadequate storm water and solid waste collection system,
• no demarcation between the river shed and the market area,
• Development of the surrounding areas with non-complimentary services contributing to the market congestion.

In line with the aforementioned challenges, the main objectives of the market upgrading project are:
• to design, construct and operate a market which alleviates the chronic challenges identified above,
• to strengthen the social and economic standing of Kombolcha, in a manner that recognizes the City’s evolution as an industrial and commercial hub,
• to undertake these development ventures in a manner that recognizes the socio-economic standing of the market vendors in the area, thereby improving the market while at the same time maintaining affordability of the new infrastructure to the existing operators

2.2. Objectives of the EIA Study

EIA is a process that helps assess the impacts of a planned activity on the physical, social and economic environment by providing decision-makers with an indication of the likely consequences of development actions. When it is an integral part of the planning process, EIA enables potentially negative impacts to be mitigated (and positive impacts to be maximized) early in the design stages. The current EIA study was undertaken pursuant to the EIA Proclamation (Proclamation 299/2002). The study was conducted by a team of experts led by an environmentalist. The objective of the study was to identify the major environmental, health, safety and socio-economic issues associated to the market upgrading project and to propose mitigation measures that avoid or reduce these impacts. This output EIA report was prepared as per the requirement of the Federal EPA and considered the requirements of BoEPLAU as well as the World Bank Safeguard Policy on Environmental Assessment.

In order to conduct impact analysis, the study utilized an established qualitative methodology in impact assessment. In this regard, the team had developed a qualitative impact risk matrix
based on methodological approaches stipulated in Morgan, RK (2002). This qualitative impact risk matrix was used as a tool to get an indication on the significance of the identified impacts, taking into account the anticipated severity of the impacts and the probability of their occurrence. Regarding the mitigation measures for identified EHS negative impacts, the team made its recommendations based on established international best practice guidelines including the General Environmental, Health and Safety (EH&S) Guideline produced by the International Finance Corporation (IFC) of the World Bank Group (WBG).

3. PROJECT DESCRIPTION

3.1. Project Location

Kombolcha is a city and Woreda in North-central Ethiopia. It is located in Debub Wollo Zone of the Amhara Region, 376 km north of Addis Ababa. It has a latitude of 110 5’N and longitude of 390 44’E with an elevation between 1842 and 1915 meters above sea level. Kombolcha is sometimes described as the twin city of Dessie, which lies some 13 km to the North-West. The Woreda has an estimated area of 8.66 square kilometres, which gives Kombolcha a density of 12,125 People per square kilometre. The city is divided into 11 kebeles (five urban and six rural). The national road network grid connects Kombolcha with Mekelle in the North via Dessie, with Kombolcha in the West and Addis Ababa in the South.

The two main markets in Kombolcha are the Borchele area market and the Kebele 3 market. The Borchele market functions five days of the week and has about 300 sellers, while the market at Kebele 3 operates 2 days of the week (i.e. on Wednesdays and Saturdays). The Kebele 3 market was founded in 1985/1986 to replace the Borcelle market, as the latter was not able to support the growing city population. The market at Kebele 3 has about 3,000 operators from Kombolcha and the surrounding villages and urban centres including Kemissie, Dessie, Tita, Haiq, Degan and Bati. The Kebele 3 market has taken its present character of gridded plots of open wooden stalls in 2010/2011 with stalls ranging from 4 to 6 square meters being occupied by individual operators (stalls of 6m² are generally provided for fruit vendors and grain retailers). The Municipal Administration of Kombolcha issues permits for “use right” of the traders in these stalls. In general the operators within the market are merchandise retailers and service providers, who are within the low-income groups and having no alternative source of income. The remaining open spaces and streets in the vicinity of the market are also occupied by farmers that retail vegetables, textiles and agricultural products.

The products in the market are predominantly:

- Agricultural and food products including - lentils, ready for use cereals (besso), ready-made food items (shiro, berbere, fenugreek, rape seed, cardamom, etc.), onions, garlic,
carrots, table salt, spices, incense, fruits (mangoes, lemon, bananas, etc.), tomatoes, pepper, coffee, ginger, chicken, eggs, malt, sugar cane, teff, livestock;

- Industrial products including children's garments (Knitwear), second-hand clothes, detergents, yarn, water glasses, spoons, stainless steel and plastic utensils, plastic utensils, footwear, umbrellas, slippers, belts, matches, cigarettes, ballpoint pens, toilet paper, padlocks, chewing gums, cosmetics, pottery, dishes, stoves, basketry, woodwork and metalwork.

The market is accessible on foot for many consumers with the main vehicle transport being the three-wheeled motorcycles known as Bajajs. Moreover, since the market depends on farmers residing in Kombolcha and the surroundings for agricultural products, there is an extensive use of animals, including horses, donkeys and camel for transportation.

There is an open sewage canal that runs through the middle of the market place, which is in very close proximity to the fruit and vegetable vendors. In this context, the Kombolcha Micro and Small Enterprises (MSE) Development Office has given plots to about 110 traders along the open canal, which has not been covered and built upon by operators using wooden walls and CIS roofing. About 30 cobblestone workers organized through the MSE Development Office are also found within the market in the area bordering the Borkena River. Table 1 below provides an overview on the market.
<table>
<thead>
<tr>
<th><strong>Area coverage</strong></th>
<th>Description</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>28,995.7 m²</td>
<td>- The Borkena River (West), - Church (South) - Clinic (East) and - Mixed use building (North)</td>
<td>This area encompasses areas along the banks of the Borkena River, which may not be appropriate the market upgrading activity.</td>
</tr>
<tr>
<td><strong>Area Boundary</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>- predominated by old and temporary buildings, - wooden open stalls, which are 4 and 6 m² in size (per operator), - no all-weather internal roads, - inadequate and inconvenient public latrines, - partial power supply, - no water supply, - no telephone lines</td>
<td></td>
</tr>
<tr>
<td><strong>Type of Infrastructure and amenities</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Flooding of areas of the market which are bordering the Borkena River, - High-level silting of the Borkena River banks due to erosion and landslide from the surrounding mountains, which in turn has affected the flow and course of the River, - Pollution of the Borkena River from sewerage which is joining the river directly without treatment, - Hygiene related issues (limited latrines, food items sold in unhygienic manner, lack of clean water supply) - Safety related issues (narrow passages, accident prone work conditions)</td>
<td></td>
</tr>
<tr>
<td><strong>Number of registered business operators</strong></td>
<td>3055 proprietors and 21 companies registered (of which 45 operators were identified as wholesalers)</td>
<td>As per the Trade and Transport Office of Kombolcha</td>
</tr>
</tbody>
</table>

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Table 1: Summarized data on the existing market at Kebele3

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Figure 1: Map of the City of Kombolcha and the Kebele 3 Market
3.2. Description of the proposed project

As described in the previous section the main objectives of the market upgrading project are:

- to design, construct and operate a market which alleviates the chronic EHS and socio-economic challenges of the existing market,
- to strengthen the social and economic standing of Kombolcha, in a manner that recognizes the City's evolution as an industrial and commercial hub, and
- To undertake these development venture in a manner that recognizes the socio-economic standing of the market vendors in the area, thereby improving the market while at the same time maintaining affordability of the new infrastructure to the existing operators.

To this end, several civil works have been proposed by the market upgrading project including:

- 6 Blocks of two-storey Retail Shops;
- 3 Block of wholesale shop;
- Rows of improved basic sheds;
- Internal and External Circulation Area;
- Peripheral Drainage Systems;
- Pedestrian & Camel Routes;
- Toilet & Administration Buildings; and
- Solid waste Collection Bins

The design for the civil work is governed by the following core principles:

- Respects the existing Land use Plan;
- Recognizes the existing storm-water drainage system;
- Respects the vehicular road network as proposed in the City's Local Development Plan;
- Defines building typologies that are simple, flexible and adaptable
- Recognizes the relevance of existing transportation means of goods within the site (namely pack animal, carts, manual, vehicles service access)
- Introduces adequate horizontal and vertical internal circulation within the buildings
- Provides access ramps, stairs and walkways for disabled people
• Provides adequate green space, parking and bus stop
• Maximizes natural light and ventilation within the buildings;

The design arrangement of the proposed civil works is presented below:

**Figure 2:** Design of the buildings that are proposed to house the retail shops.

**Figure 3:** Design of the buildings that are proposed to house the wholesale stores.
The project is proposed to be implemented in three phases. These are:

- **Phase I** which incorporates the development of facilities that can accommodate 900 traders including - two blocks of buildings for retail shops, one block of wholesale shop, ten rows of improved basic sheds, internal and external circulation areas, peripheral drainage systems, pedestrian and camel route, toilet and administration building, and solid waste collection bins. The overall cost for this component is estimated to be 45.5 Million Ethiopian Birr.

- **Phase II** which incorporates the development of facilities that can accommodate 1,512 traders including two blocks of buildings for retail shops, construction of all remaining improved basic sheds, internal and external circulation area, peripheral drainage systems, vehicle parking areas and additional toilet. The overall cost for this component is estimated to be 36.8 Million Ethiopian Birr.

- **Phase III** which incorporates the development of facilities that can accommodate 680 traders including two blocks of buildings for retail shops, two blocks of buildings for wholesalers, internal and external circulation area, peripheral drainage systems and the major gravel vehicular road. The overall cost for this component is estimated to be 50.1 Million Ethiopian Birr.
Figure 5: The different phases of the Kombolcha Market Upgrading Project and the proposed land use
4. NATIONAL POLICIES AND REGULATORY FRAMEWORK

4.1. Policy Framework

4.1.1. Constitution of the Federal Democratic Republic of Ethiopia

The constitution adopted by Ethiopia in 1995 provides the guiding principles for environmental protection and management in Ethiopia. The concept of sustainable development and environmental rights are enshrined in Article 43, 44 and 92 of the Constitution of GOE.

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 programs have 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 programs 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.

4.1.2. The National Conservation Strategy

The National Conservation Strategy was developed through a consultative process over the period 1989-1995. It takes a holistic view of natural, human-made and cultural resources as well as their use and seeks to present a coherent framework of plans, policies and investment related to environmental sustainability. The document consists of five volumes i.e., the Natural Resource Base, Policy and Strategy, Institutional Framework, the Action Plan and Compilation of Investment Program.

4.1.3. Environmental Policy of Ethiopia

The Environmental Policy of Ethiopia was approved by the Council of Ministers in April 1997. It has 10 sectoral and 10 cross-sectoral components, one of which addresses 'Human Settlements, Urban Environment and Environmental Health', and was based on the findings and recommendations of the National Conservation Strategy of Ethiopia. The policy document contains elements that emphasize the importance of mainstreaming socio-ecological dimensions in development programs and projects.
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 as well as 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 Environmental Impact Assessment:

a. Considers impacts on human and natural environments
b. Provides for early consideration of environmental impacts in projects and programs design
c. Recognizes public consultation
d. Includes mitigation and contingency plans
e. Provides for auditing and monitoring; and
f. Is a legally binding requirement.

4.1.4. The National Health Policy

The Ethiopian Health Sector policy gives, among others, emphasis to:

- The promotion of occupational health and safety
- The development of environmental health.

4.2. Legal Framework

4.2.1. Establishment of Environmental Protection Organs (Proclamation No. 295/2002)

Proclamation 295/2002 establishes the organizational requirements and identifies the need to establish a system that enables coordinated but different responsibilities of environmental protection agencies at federal and regional levels. The Proclamation indicates the duties of different administrative levels responsible for applying federal law.

4.2.2. Environmental Impact Assessment (Proclamation No. 299/2002)

The Environmental Impact Assessment (EIA) Proclamation makes EIAs a mandatory requirement for the implementation of major development projects, programs and plans. The Proclamation is a tool for harmonizing and integrating environmental, economic, cultural, and social considerations into decision making processes in a manner that promotes sustainable development. The law clearly defines:

a. Why there is a need to prepare EIAs
b. What procedure is to be followed in order to implement EIA of the project
c. The depth of environmental impact studies
d. Which projects require full EIA reports
e. Which projects need partial or no EIA report; and
f. To whom the report has to be submitted.
As a follow up to the EIA proclamation the EIA Directive (No. 1/2008) was issued in 2008. This Directive which is known as 'A Directive to Determine Projects Subject to Environmental Impact Assessment' was issued to determine the categories of projects subject to the Environmental Impact Assessment Proclamation No. 299/2002. To this end, the Environmental Impact Assessment Proclamation No. 299/2002 is to be applied to the types of projects listed under these directives.

Regarding EIA, the Amahara National Regional State General EIA Guideline Document (EPLAUA 2007) provides essential information covering:

- Environmental Assessment and Management in Ethiopia
- The Environmental Impact Assessment Process
- Standards and Guidelines
- Issues for sectoral environmental impact assessment in Ethiopia covering: agriculture, industry, transport, mining, dams and reservoirs, tanneries, textiles, hydropower generation, irrigation projects and resettlement projects
- The guideline also contains annexes that:
  - identify activities requiring a full EIA, partial measure or no action
  - contain sample forms for application
  - Provide standards and guidelines for water and air.

Similarly, the EIA procedural guideline (2003) is a comparable document of the Federal Environmental Protection Authority which outlines the screening, review and approval process for development projects in Ethiopia and defines the criteria for undertaking an EIA.

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

Complementary to the EIA legislation which requires developmental activities to give considerations to environmental impacts before their establishment, the Pollution Control Proclamation requires ongoing activities to implement measures that would reduce their degree of pollution to a set limit or quality standard. Thus, one of the dictates of the legislation is to ensure, through inspection, the compliance of ongoing activities with the standards and regulations of the country through an environmental audit.

As a follow up to Proclamation 300/2002, a regulation to prevent industrial pollution was developed by the Federal Environmental Protection Authority to ensure the compatibility of industrial development with environmental conservation. This regulation (Proclamation no. 159/2008) also includes comprehensive industrial pollution standards for a range of industrial and mining activities.

4.2.4. Solid Waste Management (Proclamation No. 513/2007)

Proclamation 513/2007 aims to promote community participation in order to prevent adverse effects and enhance benefits resulting from solid waste. It provides for preparation of solid waste management action plans by urban local governments.
4.2.5. Labour Proclamation (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 Government, and in conformity with the international conventions and other legal commitments to which Ethiopia is a party with a view to translating into practice the objectives referred to above'. In Part Seven, Chapter One, Article 92 of this proclamation (Occupational Safety, Health and Working Environment, Prevention Measures and Obligations of the Employers), the requirements in terms of the protection of workforce health and safety is clearly stipulated. Workforce health and safety is an important aspect considered for identifying the potential environmental, health and safety issues that can arise from the project. Moreover, the Occupation Health and Safety Directive (MOLSA, 2003) which provides the limits for occupational exposure to working conditions that have adverse impacts on health and safety was also considered for the study.

4.3. Institutional Framework

The current system of government in Ethiopia is organized into a federal structure, comprised of a federal government and nine regional states. Government administration of EIA in Ethiopia is thus shared between the federal government and regional states. The Environmental Protection Organs Establishment Proclamation (Proclamation 295/2002) established the institutions responsible for the regulation of EIA; these include the Federal Environmental Protection Authority, Regional Environmental Agencies and the Sectoral Environmental Units. Currently, a new structure is in effect - the delegated sectoral authorities which through FEPA's delegation have been assigned the dual role of ensuring the implementation of sector specific EIAs, as well as of reviewing EIA reports.

4.3.1. Federal Environmental Protection Authority

The Environmental Protection Authority (EPA) is the lead federal environmental organ with the objective of formulating policies, strategies, laws and standards to ensure social and economic development activities in the country to sustainably enhance human welfare and the safety of the environment (Article 6 of Proclamation 295/2002). The regulation of EIA is one of the key responsibilities entrusted to EPA. In this respect, the Authority is responsible for establishing a system for undertaking EIA on public and private projects as well as on social and economic policies, strategies, laws and programs. Specifically, it is responsible for developing a directive that identifies categories of projects likely to have negative impacts and thus require EIA, and for issuing guidelines that direct the preparation and evaluation of EIA study reports (Proclamation No. 299/2002, Articles. 5 and 8). In addition, EPA is responsible for evaluating EIA study reports of projects that are to be licensed and executed by the federal government and projects that are likely to create inter-regional impacts. EPA is also responsible for monitoring, auditing and regulating the implementation and performance of such projects. Moreover, EPA is responsible for providing technical support on environmental protection and management to regional states and sectoral institutions.
4.3.2. Regional environmental bodies

The Environmental Protection Organs Establishment Proclamation (Proclamation No. 295/2002) requires regional states to establish or designate their own regional environmental agencies. The regional environmental agencies are responsible for coordinating the formulation, implementation, review and revision of regional conservation strategies as well as for environmental monitoring, protection and regulation (Article 15, Proclamation 295/2002). Relating to EIA specifically, the Environmental Impact Assessment Proclamation (Proclamation No. 299/2002) gives regional environmental agencies the responsibility to evaluate the EIA study reports of projects that are licensed, executed or supervised by regional states and that are not likely to entail inter-regional impacts. Regional environmental agencies are also responsible for monitoring, auditing and regulating the implementation of such projects.

The institutional standing of regional environmental agencies varies from region to region. In some regions, they are established as separate institutions, while in others they are within other Regional Sectoral Bureaus (for instance the Bureau of Agriculture).

4.3.3. Sectoral environmental units

The other environmental organs stipulated in the Environmental Protection Organs Establishment Proclamation (Proclamation No. 295/2002) are 'Sectoral Environmental Units' which are to be established at every competent sectoral institution (i.e. the line ministry and regional sectoral agencies). These Sectoral Environmental Units have the responsibility of coordinating and implementing activities in harmony with environmental protection laws and requirements (Article 14 of Proclamation 295/2002). Moreover, Article 13 of the EIA proclamation (Proclamation 299/2002) requires that public instruments undertake environmental impact assessment. To this end, sectoral environmental units play an important role in ensuring that an EIA is carried out on development projects and public instruments initiated by their respective sectoral institution.

4.3.4. Delegated Authority

Recently, Federal Environment Protection Agency (FEPA) has delegated sectoral institutions to ensure the implementation of EIA in their relevant sector and to undertake EIA reviews. For instance, the Federal Ministry of Water and Energy will be responsible to ensure that an EIA is undertaken on water and energy projects, and within its own framework, to undertake the review of the EIA. This delegation has been communicated to sectoral ministries through an official letter sent by FEPA.

4.4. Summary of World Bank’s Safeguard Policies

The list of World Bank safeguard policies is as follows:

- OP 4.01: Environmental Assessment;
- OP 4.04: Natural Habitats;
- OP 4.09: Pest Management;
- OP 4.12: Involuntary Resettlement;
- OP 4.36: Forestry;
- OP 4.37: Safety of Dams;
- OP 7.50: Projects on International Waterways;
• OPN 11.03: Management of Cultural Property;
• OD 4.20: Indigenous People.

In the context of this project, OP 4.01 and OP 4.12 are triggered. OP 4.01 requires an Environmental Assessment (EA) to be carried out for any project that is proposed for World Bank financing. In this regard, different EA instruments can be used, including amongst others Environmental Impact Assessment (EIA) or Environmental Management Plan (EMP). To this end, an environmental screening process serves as a basis for the selection of instruments to be used for a particular project.

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, 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, if a project’s potential adverse environmental impacts on human populations or environmentally important areas—including wetlands, forests, grasslands, and other natural habitats—are less adverse than those of Category A projects.

Category C, if a project 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 D, if the project involves investment of Bank funds through a financial intermediary, in subprojects that may result in adverse environmental impacts.

As discussed in previous sections, the Kombolcha Market Upgrading Project has been classified as Schedule 1 by BoEPLAU (requiring full EIA). Schedule 1 is comparable to the Category A. Hence the project is considered as potential Category A as per the World Bank safeguards policy 4.01.

5. METHODOLOGY OF THE STUDY
5.1. Impact Assessment Steps/process

The ESIA was undertaken in line with the requirements of EIA proclamation and procedural guideline of FEPA. Proclamation 299/2002 states that an EIA is a mandatory requirement for the implementation of any project likely to have negative environmental impacts. Project developers seeking a permit follow the EIA process as outlined in the aforementioned proclamation, the steps for which are outlined below. These steps, which are stipulated in the EIA Procedural Guideline (2003), largely follow the standards for environmental management procedures and processes under the World Bank operation Guideline OP/BP 4.01.
Screening

As per the EIA Procedural Guideline (2003), the screening process enables the Competent Authority to decide on:
- The need for and level of assessment required,
- The level of government responsible for the project (Federal or Regional),
- Other necessary permits or approval processes required (e.g. rezoning, etc),
- Merit-based acceptability of the consultant to assist the proponent,
- The public participation process, and
- The total life-cycle of the project.

Therefore, the proponent is required to submit a screening report to the Authority, based on which decision will be made on whether an EIA is required and the type of EIA that will be required (full or partial/preliminary).

In order to assist the Screening Process, FEPA has also enacted a Directive to determine projects subject to Environmental Impact Assessment (EIA Directive No. 1/2008). This directive was issued to determine the categories of projects subject to the Environmental Impact Assessment Proclamation (No. 299/2002).

In this context, the Kombolcha Market Upgrading Project has prepared and submitted a screening report based on which the ANRS-BoEPAU has categorized the project as schedule 1 (requiring a full EIA).

Scope of an EIA

The EIA Procedural Guideline (2003) outlines that the scoping process should prepare a detailed plan of study for the scoping exercise. This plan of study is important in ensuring that where public consultation is required; all the relevant parties including other government departments are identified. The plan of study for EIA should contain the following:
- A description of the environmental issues identified during scoping that may require further investigation and assessment
- A description of the feasible alternatives identified during scoping that may be further investigated
- An indication of additional information required to determine the potential impacts of the proposed activity on the environment
- A description of the proposed method of identifying these impacts; and
- A description of the proposed method of assessing the significance of these impacts.

In this context, the Kombolcha Market Upgrading Project has prepared a preliminary assessment draft (Scoping Report) which has been reviewed by both experts of the MoUDC and ANRS-BoEPLAU.

Consideration of Site Alternatives

The EIA must include the contents listed in Part III of the EIA proclamation and the EIA Procedural Guideline (2003). To this end, the procedural guideline also requires the consideration of project alternatives including the project site, design and technologies and
reasons for preferring the proposed site. It is also important to note that the 'without project' alternative is also explicitly stated in this guideline.

In this regard, the Kombolcha Market Upgrading Project explicitly considers alternatives including the 'no project' alternative.

**Impact Mitigation Measures**

The market upgrading project recommends mitigation measures, in line with the requirements of Part III of the EIA proclamation, which explicitly states that 'an environmental impact study report shall contain, as a minimum, a description of measures proposed to eliminate, minimize, or mitigate negative impacts'.

**Monitoring and Reporting**

The EIA study incorporates a monitoring and reporting section, as per Part IV of the EIA Proclamation, which states that:

- The Authority or the relevant regional environmental agency shall monitor the implementation of an authorized project in order to evaluate compliance with all commitments made by, and obligations imposed on the proponent during authorization.
- When the proponent fails to implement the authorized project in compliance with the commitments entered into or obligations imposed upon him/her, the Authority or the relevant regional environmental agency may order him/her to undertake specified rectification measure.
- Any other authorizing or licensing agency shall, in tandem with the Authority’s or the relevant regional environmental agency’s decision to suspend or cancel any authorization to implement a project, suspend or cancel the license it may have issued in favour of the project.

**Consultation and Disclosure**

The EIA study will undertake consultation and disclosure in line with the dictates of Part V of the EIA proclamation which stipulates that the Authority or the relevant regional environmental agency shall:

- Make any environmental impact study report accessible to the public and solicit comments on it, and
- Ensure that the comments made by the public and in particular by the communities likely to be affected by the implementation of a project are incorporated into the environmental impact study report as well as in its evaluation.
6. DESCRIPTION OF BASELINE ENVIRONMENT

6.1. Physical Environment

6.1.1. Climate

The rainfall in the study area is bimodal. The longer rainy season extends from June to September, which supports the major crop production. The shorter rainy season comes in March and April and allows minor crop production. The physiographic characteristics of the study area include: altitude of 1,700 -1800m a.s.l., mean annual rainfall 900-1000mm, mean annual temperature 19°C, mean maximum annual temperature 27°C, mean minimum annual temperature 20°C, and the crop growing period 60-180 days.

6.1.2. Topography and Drainage

Topography of the Kombolcha and of the surroundings consists of plains, mountains and valleys. The drainage of the project area is governed by the catchments of Awash River, particularly the Borkena River which is a tributary of the Awash.

6.1.3. Hydrogeology

The Borkena valley has three hydrological sub-basins:

- The Dessie sub-basin to the North, which is mountainous and volcanic.
- The central Kombolcha sub-basin, which is a half graben with fault scarp in the east and a volcanic mountain in the west.
- The southern Chefa sub-basin is a graben bounded by fault scarps in the east and west.

Tertiary Flood Basalt, Dessie Basalt and Kemise Rhyolite, and Quaternary unconsolidated sands of the plain constitute the geology of the area. Hydrogeological, hydrogeochemical and isotopes data show that groundwater feeds the Borkena River at places in the Dessie sub-basin. Almost all ground and surface waters in the area are fit for domestic and irrigation purposes. However, some aquifers, especially in Dessie and Kombolcha towns, are vulnerable to pollution.

6.1.4. Soil Type

The major soil type in the study area is loam (Boda), sandy loam. The soil is fertile and is highly suitable for cereal. However, as the area is highly populated there is severe erosion. Since the landscape has lost its natural vegetation, the soil of the surrounding hills are degraded with frequent rock outcrops.
6.2. Biological Environments

6.2.1. Terrestrial Vegetation

Between May-July 2012 primary and secondary data collection had been carried out in the area and the vegetation composition, abundance, cover, and other relevant ecological information were assessed. The survey covered the market, the Borkena River basin, Kombolcha town and the surroundings.

The immediate vicinity of the market has highly limited species composition with the major vegetation types being Eucalyptus. Indigenous and exotic Acacia species were also observed in the city of Kombolcha and the surroundings, although these indigenous species were not observed in the vicinity of the market. Similarly, within the market there are established areas for the sale of fuel and construction wood.

6.2.2. Wildlife

Few fauna were observed in the immediate vicinity of the market and in the city of Kombolcha, mainly due to deforestation and wildlife hunting. The fauna recorded were in general monkeys, baboons and hyenas. There are no faunal species recorded from the Kombolcha valley area that can be categorized as endangered, threatened or vulnerable. The species encountered are common forms that are observed in other parts of Ethiopia.

6.2.3. Aquatic Species

The Borkena River feeds into the ecologically diverse Cheffa wetlands situated about 100 kms south of Kombolcha. According to Seifu Bekele (2011) the wetland has a range of uses including:

- **Socioeconomic benefits**: as a source of wood, and sedge for construction, water supply for domestic use, crop farming, and dry season grazing land;
- **Hydrological**: ground water recharge and discharge, sediment trap and flood control; and
- **Cultural values**: traditional medicine for skin disease because of the hot springs and source of raw material for traditional mat making.

The area is also known for its biodiversity hosting a total of over 2700 macro invertebrates (belonging to 34 families in 10 orders) and 3000 birds belonging to 57 species (Melaku Getachew et al, 2011).

6.3. Socio-Economic Environment

A detailed socio-economic survey has been carried out in the immediate project site:
6.3.1. Population and Settlement

Based on the 2007 national census conducted by the Central Statistical Agency of Ethiopia (CSA), Kombolcha woreda has a total population of 85,367, of whom 41,968 are men and 43,399 women; 58,667 or 68.72% are urban inhabitants living in town of Kombolcha and the rest are living in rural kebeles around Kombolcha. The majority of the inhabitants (73.92%) were Muslim, while 23.44% and 2.32% were respectively were Ethiopian Orthodox and Protestant.(

The 1994 national census reported a total population for Kombolcha of 39,466 in 8,643 households, of whom 18,995 were men and 20,471 were women. The three largest ethnic groups reported in this town were the Amhara (91.34%), Tigrayan (5.85%), and the Oromo (1.29%); all other ethnic groups made up 1.52% of the population. Amharic was spoken as a first language by 93.02%, 5.2% Tigrinya, and 1.11% spoke Oromiffa; the remaining 0.67% spoke all other primary languages reported. The majority of the inhabitants were Muslim, with 57.42% of the population having reported they practiced that belief, while 41.71% of the population said they professed Ethiopian Orthodox Christianity.

The project site, i.e. the Kebele 3 market, has about 3,000 registered operators from Kombolcha and the surrounding villages and urban centres including Kemissie, Dessie, Tita, Haio, Degan and Bati. There are also thousands of farmers coming to the market to trade their belongings and buy the necessities.

6.3.2. Social Services

Education

The town has four elementary, two junior and one senior secondary school. The student section ratio in the primary (1-8) and secondary schools of the town is about 76 and 81, respectively (Kombolcha District Education Office, 2001: unpublished documents) compared to 56 and 63.4 for urban areas of Amhara Region (Amhara Region Planning and Economic Development Bureau, 2001:127-133).

Wollo University, Kombolcha Institute of Technology (KIOT) is established at Kombolcha and offering engineering courses at undergraduate level. KIOT is offering Mechanical Engineering, Textile Engineering, Electrical Engineering, Civil Engineering, Computer and Information Science courses etc. In addition, the town has one agricultural training center serving the whole of Amhara region and rural technology promotion center serving south Wollo and nearby administrative zones.

Health

From the point of view of health services, the town has no hospital and has limited number of government health center, 19 clinics (one governmental clinic), 5 physicians, 16 nurses and 30 health assistants (Kombolcha District Health Office, 2001: unpublished). The main health service problem in the town is the absence of hospital. Moreover, the existing government health center and clinic do not have the required level of facilities such as laboratory, medicine
etc. In the vicinity of the project area, a health centre shares a boundary with the market in the North side.

6.3.3. Industry, Commerce and Investment

Due to its location as a route center, cheap labour market, high consumption (surrounded by areas of high population density) and access to port, Kombolcha has attracted a number of private investors both foreign and domestic. In the 1994-1995 Ethiopian fiscal year a total of 76 investors have received investment permits either from the Ethiopian Investment authority or from Amhara National Regional State Investment Bureau to invest their capital in Kombolcha town. The figure includes only those projects with an investment capital of Birr 250,000 and above.

The Sectoral distribution of approved projects shows that the tertiary sector (trade and services) has the highest share in terms of number of projects (72.4 percent), followed by the secondary (manufacturing) sector which accounts for 19.7 percent. The primary (agricultural) sector amounts to 1.4 percent of the total number of approved projects. The remaining 6.6 percent are not stated by sector (Kombolcha Wereda Administration, Department of economic Affairs, April 2001: unpublished document). Fourteen investment projects in the industrial sector have been approved in the period between 1994 and 1999. They had a total investment capital of 371.5 million Birr.

6.3.4. Water supply, sanitation and electricity services

According to the report of Kombolcha wereda Administration, 93 percent of the town's population have access to clean water (Kombolcha Wereda Administration, 2000:11). The total number of water meters in the town increased from 1174 in 1991 to 2678 in the year 2000 (Kombolcha Wereda Water Service department 2001: unpublished documents). This shows an annual increase of 9.6 percent or 112.7 water meters were added annually. This growth rate is higher than the estimated annual average population growth rate of the town between 1994 and 2000 (4.92 percent). At present the ratio of housing units per water meter is about 3:1.

In 1995 and 2000 the annual water consumption of the town was 346,640 and 466,690 cubic meter (Ibid). This shows an annual increment of 21.1 thousand cubic meters or increased by 6.1 percent annually. The average daily water consumption for the town is about 1200 cubic meters for both residential and non-residential purposes. The annual average per-capita consumption for the town is 8.9 cubic meters.

In the context of the project site, the market at Kebele 3 is not served sufficiently with clean potable water. Moreover, the market is also served with one public latrine.

The percentage of housing units with electric meter (both private and shared) has increased from 70 percent in 1984 (OPHCC, 1991:339) to 90 percent in 1994 (CSA, 1995, Vol.l, Part V: 139). This indicates that the vast majority of the residents of the town have access to electric service as a source of lighting. The number of electric meters in 1995 both residential and non-residential was 3574 and 4189 in the year 2000 (Ethiopian Electric Light and Power Authority, Kombolcha District, 2001: unpublished documents). Only 615 electricity meters are added in 5 years with annual growth rate of 3.2 percent (114.4 electric meters annually) compared to the estimated annual population growth rate of 4.92 percent for the same period. In the context of the market site, the Kebele 3 market is also not sufficiently served with electric power.
6.3.5. Religious, Cultural, Historical and Archaeological Features

No visible archaeological remains, which have scientific, cultural, public, economic, ethnic and historic significances, have been observed in the area. The risk value of the project is very low, where no significant observable archaeological evidence is found. The sites have no archaeological importance. However, a Chance Find protocol will nevertheless be prepared to cover any unexpected finds.

To the South of the market site a church is situated. The sitting of the infrastructure development associated to the market upgrading project and the subsequent operation will not affect the Church.

7. ANALYSIS OF ALTERNATIVES

7.1. Alternatives to the Project (the No Project option)

The 'no project option' in EIA implies that the market upgrading project should not occur at the project site, due to the proposed locality's existing significant and substantial environmental, socio-economic, anthropological and/or other benefits. However, in the case of the Kebele 3 Market this was not a viable option since this site is already an open market where overall environmental, health, and safety conditions need to be improved (see pictures below). However, the environmental screening report of the City Administration and the associated comments from EPLAUA indicate that the environmental implications of the market activities on the Borkena River is a significant impact that would need to be addressed.
Picture 1: Direct liquid waste discharge in the market premises. Picture on the left shows the liquid waste generated from the market activities. This waste is discharged into an open field that is in close proximity to the wooden stalls (seen in the background) that are used by market/business operators. The picture on the right shows an open sewerage canal that is used for domestic discharges from adjacent neighbourhoods. This sewerage canal passes through the middle of the market.

7.2. Alternatives within the Project Context

7.2.1. Type of Infrastructure Development

The consideration of alternatives on the type of infrastructure development takes into account that the market upgrading project will encompass the construction of shelters and the development of access roads.

Shelter Construction

The alternatives considered with regards to the shelter construction were the following (i) basic shed, (ii) one-storey building, (iii) two-storey building, and (iv) multiple-storey building. The tables below provide details on the ranking undertaken in relation to the various options considered.

Table 2: The alternative shelter types considered and the associated rankings

<table>
<thead>
<tr>
<th>Aspect</th>
<th>Criteria</th>
<th>Building options</th>
<th>Justifications</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Basic Shed</td>
<td>One-storey</td>
</tr>
<tr>
<td>Building Size (no. of storeys)</td>
<td>Impact on the Borkena River</td>
<td>****</td>
<td>***</td>
</tr>
<tr>
<td></td>
<td>Ecosystem impacts</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Hygiene and</td>
<td>*</td>
<td>**</td>
</tr>
</tbody>
</table>

* The criteria were developed based on the existing and potential EHS and socio-economic implications observed during the site visit.

* For instance considering avian species, a high rise building can be a barrier that can fragment the species migratory route, while a basic shed with a larger built up surface area will use up all the space thereby restricting the development of a green area along the banks of the Borkena River.
<table>
<thead>
<tr>
<th>Aspect</th>
<th>Criteria†</th>
<th>Building options</th>
<th>Justifications</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Basic One- Two- Multi-</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>Shed storey storey storey</td>
<td></td>
</tr>
<tr>
<td>Sanitation</td>
<td></td>
<td></td>
<td>are generally not dictated by the building height. However, in general, in Ethiopia supplying water to multi-storey buildings tends to be a challenge.</td>
</tr>
<tr>
<td>Solid Waste Management</td>
<td>*</td>
<td>**</td>
<td>**</td>
</tr>
<tr>
<td>Socio-economic (affordability)</td>
<td>*</td>
<td>**</td>
<td>***</td>
</tr>
<tr>
<td>Socio-Economic (availability and functionality)</td>
<td>***</td>
<td>**</td>
<td>*</td>
</tr>
</tbody>
</table>

less to more impact and negative implication

In this context, three possible types of shelters were considered:

- **Multi-storey buildings (three storey and above)**
  - This option can bring about positive effects as it would:
    - Entail minimal displacement of existing market operators and vendors.
    - Accommodate more people using less space, thereby availing more land along the banks of the Borkena River for environmental rehabilitation work.
  - However, provided that it entails major negative impacts the alternative was not considered as a feasible option. The negative implications considered were:
    - the high investment required and as a consequence its affordability to the existing market vendors is in question,
• the requirement for a more elaborate civil work for such buildings, particularly deeper foundation work, which has potential negative implication on groundwater resources in the locality,

• **Two-storey buildings**: In general this scenario retains most of benefits of a multi-storey building, while reducing the associated negative implications stated above. Hence this was considered a feasible alternative, mainly for market vendors that were relatively well off and currently utilizing built-sheds for their day to day business operation. However, provided that such a modern buildings were not appropriate and affordable to all vendors, a basic shed was also considered as an alternative.

• **Improved basic-sheds**: Although it required more space to accommodate the required number of vendors, this alternative was considered to be more environment friendly and economically feasible for market operators that are currently using open-shed for their day-to-day market operation. Hence, the type of shelters that are to be constructed in the context of the market upgrading project will be two-storey buildings and improved basic-sheds. As a final remark, it is important to note that other factors including building orientation, natural lighting, aeration, etc should be considered in the design and construction of the shelter/building. Moreover, caution should be taken in the selection of construction materials that are less damaging to the environment.

**Access Infrastructure**

The construction of infrastructure would require the selection of construction material that will not have major implications on sensitive environmental amenities of the locality. For instance, the use of asphalt material will have important implication on the local wetland and groundwater systems and watersheds. Thus, alternatives should focus on access roads that use cobblestones or similar alternative options that have less environmental impact.

**7.2.2. Physical Sitting of the Infrastructure Development**

In considering the physical placement of the shelters and access roads to be constructed, it is important to balance the possible EHS implications of the infrastructure developed with its functionality. In this context, the EIA team, in collaboration with design team has developed the following land use plan taking into account the need to move highly polluting activities from the Borkena River and the need to rehabilitate its banks. Considerations were also given to create a ‘green’ access route (pedestrian and pack animal route) to the market. In Figure 2 below the existing and proposed market land-use for the Kebele 3 Market is presented. The proposed land use tries to address the pertinent environmental considerations.
Figure 6: The Current land use at the Kebele 3 Market (figure on the left) and the proposed land use which takes into account pertinent environmental implications (figure on the right). Further details on the proposed land use plan and the market upgrading design is found in the market upgrading design report.
8. ENVIRONMENTAL IMPACT ASSESSMENT

8.1. Positive Implications

The project will improve the existing environmental, health and safety challenges of the markets as it will:

- Standardize and improve the infrastructure for market operation which currently uses makeshift shelter and deteriorated buildings which are unhygienic and disease prone,

- Improve the access road for vehicle and pedestrian transport which currently is below standard

- Increase latrine coverage within the market which currently is non-existent,

- Improve the storm water drainage system as a result of the inadequacy of which the market has been flood prone

- Improve the solid waste collection infrastructure which currently is non-existent,

- Set the platform for the improvement of municipal services including the provision of potable water supply, electricity, telephone and other amenities of a modern market.

- Provide employment to numerous construction workers of the city.

8.2. Negative Impacts

8.2.1. Air pollution, noise and vibration

The construction activities that will be undertaken in the context of the market will bring about impacts pertaining to air quality, noise and vibration. Similarly there are also anticipated indoor and ambient air quality and noise impacts resulting from the operation aspect of the market. Impacts associated to the operation aspects will result mainly from (i) grain milling and transportation activities.

At the present, wood and metal workshops situated in the market premise also release air pollutants. The project proposes to relocate semi-manufacturing activities such as wood and metal workshops which do not fit well into the existing market operation to an appropriate location outside the market. This is particularly important considering environmental, health and safety implications of such operations in a market area where predominantly edible products are being sold. Regarding grain mills the project proposes the establishment of a vegetation cover as a screen between the grain mills and other areas of the market. Speed control will be an important aspect for reducing transport vehicle related dust generated during the operation phase of the project

8.2.2. Surface Water
In the market vicinity the main environmental challenge observed was the impact on the Borkena River. Currently the Borkena River is highly impacted due to the alteration of the river course which partly is a result of quarrying and cobblestone making activities on the banks of the Borkena in the vicinity of the market, which in turn is creating borrow pits and barriers. The alteration of the river course due to these physical impediments contributed to an increase in the incidences of floods associated to the Borkena River. For instance, in the vicinity of the market a series of floods have been reported to have occurred, possible a result of the alteration of the Borkena river course.

Regarding water quality, currently the market is served with only one public latrine which is insufficient for the over 3,000 market vendors and the thousands of consumers that come to the market on major market days (on Wednesdays and Saturdays). Hence, the Borkena River banks (the River shares boundary with the market) is being used as an open sewer. Moreover, there is an open sewage canal containing fecal and other wastewater draining directly into the River. Wastewater, which is being drained directly to the Borkena, is also being generated from:

- small scale processing of wood and metal products in workshops located within the market,
- the current abattoir, which is situated in close proximity to the market,
- Various solid and liquid waste discharges from market activities.

In Picture 2 and 3 the issues associated to the Borkena River course alteration and pollution are presented.

*Picture 2: The West end of the Kebele 3 Market, which shares a boundary with the Borkena River. This area is prone to flooding from time to time.*
Discharge from the abattoir which has been active up until recently. This discharge flows directly into the Borkena River. The Kombolcha City Administration plans to move the abattoir to another location and in line with this has recently developed a project.

8.2.3. Impact of Traffic Volume during construction and operation

Currently, the market is accessible on foot for many consumers with the main vehicle transport being the three-wheeled motorcycles known as Bajajs. Moreover, since the market depends on farmers residing in Kombolcha and the surroundings for agricultural products, there is an extensive use of animals, including horses, donkeys and camel for transportation.

Considering that there is limited vehicular access to the market traffic may be highly congested during the construction phase due to increase in traffic volume. However, with phase-by-phase implementation of the project, traffic congestion can be better reduced. Moreover, with initial pre-construction site preparation vehicular access can also be increased to accommodate the increase in traffic flow. Similarly, during the operation phase of the project the proposed improvement in infrastructure for traffic flow and the establishment of vehicular parking area will be able to accommodate the anticipated increase in traffic.

8.2.4. Impact on public infrastructure

Currently the market is characterized by old and deteriorated buildings and infrastructure. To this end, the City’s Local Development Plan recommends the improvement of the existing infrastructure. Hence the project will have little impact on public infrastructure. However, consideration will be made to improve to ensure that the community that is residing in these buildings is either appropriately compensated or accommodated within the improved infrastructure proposed by the project.
8.2.5. Impact on soil

At the present, the main impact on soil results from solid and liquid waste that is being released to the environment unabated. Without the proper measures, these unabated wastes may continue to be a concern during the construction phase of the project. However, during operation several measures have been proposed to reduce the solid and liquid waste that is being released directly to the environment.

8.2.6. Impact on Ecosystem

Terrestrial Habitat

Habitat alteration and impact on the ecosystem is a potential threat that is associated with any development undertaking. Habitat alteration may occur as a direct consequence of a project undertaking, for example due to the cutting of trees or the drying up of streams and wetlands for infrastructure development or as an indirect consequence (for instance, due to the creation of a major market that increases demand for fuel-wood, charcoal or other detrimental products).

As per the EIA team's observation, the proposed market areas sparsely vegetated. In general, eucalyptus is the dominant type of tree in the vicinity of the market. With regard to the terrestrial ecosystem, the construction phase of the project may result in the cutting of trees in order to clear the required land or for use as a construction input including as scaffolding material. Moreover, the proposed project might also have indirect implications on the terrestrial ecosystem as the market will sell timber and charcoal fuel-wood. In fact, the market was observed to host a thriving timber trade. The timber source encompasses the rural areas around Kombolcha.

Aquatic Habitat and Wetlands

The Borkena River feeds into the ecologically diverse Cheffa wetlands situated about 100 kms south of Kombolcha. According to Seifu Bekele (2011) the wetland has a range of uses including:

- **Socioeconomic benefits**: as a source of wood, and sedge for construction, water supply for domestic use, crop farming, and dry season grazing land;
- **Hydrological**: ground water recharge and discharge, sediment trap and flood control; and
- **Cultural values**: traditional medicine for skin disease because of the hot springs and source of raw material for traditional mat making.

The area is also known for its biodiversity hosting a total of over 2700 macro invertebrates (belonging to 34 families in 10 orders) and 3000 birds belonging to 57 species (Melaku Getachew et al, 2011). A study undertaken to design a management plan for the Cheffa wetlands identified pollution in upstream locations (including the pollution load in the Borkena...
River from tanning and textile factories in Kombolcha), expansion of cultivation, overgrazing, wasteful use of water from feeder streams and conflict over limited grazing resource as reasons for the wetland’s degradation. Siltation due to land degradation and agricultural expansion is also an important threat to the Cheffa wetlands (Seifu Bekele, 2011).

In the context of the project, it is important to point out that the Market Upgrading Project will have little implication on the ecological integrity of the Cheffa Wetland. However, taking into account the ecological sensitivity of the Cheffa Wetland and in line with the observed impacts of the wetland, as a result of the pollution of the Borkena River, it is important to ensure that the project contributes towards the alleviating the pollution load in the River.

8.2.7. Solid Waste

Non Hazardous Solid Waste

Solid waste is an important environment and health challenge, which is associated to the operation phase of the project. The main types of solid waste generated from the market are organic food wastes, containers of products, plastic bags, paper, etc. The market upgrading design incorporates sufficient solid waste collection bins. Recommendations are also made for improving the existing solid waste collection and disposal system, which needs to be more efficient and effective.

Hazardous Waste

In general, the hazardous waste generated is highly limited taking into account that a major share of the items being sold in the market are edible products. However, containers of pesticides and insecticides, waste oil and grease containers and scrapped automobile batteries were observed. Moreover, containers of hazardous waste were observed to be used for unintended purposes including use as measuring containers for grain and edible oil. The project proposes to address the hazardous waste issue by:

- relocating to appropriate locations semi-processing activities, like metal and wood workshops which require as inputs hazardous wastes like used oil containers and scraped automobile batteries for their operation,
- developing an operational guideline for food safety and hygiene which prohibits the use of containers of hazardous products as measuring containers for edible items,
- Putting in place solid waste containers delegated specifically for hazardous solid wastes.

The project also proposes the implementation of regular awareness trainings to market vendors on the environmental and health implication of hazardous wastes and the measures that would need to be put in place to reduce the associated implications.

8.2.8 Human Health and Safety

Health Implications

Some of the health aspects that should be considered during market development and upgrading include impacts on water quality; inadvertent development of new vector breeding
sites, and the potential for transmission of communicable diseases such as respiratory and sexually transmitted infections as a result of the high influx of people.

During the site visit to the Kebele 3 market, the following issues were noted as activities that will have consequent health implications:

- The use of untreated water for domestic purposes due to the absence/limited coverage of municipal water supply,
- The use of empty containers that initially contained hazardous materials as containers for food and drinking water
- Wood and metal processing activities being undertaken in close proximity to food and other edible products stands at the market
- Very limited availability of latrines and
- Possible spread of malaria, particularly due to the stagnant water which serves as a breeding ground for the malaria vector.
- Breeding of disease vectors due to the lack of a systematic collection mechanism for the solid waste generated.

Implications on Safety

Safety aspects to consider in relation to the current development project relate to:

- General health and safety: this is mainly concerned with the development of overall health and safety and emergency response plans, taking into account the different activities that will be taking place at the market
- Passages: the identification of existing narrow corridors which might cause accidents, and developing a procedure for the use of these spaces in a manner that would not compromise easy passage in emergency situations
- Physical hazards: the identification and mitigation of accidents related to hazardous types of work
- Noise, vibration and dust: the management of excessive noise, vibrations and dust.

During the site visits made, a number of shortcomings were observed with regards to the abovementioned safety aspects including:

- Narrow passages compromising the easy movement of people
- Absence of fire control equipments, and
- High level of noise and dust due to grain milling activities
8.3. Impact on Socio-Economic Environment

8.3.1. Impact on Settlement and loss of income generated

Impact associated to settlement and loss of income generated in the Resettlement Action Plan document that has been prepared for the same project.

8.3.2. Loss of sites of religious, historical and archaeological value

No visible archaeological remains, which have scientific, cultural, public, economic, ethnic and historic significances, have been observed in the area. The risk value of the project is very low, where no significant observable archaeological evidence is found. The sites have no archaeological importance.

To the South of the market site a church is situated. The sitting of the infrastructure development associated to the market upgrading project and the subsequent operation will not affect the Church.

8.4. Impact Analysis

The criteria adopted for identifying the significance of impact assessment takes into account the probability of occurrence and severity of an impact. A detail of the qualitative assessment approach is presented below:

<table>
<thead>
<tr>
<th>PROBABILITY</th>
<th>Very Low</th>
<th>Low</th>
<th>Medium</th>
<th>High</th>
<th>Very High</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Occurred in globally but not in similar projects.</td>
<td>Has occurred in other group of projects.</td>
<td>Has occurred in specific group of companies.</td>
<td>Happens several times per year in specific group of companies.</td>
<td>Happens several times per year in similar projects.</td>
</tr>
<tr>
<td></td>
<td>Almost impossible for this site.</td>
<td>Slight probability but no occurrence observed for this site.</td>
<td>Probable or frequent for this type of project but very few occurrences observed for this site.</td>
<td>Highly probable for this type of project and several occurrences observed for this site.</td>
<td>Regular occurrence.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SEVERITY</th>
<th>Catastrophic (Very high)</th>
<th>Severe (High)</th>
<th>Critical (Medium)</th>
<th>Marginal (Low)</th>
<th>Negligible (Very Low)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Medium</td>
<td>Low - Medium</td>
<td>Low</td>
<td>Very Low - Low</td>
<td>Very Low - Low</td>
</tr>
<tr>
<td></td>
<td>Medium-High</td>
<td>Medium</td>
<td>Low-Medium</td>
<td>Low-Low</td>
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</tr>
<tr>
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<td>Medium-High</td>
<td>Medium-High</td>
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</tr>
<tr>
<td></td>
<td>High-Very High</td>
<td>High</td>
<td>Medium-High</td>
<td>Medium</td>
<td>Low-Medium</td>
</tr>
<tr>
<td></td>
<td>Very High</td>
<td>High-Very High</td>
<td>Medium - H</td>
<td>Medium</td>
<td>Medium</td>
</tr>
</tbody>
</table>

36
SIGNIFICANCE = SEVERITY (X) PROBABILITY

<table>
<thead>
<tr>
<th>Lesser Significance</th>
<th>SIGNIFICANCE</th>
<th>SEVERITY</th>
<th>PROBABILITY</th>
</tr>
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<tbody>
<tr>
<td>Very Low Significance</td>
<td>Very Low</td>
<td>Very Low</td>
<td></td>
</tr>
<tr>
<td>Between Very Low and Low Significance</td>
<td>Very Low</td>
<td>Low</td>
<td></td>
</tr>
<tr>
<td>Low Significance</td>
<td>Very Low</td>
<td>Medium</td>
<td></td>
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<tr>
<td></td>
<td>Low</td>
<td>Low</td>
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<tr>
<td></td>
<td>Medium</td>
<td>Very Low</td>
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</tr>
<tr>
<td>Between Low and Medium</td>
<td>Very Low</td>
<td>High</td>
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<td></td>
<td>Low</td>
<td>Medium</td>
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<td>High</td>
<td>Very Low</td>
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<tr>
<td>Medium</td>
<td>Very Low</td>
<td>Very High</td>
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<td>Low</td>
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<td>High</td>
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<tr>
<td></td>
<td>Very High</td>
<td>Very Low</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Higher Significance</th>
<th>Between Medium and High</th>
<th>Nature</th>
<th>Duration</th>
<th>Probability</th>
<th>Degree of implication</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>Adverse</td>
<td>Short term</td>
<td>Medium</td>
<td>Medium</td>
<td>Low</td>
<td>Medium</td>
</tr>
<tr>
<td>Medium</td>
<td>Adverse</td>
<td>Short term</td>
<td>Medium</td>
<td>Medium</td>
<td>Low</td>
<td>Low-medium</td>
</tr>
<tr>
<td>High</td>
<td>Adverse</td>
<td>Short term</td>
<td>Medium</td>
<td>Medium</td>
<td>Low</td>
<td>Medium</td>
</tr>
<tr>
<td>Very High</td>
<td>Adverse</td>
<td>Short term</td>
<td>Medium</td>
<td>Medium</td>
<td>Low</td>
<td>Medium</td>
</tr>
<tr>
<td>High</td>
<td>Adverse</td>
<td>Short term</td>
<td>Medium</td>
<td>Medium</td>
<td>Low</td>
<td>Medium</td>
</tr>
<tr>
<td>Very High</td>
<td>Adverse</td>
<td>Short term</td>
<td>Medium</td>
<td>Medium</td>
<td>Low</td>
<td>Medium</td>
</tr>
<tr>
<td>Very High</td>
<td>Adverse</td>
<td>Short term</td>
<td>Medium</td>
<td>Medium</td>
<td>Low</td>
<td>Medium</td>
</tr>
<tr>
<td>Very High</td>
<td>Beneficial</td>
<td>Short term</td>
<td>Medium</td>
<td>High</td>
<td>Medium</td>
<td>Medium-High</td>
</tr>
</tbody>
</table>

The qualitative impacts of the proposed project during construction and operation phases are summarized below.

Table 3: Environmental Effect Rating Matrix

<table>
<thead>
<tr>
<th>Particulars</th>
<th>Nature</th>
<th>Duration</th>
<th>Probability</th>
<th>Degree of implication</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Air Quality</td>
<td>Adverse</td>
<td>Short term</td>
<td>Medium</td>
<td>Medium</td>
<td>Medium</td>
</tr>
<tr>
<td>Noise level</td>
<td>Adverse</td>
<td>Short term</td>
<td>Medium</td>
<td>Medium</td>
<td>Low</td>
</tr>
<tr>
<td>Water Resources/ water quality</td>
<td>Adverse</td>
<td>Short term</td>
<td>Medium</td>
<td>Medium</td>
<td>Low</td>
</tr>
<tr>
<td>Wastewater</td>
<td>Adverse</td>
<td>Short term</td>
<td>Medium</td>
<td>Medium</td>
<td>Medium</td>
</tr>
<tr>
<td>Solid waste</td>
<td>Adverse</td>
<td>Short term</td>
<td>Medium</td>
<td>Medium</td>
<td>Medium</td>
</tr>
<tr>
<td>Ecology</td>
<td>Adverse</td>
<td>Short term</td>
<td>Medium</td>
<td>Medium</td>
<td>Low</td>
</tr>
<tr>
<td>Traffic movement</td>
<td>Adverse</td>
<td>Short term</td>
<td>Medium</td>
<td>Medium</td>
<td>Medium</td>
</tr>
<tr>
<td>Socio-Economic and</td>
<td>Beneficial</td>
<td>Short term</td>
<td>Medium</td>
<td>High</td>
<td>Medium</td>
</tr>
<tr>
<td>Particulars</td>
<td>Effect Rating</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-----------------------------</td>
<td>---------------</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nature</td>
<td>Duration</td>
<td>Probability</td>
<td>Degree of implication</td>
<td>Significance</td>
<td></td>
</tr>
<tr>
<td>Employment</td>
<td>Operational Phase</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Air Quality</td>
<td>Adverse</td>
<td>Long term</td>
<td>Medium</td>
<td>Low</td>
<td>Low-Medium</td>
</tr>
<tr>
<td>Noise Level</td>
<td>Adverse</td>
<td>Long Term</td>
<td>Medium</td>
<td>Low</td>
<td>Low-Medium</td>
</tr>
<tr>
<td>Traffic Movement</td>
<td>Adverse</td>
<td>Long term</td>
<td>Medium</td>
<td>Medium</td>
<td>Medium</td>
</tr>
<tr>
<td>Water resources/ water quality</td>
<td>Adverse</td>
<td>Long term</td>
<td>Medium</td>
<td>High</td>
<td>Medium-High</td>
</tr>
<tr>
<td>Wastewater</td>
<td>Adverse</td>
<td>Long term</td>
<td>Medium</td>
<td>High</td>
<td>Medium-High</td>
</tr>
<tr>
<td>Solid waste</td>
<td>Adverse</td>
<td>Long term</td>
<td>Medium</td>
<td>High</td>
<td>Medium-High</td>
</tr>
<tr>
<td>Ecology</td>
<td>Adverse</td>
<td>Long term</td>
<td>Medium</td>
<td>Low</td>
<td>Low-Medium</td>
</tr>
<tr>
<td>Employment and economic growth</td>
<td>Beneficial</td>
<td>Long Term</td>
<td>Medium</td>
<td>High</td>
<td>Medium-high</td>
</tr>
</tbody>
</table>

9. MITIGATION MEASURES

The mitigation measures for the identified impacts during the construction and operation phases are described below.

9.1. Construction phase

Air Quality

During the construction phase of the project the main air quality impacts will be dust and particulates generated from construction and transportation activities. The following recommendations are proposed to reduce impacts from such pollutants:

- implementing a system for dust suppression including water spraying to reduce dust during construction,
- defining and implementing a lower speed limit for construction trucks and equipments,
- Availing personal protective equipments to exposed persons and ensuring that these protective equipments are used.

Noise Level

Elevated noise will be an important impact during the construction phase of the project. To this end, the main noise mitigation measure recommended:

- Availing personal protective equipments to exposed persons and ensuring that these protective equipments are used.
- Scheduling the use of high noise level equipments at a less busy period

Impact on Water Quality

Considering that both domestic wastewater and wastewater from construction activities will result in significant impacts during the construction phase of the project, the following mitigation measures are recommended:
• Provision of sufficient latrines, the wastewater from which will be let into septic tanks.
• Establishment of a system for used oil collection which can be put into productive use during construction

Solid Waste

Construction activities will also generate substantive waste including containers of construction inputs. The project recommends the following mitigation measures in this regard:
• Put in place sufficient solid waste collection bins.
• Improve the existing solid waste collection and disposal system, which needs to be more efficient and effective.
• Put in place solid waste collection bins delegated specifically for hazardous solid wastes.
• Construct (using drums) waste incinerators and ensure their proper use for waste disposal

Wastewater

During construction domestic and construction related wastewater will be an issue that would need to be addressed. In this context, the project recommends the following:
• Construct a temporary retention/collection system of wastewater parallel to the Borkena, which will prohibit its direct flow to the River.
• Provide sufficient latrines with septic tanks (i.e. wastewater from latrines will be let into septic tanks the overflow from which will be connected to the wastewater collection mains).

Ecology

In general the site preparation work during construction activities requires the removal of vegetation cover. However, in the context of this project vegetation removal without later compensation should be totally avoided.

Traffic Movement

In cases where sufficient infrastructure is not availed, traffic movement during construction activities can be congested and accident prone. In this regard, the project proposes the following:
• Prepare the site for vehicular access that is required during construction phase,
• Define speed limit to ensure safety during the movement of transportation trucks

9.2. Operation phase

Air Quality

During the operation phase of the project the main air quality impacts will be dust and particulates generated from grain milling activities and transportation. At the present pollutants are also observed from wood and metal workshops situated in the vicinity of the market. The following recommendations are proposed to reduce impacts from such pollutants:
• To relocate semi-manufacturing activities such as wood and metal workshops that do not fit well into the existing market operation to an appropriate location outside the market.
• to develop a vegetation cover as a screen between the grain mills and other areas of the market, and
• to define and implement a lower speed limit for transport trucks,
• to avail dust masks to workers in grain mills

Noise Level

Elevated noise will be an important impact during the operation phase of the project. To this end, the main noise mitigation measure recommended is to avail personal protective equipments to exposed persons and ensuring that these protective equipments are used.

Impact on Water Quality

In this context, the market upgrading design proposes measures for improving the market's sanitation and hygiene conditions and for reducing water pollution. The proposed measures include:

• Availing sufficient public latrines, the wastewater from which will be let into septic tanks. The overflow from the septic tanks will be connected to the wastewater collection mains.
• establishing a buffer zone (green area) between the market and the Borkena River, which will serve the purpose of retaining/removing pollutants from the wastewater draining directly into the River,
• Constructing a canal parallel to the Borkena, which will prohibit the direct flow of pollutants into the River. It is also anticipated that this drainage canal will be part of a larger network of similar canals that should be built to feed municipal wastewater to the city wastewater treatment plant that would need to be constructed by the City Administration in the near future,
• Relocating polluting activities which are inherently incompatible with the market activities. These activities include semi-processing activities like wood and metal workshops.

Solid Waste

In this regard it is recommended that:

• Sufficient solid waste collection bins be put in place.
• Solid waste collection and disposal system in the market vicinity be improved
• Solid waste collection bins for hazardous solid waste be designated in the market premise,

Wastewater

To this end, the recommendations are:

• To avail sufficient public latrines,
• To establish a buffer zone (green area) between the market and the Borkena River, which will serve the purpose of retaining/removing pollutants from the wastewater draining directly into the River,
• To construct a canal parallel to the Borkena that will prohibit the direct flow of pollutants into the River. It is anticipated that this drainage canal will be part of a larger network of similar canals that should be built to feed municipal wastewater to the city wastewater treatment plant that would need to be constructed by the City Administration in the near future,
• To relocate wastewater generating activities which are inherently incompatible with the market activities, including semi-processing activities like wood and metal workshops.

Ecology

Regarding terrestrial ecosystem the mitigation measures to be implemented are to plant vegetation in the vicinity of the market. This vegetation cover will also have additional environmental benefits of screening dust and air pollutants and to as buffer to reduce the pollution of the Borkena. Moreover, there is also a need to regulate charcoal and timber stands within the market ensuring that these products are not from unsustainable sources.

Although there is terrestrial and aquatic species within the market considering that the market potentially contributes to the destruction ecological hotspots in the surrounding Kombolcha, there is a need to reduce the pollution of the Borkena River. To this end, the mitigation measures recommended under impact on water quality also apply here.

Traffic Movement

In this regard, the proposed mitigation measures are to avail sufficient vehicle passages, loading and unloading areas, and parking area.

Impact on health and safety

In the context of health and safety the recommended mitigation measures are:
• to regulate the food hygiene and ensure that hazardous containers are not used food preparation and distribution,
• to avail fire fighting equipments in case of such hazards,
<table>
<thead>
<tr>
<th>Project Stage</th>
<th>Potential Impact</th>
<th>Main Source of Risk</th>
<th>Mitigation Measures</th>
<th>Responsibility</th>
<th>Cost</th>
</tr>
</thead>
</table>
| Construction  | Air Quality      | Transport trucks, Construction machinery, other construction activities | • Implement a system for dust suppression (water spraying)  
• A speed limit to be defined for transportation trucks to reduce dust generation  
• Construction workers will be provided with dust masks to reduce exposure | Kombolcha City Administration; Building Contractor | 1,000 ETB/month (this is part of the project operational cost) |
|               | Noise level      | Transport trucks, Construction machinery, other construction activities | • Construction workers will be provided with ear plugs and ear mufflers.  
• Scheduling the use of high noise level equipments at a less busy period. | Kombolcha City Administration; Building Contractor | 10,000 – 15,000 ETB (cost for procurement of PPEs and training of personnel) |
|               | Water Resources/ water quality | Domestic  
Wastewater from construction activities | • Sufficient latrines will be provided  
• An established system for used oil collection will be put in place | Kombolcha City Administration; Building Contractor | 10,000 ETB (for 5 mobile lavatories)  
2000 ETB (for the procurement of drums for used oil collection) |
|               | Solid waste      | Containers of products, scrap metal | • Put in place sufficient solid waste collection bins.  
• Improve the existing solid waste collection and disposal system, which needs to be more efficient and effective.  
• Put in place solid waste collection bins delegated specifically for hazardous solid wastes.  
• Construct (using drums) waste incinerators and ensure their proper use for waste disposal | Kombolcha City Administration; Building Contractor | 10,000 (for the procurement of dust bins)  
1,500 (for constructing a temporary incineration facility) |
|               | Wastewater       | Used oil and grease containing wastewater  
Domestic Wastewater. | • Construct a temporary retention/collection system for wastewater parallel to the Borkena in order to prohibit its direct flow to the River.  
• Provide sufficient latrines with septic tanks (i.e. wastewater from latrines will be let into septic tanks the overflow from which will be connected to the wastewater collection mains) | Kombolcha City Administration; Building Contractor | 15,000 ETB (for a temporary retention facility) |
<table>
<thead>
<tr>
<th>Project Stage</th>
<th>Potential Impact</th>
<th>Main Source of Risk</th>
<th>Mitigation Measures</th>
<th>Responsibility</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ecology</td>
<td>Site preparation in the market area</td>
<td>• Avoid vegetation removal and if necessary ensure that this is compensated for.</td>
<td>Kombolcha City Administration; Building Contractor</td>
<td>Negligible cost</td>
<td></td>
</tr>
<tr>
<td>Traffic movement</td>
<td>Transport trucks, Construction machinery.</td>
<td>• Prepare the site for vehicular access during construction • Define speed limit to ensure safety during the movement of transportation trucks</td>
<td>Kombolcha City Administration; Building contractor</td>
<td>Cost should integrated as part of the construction budget</td>
<td></td>
</tr>
<tr>
<td>Operation</td>
<td>Air Quality</td>
<td>• Grain mills • Wood and metal workshops • Transport trucks</td>
<td>• Relocate semi-manufacturing activities such as wood and metal workshops that do not fit well into the existing market operation to an appropriate location outside the market. • Develop a vegetation cover as a screen between the grain mills and other areas of the market, and • Define and implement a lower speed limit for transport trucks, • Avail dust masks to workers in grain mills</td>
<td>Kombolcha City Administration; Business operators</td>
<td>Financial compensation for affected infrastructure (i.e. workshops) which will be limited as the workshops are built using corrugated iron sheets which can be moved. 5,000 ETB for vegetating the area</td>
</tr>
<tr>
<td>Noise Level</td>
<td>Grain mills</td>
<td>• Avail personal protective equipments to exposed persons and ensure that these protective equipments are used</td>
<td>Kombolcha City Administration; Business operators</td>
<td>10,000 ETB for personal protective equipments procurement</td>
<td></td>
</tr>
<tr>
<td>Traffic Movement</td>
<td>Throughout the market</td>
<td>• Avail sufficient vehicle passages, loading and unloading areas, and parking area</td>
<td>Kombolcha City Administration; Business operators</td>
<td>Cost should integrated as part of the construction budget</td>
<td></td>
</tr>
<tr>
<td>Water resources/ water quality</td>
<td>Domestic and other sold and liquid wastes</td>
<td>• Avail sufficient public latrines with septic tanks. • establish a buffer zone (green area) between the market and the Borkena River to reduce wastewater draining directly into the River, • Construct a canal parallel to the Borkena, which will prohibit the direct flow of pollutants into the River. • Relocate polluting activities which are inherently incompatible with the market activities. These activities include semi-processing activities like wood and metal workshops.</td>
<td>Kombolcha City Administration</td>
<td>Up to 100,000 ETB for public latrine and septic tank construction Up to 25,000 ETB for the establishment of a buffer zone.</td>
<td></td>
</tr>
<tr>
<td>Project Stage</td>
<td>Potential Impact</td>
<td>Main Source of Risk</td>
<td>Mitigation Measures</td>
<td>Responsibility</td>
<td>Cost</td>
</tr>
<tr>
<td>---------------</td>
<td>-----------------</td>
<td>-------------------------------------</td>
<td>-------------------------------------------------------------------------------------</td>
<td>-----------------------------------------</td>
<td>--------------------------</td>
</tr>
<tr>
<td>Wastewater</td>
<td>Domestic and other sources</td>
<td>• Same as mitigation described under impact on water resources/water quality</td>
<td>Kombolcha City Administration</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Solid waste</td>
<td>-</td>
<td>• To put in place sufficient solid waste collection bins.</td>
<td>Kombolcha City Administration</td>
<td>Up to 30,000 ETB for solid waste collection bins</td>
<td></td>
</tr>
<tr>
<td></td>
<td>-</td>
<td>• To improve the solid waste collection and disposal system in the market vicinity</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>-</td>
<td>• To designate solid waste collection bins for hazardous solid waste.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ecology</td>
<td>-</td>
<td>• Increase vegetation cover within the market</td>
<td>Kombolcha City Administration</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td></td>
<td>-</td>
<td>• Regulate the wood and charcoal stands in the market and ensure that these are not from unsustainable sources</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>-</td>
<td>• Reduce pollution of the Borkena thereby reducing the potential impact on species in the ecologically rich areas in close proximity to Kombolcha</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Health and Safety</td>
<td>-</td>
<td>• Regulate the food hygiene and ensure that hazardous containers are not used food preparation and distribution, Avail fire fighting equipments in case of such hazards</td>
<td>Kombolcha City Administration Business Operators</td>
<td>Up to 15,000 ETB for firefighting equipment procurement and installation</td>
<td></td>
</tr>
</tbody>
</table>
10. PUBLIC CONSULTATION

The Constitution of FDRE highlights the importance of Public Consultation in connection with development projects as per article 92 of Chapter 10 (which sets out national policy principles and objectives), which specifies: "People have the right to full consultation and to the expression of their views in the planning and implementation of environmental policies and projects that affect them directly."

The Environmental Policy of Ethiopia (EPE) and the Environmental Impact Assessment Proclamation and related procedures recognise the need for the consultation of the public during the establishment and undertaking of a development project.

Regarding public consultation, the consultants’ undertook a number of focus group discussions with various actors between May – August 2012. Moreover, a wider consultation of the public was undertaken on 12 October 2012. This consultation was held at the Kebele 3 meeting hall on 12 October 2012 and was attended by around fifty members of the community, representing various traders in the market (the list of attendees is found enclosed in Appendix 4). Similarly, various representatives of government were also present at the meeting to identify and/or respond to the pertinent comments of the community. The meeting was chaired by Ato Wondwossen, a member of the Kombolcha City Administration Cabinet.

The Consultation started with a brief presentation of the Consultant on the findings of the EIA study and the identified/proposed mitigation measures for alleviating the existing environmental impact in the market vicinity and the anticipated environmental impacts that will result from the implementation of the project.

The main concerns/issues raised by participants were the following:

- Considering the land constraint for implementing the market upgrading project, how would the proposed greening of the Borkena River bank happen as this intervention will require land, which is limited?
- Considering that the area for the market upgrading project encompasses the waste disposal facilities of a nearby Health Centre, what would be done to ensure that this disposal facility is compensated for, in line with the legal requirements of the Country?
- What has the project considered in improving the existing waste management practice in the immediate market and its vicinity as this is currently an important challenges faced by market operators?
- What are the accessibility options that are considered as the market can be currently difficult to access both for pedestrians and vehicles?

The officials of the municipality and the consultant noted these pertinent comments and responded to some of the issues raised:
• Regarding land constraint for implementing the environmental rehabilitation measures on the banks of the Borkena, the consultant and municipality officials highlighted that the market upgrading project has designed different type of shelters for the market activity taking into account the land requirement and economic realities of the community. To this end, some of the proposed buildings (which are two storey buildings) can accommodate more people using little space, thereby availing open area for greening the banks of the Borkena River.

• Regarding the medical waste disposal facilities which are to be affected due to the implementation of the project, it was pointed out that if the project is to affect these facilities, then it will avail comparable land and compensation for the re-construction of health care waste facilities in line with the dictates of the Ethiopian laws.

• Regarding solid and liquid waste management it was highlighted that various solid waste bins were considered in the design. Moreover, sewerage canals which are connected to septic tanks are availed to address the liquid waste issue.

• Regarding accessibility it was pointed out that a footpath which uses cobblestone will be constructed in the earlier phase of the project to improve accessibility. It was further pointed out that the design considers access to disable people and also vehicular access (road) and parking space within the market.

Apart from the aforementioned discussion points the participants highlighted the need to make an effective use of the community radio which focuses on environmental protection and the mitigation of associated hazards.
11. ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN

The Environmental and Social Management Plan (ESMP) is aimed at mitigating the possible adverse impact of the project and ensuring the maintenance of the existing environmental quality. The ESMP covers all aspects of including the planning, construction and operation of the market. It is essential to implement the ESMP right from the planning stage and continuing the process throughout the construction and operation stage.

The ESMP:

- Draws together the measures proposed to mitigate environmental impacts, and group them logically into components with common themes;
- Defines the specific actions to be taken, roles and responsibilities for these actions, timetables for implementation, and associated costs; and
- Describes the contingency planning and training requirements for the implementation of the ESMP.

The ESMP consists of environment, health and safety issues identified thematically in the EIA report. Cross cutting topics are also addressed as individual element. A summary of the EMP is presented in the table below and provides a logically grouped task list that would enable the implementation of the mitigation measures developed for the significant impacts identified in the context of the project.
### Table 7: Environment Management Plan for the Kombolcha Kebele3 Market

<table>
<thead>
<tr>
<th>Project Stage</th>
<th>Impact</th>
<th>Mitigation Measures</th>
<th>Parameters to be monitored</th>
<th>Location</th>
<th>Monitoring method</th>
<th>Frequency</th>
<th>Responsibility</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction</td>
<td>Air Quality</td>
<td>• Implement a system for dust suppression (water spraying) • A speed limit to be defined for transportation trucks to reduce dust generation • Construction workers will be provided with dust masks to reduce exposure</td>
<td>Dust (generation and release)</td>
<td>The construction site</td>
<td>Visual inspection, audits, photographic documentation and interviews</td>
<td>Quarterly (every 3 months)</td>
<td>City Administration</td>
<td>1000 – 2000 ETB per audit</td>
</tr>
<tr>
<td>Construction</td>
<td>Noise</td>
<td>• Construction workers will be provided with ear plugs and ear mufflers. • Scheduling the use of high noise level equipments at a less busy period</td>
<td>Noise level, use of PPEs</td>
<td>The construction site</td>
<td>Analytical measurement, visual inspection</td>
<td>Quarterly (every 3 months)</td>
<td>City Administration</td>
<td>5,000 ETB to procure noise meter</td>
</tr>
<tr>
<td>Construction</td>
<td>Water resources/water quality</td>
<td>• Sufficient latrines will be provided • An established system for used oil collection will be put in place</td>
<td>Oil content, suspended solids, BOD, COD, metals</td>
<td>Groundwater wells, Borkena River,</td>
<td>Sampling and analysis</td>
<td>Quarterly</td>
<td>City Administration</td>
<td>500 – 1,000 ETB per batch of analysis at FEPA</td>
</tr>
<tr>
<td>Construction</td>
<td>Solid Waste</td>
<td>• Put in place sufficient solid waste collection bins. • Improve the existing solid waste collection and disposal system, which needs to be more efficient and effective. • Put in place solid waste collection bins delegated specifically for hazardous solid wastes. • Construct (using drums) a waste incinerator and ensure its proper use</td>
<td>Generation, storage, recycling, transport and disposal</td>
<td>The construction site</td>
<td>Audits, photographic documentation and interviews</td>
<td>Quarterly</td>
<td>City Administration</td>
<td>1000- 2000 ETB per assessment audit</td>
</tr>
<tr>
<td>Project Stage</td>
<td>Impact</td>
<td>Mitigation Measures</td>
<td>Parameters to be monitored</td>
<td>Location</td>
<td>Monitoring method</td>
<td>Frequency</td>
<td>Responsibility</td>
<td>Cost</td>
</tr>
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</tr>
<tr>
<td>Waste water</td>
<td>• Construct a temporary retention/collection system for wastewater parallel to the Borkena in order to prohibit its direct flow to the River. • Provide sufficient latrines with septic tanks (i.e. wastewater will be let to septic tanks with the overflow connected to collection mains).</td>
<td>Effectiveness of retention system and septic tanks</td>
<td>The construction site and wastewater collection system</td>
<td>Sampling and analysis of receiving environment, Audits, photographic documentation and interviews</td>
<td>Quarterly</td>
<td>City Administration</td>
<td>1000-2000 ETB per assessment audit 500-1000 ETB per batch of analysis at FEPA</td>
<td></td>
</tr>
<tr>
<td>Flora</td>
<td>• Avoid vegetation removal and if necessary ensure that this is compensated for.</td>
<td>General condition of floral cover</td>
<td>The construction site</td>
<td>Visual inspection and photographic documentation</td>
<td>Continuous</td>
<td>City Administration</td>
<td>Negligible</td>
<td></td>
</tr>
<tr>
<td>Health and safety</td>
<td>• Prepare the site for vehicular access during construction • Define speed limit to ensure safety during the movement of transportation trucks</td>
<td>Proper use of PPEs, Presence of safety signs, first aid kit, fire-fighting devices</td>
<td>The Construction site</td>
<td>Health and safety surveys</td>
<td>Continuous</td>
<td>City Administration</td>
<td>Negligible</td>
<td></td>
</tr>
<tr>
<td>Operation</td>
<td>Air Quality</td>
<td>• Relocate semi-manufacturing activities such as wood and metal workshops that do not fit well into the existing market operation to an appropriate location outside the market. • Develop a vegetation cover as a screen between the grain mills and other areas of the market, and • Define and implement a lower speed limit for transport trucks, • Avail dust masks to workers in grain mills</td>
<td>Dust and air pollutants (generation and release)</td>
<td>Grain mills, the market area</td>
<td>Visual inspection, audits, photographic documentation and interviews</td>
<td>Quarterly</td>
<td>City Administration</td>
<td>1000 – 2000 ETB per audit</td>
</tr>
<tr>
<td>Project Stage</td>
<td>Impact</td>
<td>Mitigation Measures</td>
<td>Parameters to be monitored</td>
<td>Location</td>
<td>Monitoring method</td>
<td>Frequency</td>
<td>Responsibility</td>
<td>Cost</td>
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<tr>
<td>Noise</td>
<td>• Avail personal protective equipments to exposed persons and ensure that these protective equipments are used</td>
<td>Noise Level</td>
<td>Grain mills</td>
<td>Measurement using in-situ equipments</td>
<td>Quarterly (every 3 months)</td>
<td>City Administration</td>
<td>Noise meter procurement which is allocated cost above</td>
<td></td>
</tr>
</tbody>
</table>
| Water resource and water quality | • Avail sufficient public latrines with septic tanks.  
• establish a buffer zone (green area) between the market and the Borkena River to reduce wastewater draining directly into the River,  
• construct a canal parallel to the Borkena, which will prohibit the direct flow of pollutants into the River  
• relocate polluting activities which are inherently incompatible with the market activities. These activities include semi-processing activities like wood and metal workshops. | Suspended solids, BOD, COD, metals                                                | Groundwater mills, Borkena River,                                             | Sampling and analysis               | Quarterly               | City Administration       | 500 – 1,000 ETB per batch of analysis at FEPA |
| Waste water   | • Same as mitigation described under impact on water resources/water quality | Effectiveness of buffer zone and drainage canal                                    | The construction site and wastewater collection system | Sampling and analysis of receiving environment, Audits, photographic documentation and interviews | Quarterly               | City Administration       | 1000- 2000 ETB per assessment audit            |
| Solid waste   | • To put in place sufficient solid waste collection bins  
• To improve the solid waste collection and disposal system | Generation, storage, recycling, transport and                                      | The construction site                                              | Audits, photographic documentation and interviews       | Quarterly               | City Administration       | 1000- 2000 ETB per assessment audit            |
<table>
<thead>
<tr>
<th>Project Stage</th>
<th>Impact</th>
<th>Mitigation Measures</th>
<th>Parameters to be monitored</th>
<th>Location</th>
<th>Monitoring method</th>
<th>Frequency</th>
<th>Responsibility</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>in the market vicinity</td>
<td>disposal</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• To designate solid waste collection bins for hazardous solid waste.</td>
<td>General condition of floral cover</td>
<td>The construction site</td>
<td>Visual inspection and photographic documentation</td>
<td>continuous</td>
<td>City Administration</td>
<td>Negligible</td>
</tr>
<tr>
<td>Flora</td>
<td></td>
<td>• Increase vegetation cover within the market</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td></td>
<td></td>
<td>• Regulate the wood and charcoal stands in the market and ensure that these are not from unsustainable sources</td>
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<td></td>
<td></td>
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</tr>
<tr>
<td></td>
<td></td>
<td>• Reduce pollution of the Borkena thereby reducing the potential impact on species in the ecologically rich areas in close proximity to Kombolcha</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Health and safety</td>
<td></td>
<td>• Regulate the food hygiene and ensure that hazardous containers are not used for food preparation and distribution,</td>
<td>Proper use of PPEs, Presence of safety signs, first aid kit, fire-fighting devices</td>
<td>The Construction site</td>
<td>Health and safety surveys</td>
<td>continuous</td>
<td>City Administration</td>
<td>Negligible</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Avail fire fighting equipments in case of such hazards,</td>
<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>
Socio-Economic Development Plan

The project will actively contribute to improve the socio-economic conditions of the market. The details of the Socio-economic Development Plan are given below:

- **Employment and Business Opportunities:** The post-upgrading market operation will give preference to existing business operators. Employment preference will also be given to locals whose land and property has been permanently acquired for the project.

- **Infrastructure Development:** The project will improve infrastructure (road network) within the market premise. A green 'pedestrian' walkway is also proposed by the project, which will further improve congestion within the market. This will also provide consumers with safe 'pedestrian only' walkways further improving their shopping experience.

- **Water Supply:** The project will help in improving the water supply in the area. As observed during the survey, currently the market is not sufficiently served with potable water supply. With the implementation of the project water supply access will dramatically increase.

- **Communication:** The market upgrading project will also facilitate the provision of modern communication facilities like telephone lines in the area.

- **Electric Power:** The project will also facilitate the provision of electric power in the vicinity of the market.
12. CONCLUSION

The proposed market upgrading project will impact on the physical, natural and socio-economic environments in the vicinity of the Kombolcha Kebele 3 market. However, the project will not result in changes in the land use of the area.

Although, dust and air pollutant emission is anticipated to occur during construction and operation phases the use of different techniques equipment will limit the dust levels. The proposed project will not affect the hydrology of the region. The drainage pattern will not be affected. Regarding water quality the project proposed various measures to reduce the potential pollution of the Borkena River. There is little vegetation in the project area. Moreover, the flora and fauna existing in the area are of common species. Mitigation measures including the creation of a green ‘buffer’ zone will reduce the overall ecological impacts and also serve as an buffer/screen for reducing water and air pollution.

Employment resulting from construction and operation of the project and the associated services and improved infrastructure and facilities in the area will be the main socio-economic benefits for the affected community. The acquisition of land for the project and the resettlement of people living in this area will be addressed through the implementation of the resettlement action plan, which will mitigate these impacts in terms of compensation and improvement of livelihood of the affected families.

The consultants’ team recognizes the potential merits of the Kombolcha Market Upgrading Project. If the mitigation measures recommended in this EIA report are implemented, it is believed that the project will have good social, environmental and economic benefits, and it is recommended that the Kombolcha City Administration and the firms that will be involved in the implementation project thoroughly internalize these recommendations during the design, construction and implementation of the project. With mandatory and voluntary goals set from the inception stages of the project for the management of the identified EHS aspects, the Kombolcha Market Upgrading Project will have the potential to become a model development undertaking.
REFERENCE


APPENDIX 1: LIST OF ACCRONYMS

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANRS</td>
<td>Amhara National Regional State</td>
</tr>
<tr>
<td>ASL</td>
<td>Above Sea Level</td>
</tr>
<tr>
<td>BOD</td>
<td>Biological Oxygen Demand</td>
</tr>
<tr>
<td>BoEPLAU</td>
<td>Bureau of Environmental Protection, Land Administration and Use</td>
</tr>
<tr>
<td>COD</td>
<td>Chemical Oxygen Demand</td>
</tr>
<tr>
<td>dB(A)</td>
<td>Deci Bell Ampere</td>
</tr>
<tr>
<td>EA</td>
<td>Environmental Assessment</td>
</tr>
<tr>
<td>EHS</td>
<td>Environment, Health and Safety</td>
</tr>
<tr>
<td>EIA</td>
<td>Environmental Impact Assessment</td>
</tr>
<tr>
<td>EMP</td>
<td>Environmental Management Plan</td>
</tr>
<tr>
<td>EPA</td>
<td>Environmental Protection Authority</td>
</tr>
<tr>
<td>EPE</td>
<td>Environmental Policy of Ethiopia</td>
</tr>
<tr>
<td>ESIA</td>
<td>Environmental and Social Impact Assessment</td>
</tr>
<tr>
<td>ESMP</td>
<td>Environmental and Social Management Plan</td>
</tr>
<tr>
<td>FEPA</td>
<td>Federal Environmental Protection Authority</td>
</tr>
<tr>
<td>IFC</td>
<td>International Finance Corporation</td>
</tr>
<tr>
<td>LDP</td>
<td>Local Development Plan</td>
</tr>
<tr>
<td>MOLSA</td>
<td>Ministry of Labour and Social Affairs</td>
</tr>
<tr>
<td>MoUDC</td>
<td>Ministry of Urban Development and Construction</td>
</tr>
<tr>
<td>MSL</td>
<td>Mean Sea Level</td>
</tr>
<tr>
<td>ULGDP</td>
<td>Urban Local Government Development Project</td>
</tr>
<tr>
<td>WBG</td>
<td>World Bank Group</td>
</tr>
</tbody>
</table>
APPENDIX 2: TERMS OF REFERENCE

1. Background

The Urban Local Government Development Project (ULGDP) is a continuation of a program of reform by the government of Ethiopia which started with the government's introduction of formal urban local governments in the early 2000s. The World Bank contributed to the early stages of establishing these urban local governments through the Capacity Building for Decentralized Service Delivery Project (CBDSD) and followed up this support through the Urban Management Sub-program of the larger Public Sector Capacity Building Program (PSCAP). CBDSD and PSCAP were focused on capacity building to enable regions and cities to establish the necessary legislative and fiscal financial frameworks, as well as providing a range of training and other technical assistance activities to establish cities as viable entities that are able to fulfill their mandates. During this period, GTZ and KfW (through the Urban Development Fund) have also played an important role in promoting capacity building at the urban local government levels and improving service delivery.

The ULGDP has been designed to support the government's Urban Development Program (UDP) and Urban Good Governance Program (UGGP). The specific development objective of the project is to support improved performance in the planning, delivery and sustained provision of priority municipal services and infrastructure by urban local governments.

For participating cities, the expected outcomes of the project are i) effective and responsive planning to meet service delivery priorities identified by citizens (allocate efficiency/participation objective); ii) effective implementation of Capital Investment Plans (service delivery improvement objective); iii) improved financial management and mobilization of own resources and more effective operations and maintenance of infrastructure assets (sustainability objective); and iv) improved dissemination to the public of budgets/plans, performance measures, and audited reports (accountability objective).

Projects to be implemented under the ULGDP should adhere to acceptable environmental and social safeguards. The projects should, as far as possible, not result in involuntary resettlement and land acquisition and where this is necessary, it is minimized by exploring all viable alternatives and where it is unavoidable, compensation activities are prepared and implemented. MWUD has therefore prepared the Environmental and Social Management Framework (ESMF) and the Resettlement Policy Framework (RPF) to be referred to and used by all stakeholders and implementing agencies under the ULGDP. These documents are being made available to all regions, cities and other stakeholders as Annexes to the Project Implementation Plan for ULGDP.
The ULGDP has the potential to provide significant social benefits, and to deliver environmental benefits, depending on the ULGDP investment projects that are put forward by ULGs for performance grant financing. However, there are risks of adverse environmental and social impacts, owing to:

- Inherent environmental risks involved in infrastructure projects, including soil erosion risks and deforestation, risks of the depletion, pollution or contamination of waterways and groundwater sources, impacts on people, buildings (houses, shops, kiosks, etc), economic and social activities in the vicinity of the project, and secondary impacts owing to the sourcing of construction materials;

- Social risks during construction of projects such as road safety and accidents, dust and noise, an influx of people to certain areas due to better facilities provision and improved access, disruption of livelihoods & services, loss of temporary and/or permanent access to homes, businesses and services, displacement and resettlement of people associated with loss of property and land take, and direct & indirect social impacts from the downstream effects of project such as water diversions;

- Weak capacity at the ULG level to integrate measures to prevent or mitigate environmental impacts into the design of projects, and during construction, and operation of the projects;

- Difficulty and/or lack of understanding of the Environment & Social Management Frameworks (ESMF & RPF) could potentially be a reason why ULGs may overlook the environmental and social impacts of the investments.

These risks are taken seriously by the GOE and Ministry of Urban Development and Construction owing to the importance of the environmental & social impacts involved and the pressing need to ensure improvements in people's well-being. People's livelihoods are often dependent on a sustainable environment, and hence adverse environmental or social impacts of infrastructure projects will be carefully avoided.

The ESMF has therefore been prepared for use by stakeholders and implementing agencies in addressing these issues.

The ESMF:

- Establishes clear procedures and methodologies for the environmental and social assessment, review, approval and implementation of investments to be financed under the project;

- Specifies appropriate roles and responsibilities, and outlines the necessary reporting procedures, for managing and monitoring environmental and social concerns related to project investments;
• Establishes a community grievance mechanism to resolve conflicts arising out of construction activities;
• Determines the training, capacity building and technical assistance needed to successfully implement the provisions of the ESMF; and
• Provides practical information resources for implementing the ESMF.

The ESMF & RPF contains:
• Steps to be taken for a full ESIA if required, including an application for environmental authorization;
• Steps to prepare a Resettlement Action Plan in case of displacement of people due to temporary and/or permanent acquisition of community land, loss of property, livelihood, homes and services;
• Terms of reference for an annual environmental and social audit of the ULGDP;
• Guidelines on the environmental and social impact of ULG project investments; and
• Compliance mechanisms.

Kombolcha town Administration is one of the 19 participating cities under ULGDP. According to the regional proclamation no. 9/2003, the town of Kombolcha was given the status of City Administration, which is ruled by a Mayor. The town currently has a total of 11 Kebeles of which 5 are urban Kebeles and the rest 6 kebels are rural Kebeles. The total Population of the town is approximately 91,292, of which 62,733 reside in urban kebeles and the rest 28,559 rural kebeles. Kombolcha, is one of the few towns in the country where there is a relative concentration of large scale manufacturing as well as one of the three urban centers in the country assigned to be an industrial center. This condition demands to have a well developed infrastructure service, one of being the availability of well developed and established market service.

2. Existing Situation of the Market Area (project Description)

In kombolcha there are two Stall market Places, the first one being Borchele located almost in the center of the town, serving as all day market place for residents of the town and the second being the most dominant stall market place serving as far as 75 km in addition to the residents of the town. The market has total land holding of about 2.89957 hectare almost occupied by about 2800 small business operators who are engaged in multi-faceted activities having plot size of 6m², 4m² and 2m² area according the type of business activities. The operators rent the plots from the city service office on annual renewable temporary agreement basis. As described above the market place is a stall market that is not in a position to fulfill the requirements to be played by the town and in
making marketing a more pleasurable activity, improving hygiene and increase retail competition by providing convenient place for traders and customers. Accordingly, the town has planned to upgrade this market place as proposed by the recent structure plan of the town. Even though, upgrading of this market place has its own beneficial impacts, it will have its own adverse environmental and social impacts that have to be mitigated according to the World Bank’s Environmental and Social Guard Policies and Ethiopian Government Environmental policies. Based on these requirements, the social and environmental screening report has been prepared by categorizing environmental impact of the sub-project as schedule 1(category A) and its social impact categorized under RAP; requiring full Environmental Impact Assessment and full Resettlement Action Plan report respectively.

Therefore, in order to address environmental and social issues adequately; preparation of detail environmental and social impact assessment (ESIA) report is considered to be one of the major activities of Design study. Hence, this TOR is prepared to give detail information for the selected consultant firm (Sileshi Consulting) on how the overall task is going to be executed. The source of finance for this assignment is Kombolcha Town administration, Amhara National Regional State (ANRS) and IDA.

3. Objectives of the TOR and Scope of Work

3.1. Objectives of the Assignment

The objective of assignment is to carry out Resettlement action plan for those PAPs due to the market upgrading project and to carry out full Environmental impact assessment.

3.2. Overall Scope of Work

This assignment includes two major tasks; conducting EIA and preparation of RAP for PAP’s, Therefore the consultant will be responsible for carrying out Resettlement action plan and Environmental impact assessment in accordance with the ULGDP’s ESMF and RPF as well as World bank safe guard policies and procedures using generally acceptable and recognized assessment techniques and evaluation methods, standards and practices.

3.3. Specific tasks

- Prepare standard documents of RAP and full-fledged EIA for the sub-project with the involvement of the City’s counterpart approved by REPA and World Bank.
- Undertaken field visits and public consultation at least three times;
- Conduct validation work-shop with all stake-holders including World Bank,
- Revisit subsequent activities to be undertaken on RAP and EIA based on feedback.
➢ Prepare standard and complete reports for the RAP and EIA in SOFT and HARD copies

3.4. Detail EIA

The consultant is expected to undertake detail EIA under the national and regional policies and legal frameworks as well as the WB’s safeguarding policy frameworks; and come up with standard report accepted and certified by the REPA. To this end, the Consultants shall perform exhaustive investigation and observation of the existing market and its surrounding besides going through all the necessary secondary sources of data and information to understand the overall situation.

Hence, the consultant should understand to do:-

1. **Baseline data.** Assesses the dimensions of the study area and describes relevant physical, biological, and socioeconomic conditions, including any changes anticipated before the project commences.

2. **Environmental impacts.** Predicts and assesses the project’s likely positive and negative impacts, in quantitative terms to the extent possible. Identifies mitigation measures and any residual negative impacts that cannot be mitigated. Explores opportunities for environmental enhancement. Identifies and estimates the extent and quality of available data, key data gaps, and uncertainties associated with predictions, and specifies topics that do not require further attention.

3. **Analysis of alternatives.** Systematically compares feasible alternatives to the proposed project site, technology, design, and operation—including the “without project” situation—in terms of their potential environmental impacts; the feasibility of mitigating these impacts; their capital and recurrent costs; their suitability under local conditions; and their institutional, training, and monitoring requirements. For each of the alternatives, quantifies the environmental impacts to the extent possible, and attaches economic values where feasible. States the basis for selecting the particular project design proposed and justifies recommended emission levels and approaches to pollution prevention and abatement.

4. **Environmental management plan (EMP).** Covers mitigation measures, monitoring, budget requirements and funding sources for implementation, as well as institutional strengthening and capacity buildings requirements.

Moreover, the firm shall undertake public and stakeholders consultation with the involvement of the client’s counterpart.
3.5. Applicable Resettlement Action Plans (RAP)

The Consultant is required to come up with accepted and certified Resettlement Action Plans (RAP) prepared by taking into consideration, the national policy and legal and the World Bank’s Safeguarding policy frameworks. Therefore, the consultant shall go through the national policy, legal and guideline documents and the WB’s safeguarding policy and operational guidelines ahead of undertaking census and property valuation activities. In doing so, the consultant is required to undertake consecutive consultations with PAP’s and the public (stakeholders) together with the client or the proponent. Moreover, the firm is also responsible for recording, compiling; and submitting minutes supporting with participants lists, sound, photographic and visual evidences of each and every consultation. Finally, the consultant need to undertake a validation workshop of her/his first draft with all stakeholders including World Bank and need to finalize the document by incorporating the feedbacks obtained during validation workshops.

3.6. Knowledge Transfer

The city administration at large and the counterpart team experts in particular will be participated in every stage of the EIA and RAP preparation in order to strengthen the implementation capacity of the city administration in this area and similar activities of the assigned project.

4. Scheduling/Timetable

It is expected that the consultancy assignment will start up on signing of the contract agreement in the last week of January, 2012. And will take approximately six weeks of time by deploying one environmentalist, one sociologist, one economist and other relevant professionals as required. To keep this deadline the Consultant shall mobilize and commence the service within one week just after signing of contract. The overall assignment shall be completed within three months after the agreement is signed. The Consultant shall provide the City Administration with a detailed activity schedule and work plan that will specify all major tasks of the Consultant. This shall be accompanied by a personnel input schedule that shows the various inputs of his multidisciplinary staff over time. The Consultant shall also show a task distribution schedule of the various tasks and experts to make clear how the tasks and activities are assigned over the team members.

5. Organization and Human power

It is envisaged that, the team that prepares the detail environmental and social report at minimum level should include (a) one Environmentalist, (b) one economist, (c) one Sociologist and other
professional as required. The team members undertaking this assignment shall have a minimum of Masters Degree or equivalent in Environmental Engineering and/or Development studies/sociology professional background in the areas of environmental resources management and/or community resettlement and familiarity with The World Bank safeguards policies. The consultant team members shall have very strong interpersonal, analytic, writing and communication skills and able to work independently. On an indicative basis it is estimated that the following level of input is necessary:-

The Minimum requirement Professionals (Personnel)

Table 1: Minimum requirements of professionals of the team

<table>
<thead>
<tr>
<th>Position</th>
<th>Qty</th>
<th>Profession</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environmentalist</td>
<td>1</td>
<td>MA and above in Sanitary/Environmental Engineering and at least 4 years of experience preferably on similar assignments</td>
</tr>
<tr>
<td>Sociologist</td>
<td>1</td>
<td>MA and above in development studies/ Sociology and at least 4 years of experience preferably on similar assignments</td>
</tr>
<tr>
<td>Economist</td>
<td>1</td>
<td>MA and above in Economics and at least 4 years of experience preferably on similar assignments</td>
</tr>
<tr>
<td>Total</td>
<td>3</td>
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</tr>
</tbody>
</table>

The above information is indicative only. The selected firm (Sileshi Consulting) can carry the desired activity by implementing its own team structure, composition and staffing level if its structure comprises of the required professionals or by sub-contracting another contractor that is qualified in environmental and social Impact assessment document perpetration.

6. Outputs/Deliverables

All reports and deliverables are to be provided, in English, four (4) hardbound copies and four (4) soft copies on compact disk (Word and Excel).

6.1. Inception Report

- A half-day session with the consultants to discuss on how they are planning to accomplish the task will be held prior to submitting an Inception Report
- An Inception Report shall be submitted within seven days of the commencement of the assignment, reflecting the agreed methodology, and an outline of the proposed contents of the RAP and EIA Reports.
6.2. *Draft Final Environmental Impact assessment and Resettlement Action plan*

Draft Final RAP and EIA Report, with an Executive Summary, and detail action plan for implementation which incorporates recommendations. The monthly progress report will be submitted within four week of the commencement and the final draft report will be within twelve weeks assignment. A copy of the draft report shall be sent to the UGCBB for review & comments.

6.3. *Final Environmental Impact Assessment and Resettlement action plan*

Final Environmental impact assessment and Resettlement action plan with an Executive Summary, and detail action plan for implementation which incorporates recommendations by incorporating comments and suggestions to be made on the Draft Final Environmental impact assessment and Resettlement action plan.

<table>
<thead>
<tr>
<th>Report/Document</th>
<th>City Service Office</th>
<th>Region BWUD</th>
<th>ULGDP (UGCBB)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inception Report (Draft and Final)</td>
<td>3</td>
<td>1</td>
<td>1</td>
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<tr>
<td>Monthly Progress Reports</td>
<td>3</td>
<td>1</td>
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<tr>
<td>First Draft Report of EIA</td>
<td>3</td>
<td>2</td>
<td>2</td>
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<tr>
<td>First Draft of RAP</td>
<td>3</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Final Report of EIA</td>
<td>3</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Final Report of RAP</td>
<td>3</td>
<td>2</td>
<td>2</td>
</tr>
</tbody>
</table>

All reports, documents and correspondence shall be in English. Reports, Drawings, Calculations and Documents shall be submitted in draft and/or final form as indicated below.

**Table 2: Report Type and Distribution**

**Notes:**

In the case of draft documents produced by the Consultant, the Client shall incorporate and/or reasonably modify and/or reject all comments within 5 (five) days of receipt. Following receipt of the comments, the Consultant shall provide final documents within 10 days. Approval of the final documents shall be given within 3 days. Final reports will be received only if both the EIA and RAP documents are submitted with the certificate of compliance issued from REPA. All of the reports and the EIA and RAP documents shall be submitted in hard copies and in soft copies (CD) in word and pdf formats.
7. Responsibilities of the Consultant

The consultant is expected to understand the urgency of the work and commit to accomplish the study in the agreed time table. On top of this the consultant will have the following responsibilities:

- To provide standard and applicable EIA report accepted and certified by REPA.
- To provide implementable RAP accepted and certified by REPA and World Bank.
- To provide or cover its own stationery material of any kind and quantity like computer paper, plotter paper and plotter cartridge, flash disk and all other office stationeries.
- If consultant finds any need of diversion from the city plan proposal, the only thing he/she will required to-do is to present and get the prior approval of the client on the intended diversion with written letter.
- To provide its working time framework prior to the commencement of the assignment
- To provide monthly progress report.
- To undertake validation work shop

8. Responsibilities of the client

Being the owner of the project, the client has the following responsibilities:

- Assign the permanent counterpart that will communicate with the consultant on behalf of the client.
- Provide city plan, design and other related reports to the consultant.
- Approve and/or timely deliver comments, opinions and suggestions for the reports submitted by the consultant.
- Assist and facilitate conditions for the consultant in the overall process to accomplish his/her assignment.
- Facilitate community meetings and dictions and organize progressive evaluation work shops

9. Management and Accountability relationships

Kombolcha town Administration City Service office is the client for this work. In terms of performance and deliverables, the consultant will carry out the assignment under the direction of, report and be accountable to the city service office of Kombolcha city administration.

As the city Service office is responsible for the overall coordination of ULGDP, the city manager will sign the contract with the consultants on behalf of the city Administration and the city administration will be responsible for all payments to the consultants.
10. Inputs provided by the Client

The Client will provide to the consultant at the commencement of the assignment the documents listed in Annex A. Other relevant documents will be made available as necessary.

Annex A: Relevant Documents

3. Environmental and Social Management Framework, ULGDP, November 2008, MWUD
APPENDIX 3: RESUME OF ESIA TEAM
ROBI REDDA
Environmentalist

SUMMARY OF EXPERIENCE

I am a Certified Environmental Professional (Canada) with extensive experience in natural resources and environmental management issues. I have co-ordinated and involved in a numerous assessments, audits, and planning and policy studies in natural resources and environmental management in Africa (particularly Ethiopia), Canada and the Netherlands. I have worked in this capacity in the multilateral and bilateral agencies, private sector, government, civil society, and academia.

PROFESSIONAL CAREER

Various Clients (Ethiopia): Independent Consultant 2012 – Present

- **Environmental Assessment Specialist, World Bank Ethiopia Country Office, Ethiopia**
  - Undertook an environmental system assessment of the Ethiopian Health Sector Development Programme IV (HDSP-IV), identifying gaps and proposing recommendation for an improved system-based management of the potential environmental risk and impacts of the program.

- **Environmental Audit Expert (Consultant), BGI Ethiopia PLC., Ethiopia**
  - Undertook an environmental audit of St. George Brewery in Addis Ababa.

- **EIA Expert, Metamora Consultants BV, Ethiopia**
  - Participated in the development of an EIA and Water Quality Course module which focused on the basic concepts and issues in EIA, and with special emphasis on water quality in the context of Integrated River Basin Management (IRBM).

- **EIA Expert, Sileshi Consultants Sh. Co., Ethiopia**
  - Undertook an Environmental Impact Assessment (EIA) study for the World Bank funded Kombolcha City Market Improvement and Expansion Project.

- **Environmental Expert, World Bank Ethiopia Country Office, Ethiopia**
  - Prepared an Environmental and Social Management Framework (ESMF) for the Women Entrepreneurship Development Project (WEDP).
UN Economic Commission for Africa (UNECA): Project Coordinator-Consultant  2011-2012

Responsible for:

- Coordinating the project funded by the joint DFID (UK) and IDRC (Canada) Climate Change Adaptation in Africa (CCAA) programme, which aimed to develop the monitoring and evaluation capacity of Climate Change Adaptation Initiatives in Africa. This involved frequent travel to partner organizations based in Tunisia, Niger, Senegal and Burkina Faso.

- Developing an M&E toolkit for climate change adaptation, which was developed in joint collaboration with experts from regional organizations, namely the Sahara and Sahel Observatory (based in Tunis), AGRHYMET (based in Niamey), and IUCN-PACO (based in Ouagadougou).

- Administering a network of M&E and climate change adaptation professionals.

- Providing support to communities that were selected for testing 'on the ground' the M&E toolkit developed by the project, including pastoral communities based in Mali and Niger.


As an expert consultant, involved in the review of the Ethiopian water sector. This review, i.e. the Ethiopia Water Sector Scan, was undertaken by MetaMeta Consultants BV for the Ministry of Development Cooperation of the Royal Netherlands Government, to identify thematic areas for intensified/continued support of the Netherlands Government to the Ethiopian Water Sector.

UN Environment Programme (UNEP), Addis-Ababa: Programme Officer 2009-2011

- Coordinated and implemented the various programmes of the technical divisions of UNEP in Ethiopia;

- Assisted in fast-tracking the implementation of two Climate Change Adaptation projects that were developed by UNEP in partnership with the Ethiopian Ministry of Water and Energy (MoWE) and the Environmental Protection Authority (EPA), respectively;

- Undertook various delegated responsibilities at the senior management level, including co-chairing (with the UNDP Country Director and on behalf of the Head of the UNEP Addis Ababa Office) the Climate Change and Environmental Sustainability Sub-Group of the UN Development Assistance Framework (UNDAF), i.e. UNDAF is the strategic document that sets the framework and context for United Nations' support to Ethiopia for the next 5 years (2011/12 – 2015/16);

- Served as the Officer in Charge (OIC) for the operational aspects of the UNEP Addis Liaison Office on different occasions, including for a period of over two months between Nov. 2010 and Jan. 2011;

- Served as a Programme Management Committee (PMC) member for the Spanish MDG-F funded
Climate Change Joint Programme of UNDP, UNEP, FAO, the Ethiopian Ministry of Agriculture (MoA), and EPA entitled "Enabling pastoral Communities to Adapt to Climate Change and Restoration of Rangeland Communities", which was also a pilot programme for promoting (through implementation) the UN reform agenda (Delivering As One - DaO) in Ethiopia;

- Developed the business plan of the UNEP Addis Ababa Office for the 2010-2011 biennia; and
- Facilitated UNEP’s contribution for the UNECA annual flagship publication Economic Report on Africa 2011.


- **EIA Lead Expert, Sileshi Consultants Sh. Co., Ethiopia**
  - Undertook an Environmental Impact Assessment (EIA) study on the market development and expansion project of the Bahir Dar City Administration.

- **EIA Team Leader, Access Capital Services Sh. Co., Ethiopia**
  - Led a team of experts that undertook the Environmental and Social Impact Assessment Study (ESIA) of the Mush Valley Coal Mine, which was being developed by Access Capital Services for household energy use.

- **Expert (consultant), Forum for Environment (FFE), Ethiopia**
  - Contributed a chapter on environmental pollution for the Annual Ethiopia Environment Review.

- **Volunteer Expert, Grarbet Tehadiso Mahber, Ethiopia**
  - Developed a project proposal for an emergency water and sanitation project focusing on 10 villages in the Sodo locality, where water scarcity was an important issue

AECOM Canada East (Ethiopia): Representative and Project Coordinator 2007 – 2009

- Served as the de-facto representative for the Canadian chapter of the largest consultancy firm in the world (AECOM has over 40,000 employees globally) in Ethiopia, including among others supporting the establishment and administration of the Office, and business development activities.

- Coordinated the logistics for a World Bank funded Environment, Health and Safety (EHS) and Social audit study of 96 State Owned Enterprises in Ethiopia, which were in the process of being privatized under the supervision of the Ethiopian Privatization and Public Enterprises Supervising Agency (PPESA).

- Undertook various delegated responsibilities, including negotiating with the client (on behalf of the AECOM Project Manager) on various aspects of the Project.

- Participated in a policy research program that focused on the environmental health initiatives of selected OECD countries. The research was conducted to create a platform and learning experience for the development of the Health and Environment Framework of the Government of Canada.

Concordia University (Canada): *Teaching and Research Assistant* 2005 - 2006

- worked as a teaching and research assistant for undergraduate courses in GIS, Geology, EIA and Urban Planning Courses.


- **Environmental Expert, Ethiopian Cleaner Production Center (ECPC), Ethiopia**
  - Prepared a situation analysis report on the pollution of the streams in and around Addis Ababa and involved in the implementation of the consequent pollution alleviation programme, i.e. the Akaki River Initiative.

- **Expert, Ethiopian Development Research Institute (EDRI), Ethiopia**
  - Prepared a research paper on the Environmental Implication of Large-Scale Irrigation Projects in Ethiopia.

- **Forum for Environment (FfE), Ethiopia**
  - Prepared an inventory of organization involved in environmental management, and developed a directory for the consumption of stakeholders involved in environment and sustainable development issues in Ethiopia.


- Worked as a trainer, facilitator and rapporteur for a World Bank funded capacity building programme on Environmental Impact Assessment (EIA).

- Involved in the Global Environment Facility (GEF) funded Lake Zway Sustainable Fisheries Project.

DHV Consultants BV (the Netherlands): *Research Associate* 2002 - 2002

- Obtained support from DHV Consultants BV for M.Sc. thesis field-work, which focused on assessing the toxicological risks on the Awash River Basin, Ethiopia.

- Undertook site assessments and water quality analysis along the Awash River, as part of my M.Sc.
thesis work and as an input for the joint DHV- Ethiopian Ministry of Water Resource (MoWR) Environment Support Project Component III(ESP3), under which the Ethiopian National Water Supply and Sanitation Master Plan was prepared.


• Supervised geologic drilling works in a coal exploration program in South western Ethiopia.

EDUCATION

2007 Concordia University, Montreal, Canada
Graduate Diploma, Environmental Impact Assessment

2003 Wageningen University, Wageningen, the Netherlands
Master degree (M.Sc.), Environmental Sciences

2000 Addis Ababa University, Addis Ababa, Ethiopia
Bachelor of Science (B.Sc.), Geology

VOLUNTEERING EXPERIENCE

• 2004-2005, Ethiopian Association for Impact Assessment (EAIA). As the secretary of the steering committee, played a role in the formation and registration of the Association.

• 1995- Present, Grarbet Tehadiso Mahber (GTM), Ethiopia. As a volunteer provided support to the programmes of GTM, including the Organization’s water and sanitation programmes, initiatives on trachoma (supported by Vision Aid Overseas - UK), and cleft lip surgery campaign (Rotary supported).

PROFESSIONAL DEVELOPMENT

• Certificate in GIS and Remote Sensing (RS), Regional Center for Mapping of Resources for Development (RCMRD), Nairobi, Kenya
PROFESSIONAL MEMBERSHIP

- International Association for Impact Assessment, #108560
- Certified Environment Professional, Canada #35091
- Founding Member - Ethiopian Association for Impact Assessment (Ethiopia)

LANGUAGES

English (Fluent), Amharic (Fluent), French (Basic)

PUBLICATIONS


PRESENTATION

3. 'Overview on pollution status of the Awash River Basin with emphasis on Akaki River'. Presented at the national program on Sustainable Consumption and Production in the Akaki River Basin organized by the Ethiopian Science and Technology Commission (ESTC) and the United Nations Environment Programme (UNEP). 1 April 2005, Addis Ababa.
TSEGAYE TEKLU

Economist

Key Qualifications:

Ato Tsegaye has served as Vice President of the Ethiopian Economic Association (EEA) for four years beginning from the inception of the Association on August 1992. The EEA has many publications, to which Ato Tsegaye Teklu has contributed articles.

Ato Tsegaye has over 28 years of extensive and wide range experience in the legislation and implementation of trade policies, preparation of trade agreements; co-ordination of studies dealing with domestic and foreign trade, preparation of investment guidelines, as well as promotion and facilitation of domestic and foreign investments.

He headed and served several government institutions specifically dealing with trade. He has served as consultant for the PTA or Eastern and Southern African states currently renamed the Common Market for Eastern and Southern African states (COMESA) in different areas: including:-

• Drawing up of the common list of commodities of export and import interest amongst member states;
• Study on "Rules of origin" for products traded and tradable between member states;

He has served as a member of series of filed missions within the sub-region commissioned by the PTA to carry out studies on the feasibility of removing tariff and non-tariff trade barriers amongst member states. He has also served as national co-ordinator of the technical committee for PTA affairs in Ethiopia.

He has participated in the drafting of guidelines and policies dealing with domestic and foreign trade and the tourism sub-sector during the preparation of the Ten-year Perspective Development Plan of Ethiopia. He has participated and also coordinated the drafting of investment legislations in Ethiopia.

Education:

- M.A degree in Economics, Vanderbilt University, Nashville, Tennessee, USA in 1974
- B.A degree in Economics, Haile Selassie I University, Addis Ababa in 1971.

TRAINING

- Diploma in Trade Promotion and Export Marketing Research, Sponsored by PRODEC, ITC, UNCTAD/GATT: Helsinki School of Economics in 1981
Published and Unpublished Reports (Pre-feasibility and other Studies Undertaken)


2. Prepared a Terms of Reference (TOR) for a Twinning Arrangement between the Leather and Leather products Technology Institute (LLPTI) of Ethiopia and a similar institution abroad for capacity – building purposes, sponsored by MoTI and gtz, March 2008.


9. "Reducing Aid Dependence and Debt and Strengthening Economic Partnership Agreement": a study undertaken for the regional work shape (Ethiopia, Kenya, Tanzania & Uganda) held in Addis Ababa Ethiopia between November 8-10 to assess the impact of international trade agreements (policies) to the national and regional development programs; sponsored by Friedrich Ebert Stiftung


13. Development of Trade Support Institutions in Tanzania Cum Export Corridor Workshop
ACP - EU Trade Development Project (TDP) Shawel Consult International (SCI), May - July 1998. The study undertaken in Tanzania Chamber of Commerce, Industry and Agriculture (TCCIA) more explicitly towards the provision of trade support services; including:
- The provision of trade support services to the business community in general and exporters in particular;
- Development of policy advocacy capacity of the TCCIA;
- The enhancement of the TCCIA position as the private apex trade promotion organization.

Towards the end of the field study, a workshop was held for traditional and non-traditional exporters of Tanzania to sensitise them with national and international regulatory compliance requirements.

14. Promoting New Products and Markets: Mauritius, ACP – EU Trade Development Project (SCI), and September 1997. The study undertaken in Mauritius on products and markets development had the specific objective of assisting in increasing the quantity and quality of exports from Mauritius and in orienting them towards more diverse and higher value-added products through direct interventions both at Company and Sectoral levels.

15. Promoting New Products and Markets: Kenya, January-February 1997, ACP – EU Trade Development Project (SCI). The study was similar to that of Mauritius.

16. Promoting New Products and Markets: Tanzania, January-February 1997, ACP-EU Trade Development Project (SCI). The study was similar to that of Mauritius and Kenya.

17. "Macro Economic and Investment Conditions in Ethiopia" March 1996
18. "Export Promotion of High Value Crops from Ethiopia" February 1996

21. Participated in the study undertaken in March – June 1994 “Grain Marketing Structure in Ethiopia” Particularly, Northern Ethiopia – Sponsored by the USAID.


23. Publication of "Guide to Investments in Ethiopia" in cooperation with others, Investment Office of Ethiopia, October 1992

24. Report on participation in foreign Investment Negotiation Seminar including topics such as: pro’s and Con’s of foreign investment; promoting foreign investment, debt Conversion; country risk analysis; transfer of technology; drafting international contracts; taxation and transfer pricing; negotiating style; dispute resolution, etc. Investment Office of Ethiopia, July 1992.

26. Several pre-feasibility studies on investment projects in different sectors on the Ethiopian Economy.

27. Position papers on:
- Competitiveness and exchange rate adjustment problems in Ethiopia
- Foreign Trade Policy of Ethiopia
- Composition of Ethiopian Export Products and GSP Schemes
- Export Documentation including rules of origin issues
- Export taxes, duties, levies and other charges of equivalent effect on the competitiveness of Ethiopian export products.
- Export Financing, etc.

Employment Record:

May 24, 2008 – May 23, 2011

Is currently serving as an Executive Committee member of ASSETU (The Association of Ethiopian Alumni of American Universities; May 24, 2008 – May 23, 2011.

July 2005 – July 2007:

Served as the Vice President of the Ethiopian Textiles & Garment Manufacturers Association (ETGMA)

Since 1992:

Working as a Freelance Consultant

1991-1992:

Deputy General Manger, Investment Office of Ethiopia (IOE)

Responsibilities included:
- Promotion and facilitation of both foreign and domestic investments
- Preparation of investment guidelines, project profiles, brochures, etc
- Preparation and issuing investment approval certificates after approval by the Board of Investment; granting incentives
- Acting on the General Manger's behalf in all aspects of his duties during his absence.

1988 – 1991:

Head, Joint-Venture Department, Office of the State Committee for Foreign Economic Relations
Responsibilities included:

- Promotion and facilitation of joint-venture projects between foreign and domestic investors by preparing and distributing guidelines, brochures, project profiles and issuing certificates of approval for joint-venture projects.

1987 - 1988:

Head of Bureau, Office of the Council of Ministers. Responsible for the co-ordination of the activities of three major Government institutions, namely

- The Central Planning Office (CPO): charged with planning and supervising resource allocation in the different sectors and sub-sectors of the national economy and implementation thereof.

- Development Project Study Authority (DEPSA): charged with the responsibility of undertaking feasibility studies, project profiles and opportunity studies for major development projects with linkage effects. The Authority was also charged with the function of regulating Consultancy services provided by expatriate personnel, as well as preparing guidelines on national parameters.

- Central Statistical Authority (CSA): charged with the responsibility of collecting, analysing and disseminating relevant and timely national information and data in all sectors of the Ethiopian economy.

1983 - 1987: Head, Trade and Tourism Department, Central Planning Office (CPO)

Responsible for the supervision of the activities of the tree Government institutions, namely

- Ministry of Foreign Trade: charged with facilitating the diversification of export products and markets of Ethiopia; Supervising and Co-ordinating the activities of Chambers of Commerce and Industry; issuing licenses to exporters and importers; submitting to Government policy issues for decision: deemed necessary for encouraging exports; for instance interest rate policy; exchange rate policy; tax structure etc. The Ministry also concluded bilateral and multilateral trade agreements in order to maximise foreign exchange earnings for the country.

- Ministry of Domestic Trade: charged with the responsibility of bringing about market stabilisation, through supervision and co-ordination of the production, collection, storage, distribution and pricing of goods and services. It submits to government policy issues for decision in order to discharge its functions. The Ministry issues licenses to operators engaged in wholesale and retail trade as well as services sectors.

- The Hotels and Tourism Commission: charged with the responsibility of developing the tourism industry in Ethiopia through facilitating tourist activities in Ethiopia through various strategies including:
  - Facilitating tourist inflow into Ethiopia by organizing package tours in tourist originating countries;
  - Encouraging domestic tourism;
  - Licensing tour operators and travel agents;
  - Regulating the standards of hotels, motels, lodges and grading them accordingly etc;

Served as a National Co-ordinator of the Technical Committee for PTA Affairs which was composed of representatives from different sectors of the national economy including agriculture, industry, mining, trade, tourism, banking air, ocean and land transport, etc.
• The main task of the Committee was streamlining the respective national policies with intra-sub regional strategies towards creating a common market reports were submitted to the inter-ministerial committee of Ethiopia with regard to specific measures to be taken in keeping with the PTA Treaty.

• Member of Field Mission Commissioned by the PTA Secretariat in 1987 to some PTA member states, which undertook the feasibility study of rules of origin criterion and removing tariff and non-tariff barriers to inter-PTA trade by 1992.

1971 – 1982:

Served in the Ministry of Commerce, Industry and Tourism under different capacities, which included Junior Expert; Senior Expert; Department Head; and Advisor to the Minister of Foreign Trade.

Workshop, Seminars, Symposia, Trade Fairs Attended


1986: The 21st Session of the UNECA and Twelfth Meeting of the Conference Crises held in Addis Ababa, Ethiopia and Yaoundé, Cameroon.

1985: The "Mid – Term Global Review on the Least Developed Countries" held in Geneva, Switzerland and sponsored by UNCTD.

1982: Member of Committee assigned to draw up the ten – year Perspective Development Plan of Ethiopia, Specifically worked in the committee dealing with domestic trade, foreign trade and tourism sub – sectors.

1981: A symposium on the integrate programme for commodities organized by the UNECA and UNCTAD

1975: Organized and successfully mounted the display of Ethiopian export items at the Trade Fair in Novisad, Yugoslavia in which Ethiopia was awarded gold medal
FITSUM TAREKEGN JABAMO
Sociologist

SUMMARY OF EXPERIENCE

I am Sociologist environmental program planning, management, and monitoring and evaluation expert. I have co-ordinated and been involved in various assessments, including international development cooperation projects and policy studies in Ethiopia. I have worked in this capacity with donor agencies, government, civil society, academia and the private sector.

PROFESSIONAL CAREER

December 2012 to Present ‘Urban Environmental Planning ‘ A Social Science Project – Focal person Association of Ethiopians Educated in Germany;

Major duties and Responsibilities
• Write up and Network Potential Stakeholders
• Assess and determine participants from AEEG and stakeholders
• Design technical, and financial feasibility of organizing the workshops
• Follow up the Overall Workshop Organization implementation process
• Supervise the publication of the Workshop proceedings

Major projects - Urban Agriculture A sustainable Option for Growing Challenges of food security,
• Environmental health problems in Addis Ababa, Ethiopia in collaboration with DAAD
• Solid Waste composting Analysis in collaboration with DED, and University of Boku Austria
• Report to Annual Congress


I assisted the Lead Consultant, Professor Agneta Lind from UNESCO in the project, documenting the current status of the project, including: tools testing and revision, desk research, research implementation in the field and ongoing data entry, assist in report preparation, support/co-facilitate the stakeholder workshop.

Involved as team leader (coordinator) for the project/ study which was undertaken for the Addis Ababa City Administration Micro and Small Enterprises Agency at Jethro Management Consultancy. As a coordinator for the project, I was responsible for:

- coordinating the social, economic, and political impact assessment of the sector development at macro and intermediate level and
- Undertaking the baseline survey on 2000 sample enterprises in six sub sectors (this was the first of a kind survey in Ethiopia).


- Design field Survey Instruments
- Undertake Field Survey
- Analyze Data using necessary tools
- Synthesize findings

EIA Coal Mining project of Access Capital Services at MUSH Valley, Amahara Regional states. As a socio-economist my specific duties were to:

- Design field Survey Instruments
- Undertake Field Survey
- Analyze Data using necessary tools
- Synthesize findings

June 2009 – September 2009, MS Consultancy, Sociologist

Prepare the socioeconomic section of the research in the design and construction of Solid and liquid waste treatment plants for the Addis Ababa, Dessie, and City Administrations under the World Bank funded ULGCB Project. My duties and responsibilities included,

- Conducting the socioeconomic feasibility of the design and construction of liquid waste treatment plants
- Undertaking resettlement action plans for affected people as per the standard of the World Bank

Various Clients in Ethiopia: project Coordinator 2004/09 – 2008/01

Involved in a number of projects, some relating to Impact Assessment, including:
• Coordinator Health Impact Assessment study on the Hosanna-Sodo Road Project of the Ethiopian Road Authority and Africa Development Bank, aiming to alleviate the consequences of HIV/AIDS and Sexually Transmitted diseases (STD);
• Sociologist for the Wenbera integrated Food security Project.

April 2001 – September 2002 DHV Consultants BV: Survey Assistant

Involved in the joint undertaking of the Ethiopian Ministry of Water Resources and DHV Consultants from Netherlands on Environmental Support Project of the National Water Supply and Sanitation Master plan Development Program, under which the feasibility studies of water supply and sanitation in 10 selected towns was carried out. As Assistant Leader of the of the socio-economic Team for the project, I was responsible for:
  • Recruiting and training local field enumerators and survey experts
  • Supervising field surveys, and
  • Preparing survey reports

September 2000 – April 2001, Ethiopian Gemini Trust, Junior Sociologist (Program Focal Point)

As the program focal point:
  • Organized skills training for older street children & disabled youth
  • Worked towards reunifying street children with their families

Established a psycho-social counselling units, micro-credit scheme Educational support and income generating activities

September 1999 - September 2002, Project officer, Ethiopis Distance education College, Coordinator and Representative

  • Participate in project steering committee meetings providing strategic oversight to the project
  • Training and education needs and develop and implement programs accordingly, partly in collaboration with international partners
  • Hire and manage facilitators and faculty
  • Manage and further develop educational infrastructure, including facilities, equipments, ITC, computerized Learning Management System, library etc.
  • Manage and further develop the online learning platform / blended learning approach

EDUCATION

2005 M.A., Special Needs Education, Addis Ababa University,

Part of Thesis work “Comparative review of the state of arts and functions of teaching mentally retarded children in inclusive Classrooms in Germany, cases of some classrooms in Munich” Research Visit at Ludwig Maximillas Universtat Munchen 2004
1999 B.A., Sociology and Social Administration, Addis Ababa University,

1995 High School, Saint Joseph School, Addis Ababa University,

VOLUNTEERING EXPERIENCE

• 2010 – Present: The Ethiopian initiative for Culture Diplomacy in Collaboration with the institute of Culture Diplomacy, Berlin in collaboration with the Ministry of Foreign Affairs; The Policy and Strategy preparation document and submitted to the MOFA, to establish institutionalized efforts and the Government will own and launch development under the autonomy expected in the next Ethiopian Fiscal Year

• 2009 – Present: The alumni portal Deutschland, Ethiopia. Communication of renewable Energy development technology products in collaboration with the GIZ Energy Coordination, Addis Ababa

PROFESSIONAL MEMBERSHIP & DEVELOPMENT OPPORTUNITIES

• The world innovation for education summit
• The Climate change forum Alumni portal Deutschland
• Association of Ethiopians Educated in Germany; Addis Ababa Ethiopia
• Alumni portal Deutschland
• The DAAD-Alumni Association
• The world Early childhood Education professionals
• The GDnet; Global Development Net Work
• The Institute of Culture Diplomacy Berlin, Germany
• The Young African leaders forum; Institute of Culture Diplomacy- Berlin, Germany

Trainings & Workshop

Trainee, January 15-16 2009, German House Addis Ababa Ethiopia Experiences of AEEG in organic composting for solid waste management

Trainee, January 16-17 2009, German House Addis Ababa Ethiopia Techniques of Environmental protection for sustainable development; opportunity for the development cooperation between Ethiopia and Germany

Presenter, November 28, 2010, Ararat Hotel Addis Ababa Ethiopia Validation Workshop ‘Outcomes of the bilateral cooperation between the Ethiopian Federal Ministry of Education and
the institute for International cooperation of the German Adult Education (dvv international, Working on behalf the German Federal Ministry of economic Cooperation and Development (BMZ) from 2008 to 2010"

Trainee, August 6 -19.2011 Ethiopian Management Institute, Addis Ababa Ethiopia
Establishment and management of Small private enterprises organized by the Association of Ethiopians Educated in Germany (AEEG) in collaboration with the Centre for International migration (CIM Germany). The Ethiopian Management Institute Addis Ababa, Ethiopia with Certificate;

Participant, November 21, 2011 Goethe Institute Addis Ababa Ethiopia
Harmonization and Quality Assurance in Africa with Particular Emphasis on Higher Education in Ethiopia by DAAD Deutscher Akademischer Austausch Dienst

Host Organizer December 31, 2011 Ghion Hotel Addis Ababa Ethiopia
Urban Agriculture A sustainable Option for Growing Challenges of food security,

Environmental health problems in Addis Ababa, Ethiopia in collaboration with DAAD

Host Organizer January 10 – 17, 2012"Composting Analysis" of solid waste composting project in collaboration with DED, and University of Boku Austria

LANGUAGES

Amharic (Fluent), English (Fluent), Deutsch (Basic)

PUBLICATIONS

5. ‘Thin line among the philosophies of mainstreaming, integration, and inclusion in education” to be published on ‘The Ethiopian Journal of Education’