SFG2868

Ethiopia Trade Logistics Project

An Environmental and Social Impact Assessment (ESIA) of a Proposed Trade Logistics Hub at Modjo, Ethiopia

Ministry of Transport
Ethiopian Maritime Affairs Authority

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LIST OF ACRONYMS

3PL	Third Party Logistics
ADLI	Agricultural Development-Led Industrialization
AISCO	Agricultural Inputs Supply Corporation
CCECC	China Civil Engineering Construction Corporation
CDSC	Construction Design Share Company
CO_2	Carbon Dioxide
CRGE	Climate Resilient Green Economy
CSA	Central Statistical Authority
CSE	Conservation Strategy of Ethiopia
DDAC	Dire Dawa Administrative Council
EA	Environmental Assessment
EAP	Environmental Action Plan
EC	Ethiopian Calendar
EIA	Environmental Impact Assessment
EMAA	Ethiopian Maritime Affairs Authority
EPA	Environmental Protection Authority
EPC	Environmental Protection Council
EPE	Environmental Policy of Ethiopia
ERC	Ethiopian Railway Corporation
ERCA	Ethiopian Revenue and Customs Authority
ESIA	Environmental and Social Impact Assessment
ESLSE	Ethiopian Shipping and Logistics Services Authority
ESMP	Environmental and Social Management Plan
ETB	Ethiopian Birr
FDRE	Federal Democratic Republic of Ethiopia
GDP	Gross Domestic Product
GHG	Green House Gas
GoE	Government of Ethiopia
GTP-II	Second Growth and Transformation Plan
GVCs	Global Value Chains
HAPCO	HIV/AIDS Prevention and Control Organization
HIV/AIDS	Human Immuno-deficiency Virus/Acquired Immuno-deficiency Virus
ICT	Information Communication Technology
IDA	International Development Assistance
IFC	International Finance Corporation
IMO	International Maritime Organization
IPF	Investment Project Financing
KIIs	Key Informant Interviews
LTO	Logistics Transformation Office
MEDAC	Ministry of Development and Economic Cooperation
MEFCC	Ministry of Environment, Forest, and Climate Change
MoA	Memorandum of Agreement
MoT	Ministry of Transport
MSEs	Micro and Small Enterprises
NFLS	National Freight Logistics Strategy
NGOs	Non-governmental Organizations
NPP	National Population Policy

NPW	National Policy on Women
OBoLEP	Oromia Bureau of Land and Environmental Protection
OHS	Occupational Health and safety
OSBP	One stop Border Post
PAPs	Project Affected Persons
PCDP	Public Consultation and Disclosure Plan
PIC	Prior Informed Consent
PIU	Project Implementation Unit
POPs	Persistent Organic Pollutants
PPE	Personal Protective Equipment
PCDP	Public Consultation and Disclosure Plan
RAP	Resettlement Action Plan
RPF	Resettlement Policy Framework
SIA	Social Impact Assessment
ToR	Terms of Reference
TTL	Task Team Leader
UNCBD	United Nations Convention on Biological Diversity
UNCCD	United Nations Convention to Combat Desertification
UNFCCC	United Nations Framework Convention on Climate Change
USD	United States Dollars
VCT	Voluntary Counselling and Testing
WB	World Bank
WBG	World Bank Group
WFP	World Food Programme
WHO	World Health Organization

1. EXECUTIVE SUMMARY

Introduction

The Ethiopian Trade Logistics Project (ETLP) is going to be implemented in the existing *Modjo* Dry Port. The objective of this project is to enhance the performance of the Ethio-Djibouti corridor through improvements in operational capacity, efficiency and range of logistics services at the *Modjo* Dry Port. The project will achieve this through investments in physical infrastructure, ICT systems and support for regulatory improvements to increase exports, raise incomes of producers and traders, and to generate jobs. Project beneficiaries would primarily be private sector exporters, importers, manufacturers and farmers, those working for companies producing goods for export, government agencies involved in exporting and importing and consumers.

The purpose of this ESIA report is to provide all the necessary information for the project implementation unit (Ethiopian Maritime Affairs Authority/EMAA) and the financier (World Bank Group/WBG) to identify potential environmental and social risks of ETLP and propose mitigation measures to manage identified impacts and to alleviate environmental and social risks during the project implementation. The report also presented detailed costs for environmental and social mitigation measures required during the design, construction, and operation phases.

Modjo Dry Port is located in *Lume Woreda* in East *Shoa* Zone of *Oromia* Regional State. The dry port is established by "Dry Port Administration Enterprises Establishment Council of Ministers Regulation No. 136/2007". Since then, *Modjo* Dry Port has been operating on 64 hectares of land acquired in 2007. In 2015, the dry port acquired additional 86.922 hectares of land for expansion in *Kolba Gode Kebele of Lume Woreda* to accommodate the growing bulk of containers arriving from Djibouti seaport. With the ETLP project, the dry port intends to expand and modernize its services through the construction of facilities such as an intermodal transfer facility, a bulk storage and bagging facility, a container yard and equipment, bonded and general warehousing, and a centre for consolidation/deconsolidation of containers.

Public Consultation

In order to elicit the views of stakeholders about the potential impacts and effects of the project, public consultations were conducted with local communities that would be affected by the project; local government administrations at *Kebele* and *Woreda*/City levels; and other appropriate government offices. As such, discussions were conducted with local communities at *Kolba Gode Kebele* at *Modjo*. The consultation was carried out inclusive of men and women households whose land has been expropriated for the purpose of the dry port expansion in 2015.

During the consultation, participants were informed about ETLP's aims and the project components and subcomponents. Besides consultation participants were allowed to express their concerns and expectations regarding the project and likely social and environmental impacts that will be caused by the project. The summary of the community consultation and concerns raised and responses provided by the proponent and the Consultant have been summarized and presented below:

- In Modjo, the community specified their past experience on delay of compensation payment in other projects including the Modjo Dry Port expansion in 2015, private factories/companies, warehouses, and some agro-processing industries. If the ETLP needs to acquire land in the future, compensations and other resettlement assistance should be effected in a timely manner as specified in the principles of the complementary RPF. The project responded that the World Bank was not involved in the 2015 land acquisition and this project will be guided by the World Bank operational policy on land acquisition, including the rail spur being financed by the ESLSE and related civil works activities and fund has been provided for it. Due to the World Bank's involvement/agreement with the government, including monitoring of the implementation of RPF and RAP, ETLP is unlikely to delay compensation payment.
- The community requested that ETLP and its implementing agency should not provide unrealistic promises which they could not deliver. The project responded that it will ensure that adequate information is disseminated to communities affected by the project and facilitate community public meeting, through a simple democratic process

with a view to sharing all project related information and reporting on progress, and eliciting community concerns on any aspect of the project for prompt communication as well as the project PIU will be available to meet with members at all times to hear and resolve any issues that may arise during preparation and implementation. Government also informed the community that compensation delay issue has been solved by involving delegates from ESLSE (who owns Modjo dry port and paying the compensation), Modjo Town Municipality administrator (who is in charge of transferring the compensation to affected people's account, Lume Woreda Administrator (who conducted the valuation of compensation and responsible to administer Kolba Gode Kebele) and the affected people and details for the compensation delay and consensus reached is captured in the ESIA.

- The community members claimed that provision of some basic social services such as potable water and building *kebele* office should be seen as a corporate social responsibility from ETLP. The project should innovatively design strategies to benefit the local community in terms of employment opportunities for the youth and other community members (priority to be given to residents in dry port hosting *kebele*s). The project responded that it has developed a social development plan to address community concerns, including allocating ETB 10 million birr for the for local development projects that will benefit the youth and community members;
- *Kolba Gode kebele* residents complained that they were not benefiting from the employment opportunities created in *Modjo* dry port because the port communicates with *Modjo* town administration and employees resident in town rather than people from the rural *kebele* which hosted the dry port. The project informed the community that as part of its project implementation, it will conduct needs assessment of the PAPs and allocate resources to help them restore their livelihoods and benefit from project activities
- Participants indicated that community members residing around the dry port did not encounter any negative impact as a result of the influx of workers of the dry port. Discussants and interviewed people indicated that there were no thefts, conflicts, and other disturbances so far. The communities do not have any opposition or negative perception towards the dry port. The project agreed to allocate resource for continuous awareness raising and training on HIV/AIDS and availing condoms on regular bases for construction workers and the larger community.

There were vulnerable groups in *Modjo* Dry Port including landless youth, women-headed households, households headed by the elderly, terminally ill individuals, households with relatively larger family size, and destitute households having large number of dependents. Women and elderly consultation participants expressed that they were not beneficiaries of most projects located in their *Kebele* and requested thatthe elderly and youths should be given priority in jobs like gate keeping and others that do not demand intensive labour. Women also suggested that they be given jobs that do not demand professional trainings. Other participants also strongly emphasized that vulnerable groups of their community members were disadvantaged and need employment because they are weak and cannot have the capacity to work by going to other areas in nearby *kebeles*.

Potential Positive Impacts

The project will have both positive and negative impacts during the design, construction, and operation phases. Through the implementation of the Environmental and Social Management Plan (ESMP) the beneficial impacts will be enhanced and the adverse impacts will be mitigated.

Socio-economic benefits

The Ethiopian Trade Logistics Project will increase the social and economic benefits by addressing key technical, institutional, and policy constraints while promoting better coordination and efficiency at all levels of the logistics chain.

Changing bulk shipment practices: Current practice is the bulk shipment is stuffed and consolidated in Djibouti, which sometimes takes up to two months to unload from the ship especially during the recent drought event. This has resulted in high demurrage costs plus opportunity cost due to excessive delay of the ship at the seaport to serve as storage facility for the shipment. This intervention intends to reduce and avoid these costs by facilitating direct loading of the bulk shipment onto a rail wagon, which will eventually be stuffed at the dry port. The timely arrival of these goods has also reduced the chance of expiry of perishable items.

Reduction in dwell time and associated costs: Average dwell time of cargo at the Djibouti used to be 60 days. The establishment of dry ports has reduced the dwell time of cargo at Djibouti to 8-10 days, which is within the grace period of the seaport. This has saved the high

demurrage cost that used to be paid at Djibouti with foreign currency, eventually resulting in dramatic foreign currency savings for the country in general. According to senior managers of ESLSE, the dry ports have been able to save around USD 700 million annually largely from demurrage cost savings. All kinds of payments for services before reaching the final destination are now paid at the Dry Port rather than at the seaport, which has two advantages. First, there is growing revenue from catering to the owners of the cargo in Ethiopia, and second, the payment is made in Ethiopian Birr, which has saved the country a large volume of foreign currency.

Improvement in service efficiency: The lack of proper ICT infrastructure handicapped efficient flow of real time information to consignees well ahead of time to help prepare in advance. Currently, consignees are informed of the arrival of their cargo 24 hours after the shipment has arrived. This project will build the ICT infrastructure of ESLSE so that the customers can receive real time information, track their cargo all along, and accordingly make all necessary preparations ahead of time.

Encouraging exports: The establishment of consolidation facility at *Modjo* would be helpful in increasing value added services to some export commodities like coffee. Currently up to 90% of export items are being stuffed at Djibouti seaport. Therefore, delivering this service at *Modjo* would drastically cut the foreign currency expenses, and total cost involved with the consolidation. This would increase not only the export volume but also the competitiveness of export products.

Promoting private sector participation: It will enhance the participation of the private sector in opening new business opportunities and promoting more transportation services. It is anticipated that the private sector will be involved in developing storage and warehouse services.

Stirring the local economy: The dry port has already created additional revenue streams for local governments and communities, which is expected to increase as a result of the expansion and modernization through the ETLP project. For instance, as a result of the rise in the average daily throughput to about 2500 containers at *Modjo* Dry Port, an increasing number of drivers, their assistants and clearing agents, among others, resulted in greater economic interaction in the city. Moreover, small businesses are proliferating around the main gate of the *Modjo* Dry Port ranging from small cafeteria to big parking lots for trucks.

Currently there are at least 76 largely small businesses providing various types of services to employees, visitors, and truck drivers.

Employment opportunity: The various institutions in the Dry Port Facility of *Modjo* currently employ 1,181 workers, about a quarter of which are women. Small businesses have proliferated around the *Modjo* Dry Port, creating employment opportunity for the local communities. Regarding employment opportunity to the local people, all grade three and lower workers of the *Modjo* Dry Port come from the locality while the higher grades are open for all applicants from anywhere in the country as these required academic qualification and experience. The association of loaders and unloaders, consisting of 248 people, who came from the local community has now bought heavy trucks and are earning around ETB 1 million per month. This group of labourers that served for three years is going to be replaced with another batch of organized unemployed youth from the surrounding, a process that is undergoing currently. The expansion of dry ports will create hundreds of more employment opportunities for the unskilled and skilled labour in *Modjo* Dry Port. It is believed that *Modjo* Dry Port will double its workforce as a result of its expansion.

Provision of basic services: Modjo Dry Port is also providing some basic services to the local communities residing around the dry port. The Port is providing access to potable water to communities whose homestead was situated adjacently. This was also confirmed during community consultation and interview conducted with community members. The participants reported that the port allowed them to use potable water at one station near their houses; and they had been using since 2015.

Contribution to local security: Modjo Dry Port has also contributed to improving the security of the city through deploying federal police, who are providing peace-keeping services beyond the port premises, and through providing employment opportunities to some youth delinquents. As such, *Modjo* Dry Port introduced 60 federal police staff for security purposes and currently covers their local cost including housing. The Port has leased a building for the federal police. In the future, the Port intends to build a residential quarter for the same in the expansion area. As testified by City Administration officials, *Modjo*, which had bad reputation for street crimes, is now much safer due partly to the arrival of the Police and employment opportunity created for some of the delinquent youth who used to be part of the criminal gangs as loaders and unloaders.

Environmental benefits

The modernization of the *Modjo* Dry Port has a huge potential to contribute positively to the environment mainly via reducing congestion and pollution. The environmental benefits stem from the modal shift resulting in reduced number of long-haul trucks plying on roads. This leads to reduction in freight emissions of CO_2 and local air pollution. It is believed that truck carriage generates about six times the carbon emissions of rail to move the same level of freight. Such benefits with local and universal importance are directly related to the vehicle's fuel consumption. The establishment of dry ports in Ethiopia has undoubtedly reduced congestion in Djibouti seaport and all connector roads and also reduced pollution dramatically. This benefit would be enhanced by this Project via introducing intermodal transportation of freights and modernization of the system in the logistics chain. However, failing to put in place proper coordination and operation at the dry ports would just transfer most the social and environmental risks from Djibouti to mainly *Modjo* Dry Port. Therefore, maximizing the local and global environmental benefits from this Project would require more efforts that will be discussed in detail in this report.

Negative Social Impacts

PAPs whose land were acquired in 2015 consulted and assessed to determine whether the land take related compensation was done in accordance with OP 4.12 and the assessment indicates that affected land acquisition conducted in 2015 for the expansion of *Modjo* Dry Port was based on at replacement cost for the loss of farming and grazing land. The assessment indicates that due to the inability of the *Woreda* to provide the option of land-for-land compensation for the affected people and the willingness of the PAPs to accept cash compensation, cash compensation was given by considering ten years of production period as per as the Proclamation No. 455/2005 (for the Expropriation of Landholdings for Public Purposes and Payment of Compensation) and Council of Ministers Regulation No. 135/2007 (Payment of Compensation for Property Situated on Landholding Expropriated for Public Purposes).

The finding of the assessment indicates that Modjo Dry Port was established in 2009, with 64 hectares of land that was acquired in 2007. The work to expand the Port was done in 2014, and land for expansion was secured in December 2015. The establishment of *Modjo* Dry Port, resulted in a total number of 105 (one hundred five) people been affected, including losing their farming and grazing land. Of these people, 58 people were affected during the initial land acquisition of 2007 to establish *Modjo* Dry Port (though *Modjo* Dry Port was officially established and became operational in 2009).. The also indicated that in December 2015, the dry port expansion acquired 86.922 hectares of land, and 47 households experienced economic displacement. The compensation paid for farmlands and grazing lands per m^2 was ETB 28.28 and ETB 9.40 respectively. Since the land was measured and acquired after crops were harvested, compensation was paid for high value crops (*teff* and wheat) as reference. A total of ETB 24,085,435.08 (twenty-four million eighty-five thousand four hundred thirty-five birr and eight cents) was paid for compensation.

The due diligence assessment also shows that in *Modjo*, consultation with the community members, particularly with project-affected farmers, was conducted to get their prior informed agreement before the actual land acquisition. Separate discussions were also held with directly affected people to get their consent as well as to discuss compensation procedures and types. Following the consultation, the farmers gave their consent and agreed to handover their landholding for the expansion of the dry port by citing the contribution of the dry port to the national development. Affected communities also indicated that the location of their land was not favourable for farming because was encircled by Addis-*Adama* express way in north, the Ethio-Djibouti Railway in west, and the dry port in the eastern direction. As a result, the movement of farmers for farming activities and access to basic services was restricted.

In order to make compensation process transparent and the payment fair, property valuation committees were established inclusive of the affected people. As per the provision of the GoE's Land Expropriation Proclamation, census and valuation of property was conducted following the provisions under proclamation 455/2005 and Council of Ministers Regulation 135/2007 to document the extent of impact and the enforcement of the required mitigation measure for the affected people. After the compensation committees has measured the land, the committee disclosed each person's landholding size in front of the public, where the affected people agreed, and thereafter, the amount of compensation was calculated and paid

for each PAP. The compensation was paid when the affected people confirmed their land size and were ready to accept the replacement payment.

A complaint-handling committees was established to hear complaints/grievances of people who were dissatisfied with the compensation and overall process. Due to the compliant handling process, there were no conflicts arising as a result of land acquisition and there are no pending grievances related to compensation paymentfor the expansion of Modjo Dry Port. The grievance redress procedure included option for those households not dissatisfied with the compensation to take their case to the court. In all project areas, priority was given to handle grievances in traditional ways. This is also consistent with the needs of the affected people because the formal procedure involves suffering, wastage of time and money because of lengthy appointments and procedures.

Gaps Compared With World Bank OP4.12

1. Livelihood restoration activities were not implemented in *Modjo* since the GoE's land expropriation law does not have the provision;
2. There were no trainings given to affected farmers regarding basic financial literacy including saving, entrepreneurship, business skills, etc. As a result, there have been no significant positive changes in the lives of farmers due to the compensation payment;
3. Besides, special treatment were not put in place for the vulnerable groups such as women headed households, families with relatively large family size (greater than six), elderly, landless youths, terminally ill (bed ridden), etc; and basically, all affected people were treated equally without taking each vulnerability context into account;
4. All displaced persons (men and women, aged and adult headed households, etc.) were paid same rate, without other resettlement assistance and livelihood restoration measures.

Measures to Address Gaps of GoE's Land Proclamations

The assessment findings indicate that additional measures is needed to achieve a closer alignment with the World Bank's OP 4.12 requirements for land acquisition and compensation payment, therefore, the following measures are proposed and agreed between the project and the stakeholders during the consultation to mitigate any negative impacts:

1. *Livelihood Restoration and Rehabilitation*: There is a need for livelihood restoration and rehabilitation as well as identification. An estimated budget of 6 million Ethiopian birr will be allocated for 47 households whose land was expropriated in 2015 for the expansion of the Modjo Dry Port and other households who will be affected due to the rail spur construction. The livelihoods restoration measures will be conducted based on a through needs assessment and consultation with affected peoples, and 150,000 Ethiopian Birr is allocated for the needs assessment study;
2. *Provision of special support for the vulnerable groups:* The support includes employment opportunities, construction and provision of small business shades around the dry port, provision of seed money to start business or linking to credit facilities;
3. *Preparation of a Resettlement Action Plan (RAP) by* EMAA for households who will be displaced due to the construction of the rail spur immediately after the ETLP is approved and before commencement of construction and the EMAA has allocated 300,000 Ethiopian Birr for the preparation of the RAP
4. All necessary supports will be provided, including skill training, financial literacy training, entrepreneurship, etc

By and large, the scope of impact of land acquisition on the farmers in *Modjo* was not significant, and it did not affect the level of agricultural production. There was no striking shift in the livelihood of affected people due to the involuntary land acquisition.

The livelihood of affected people in *Lume Woreda* primarily depends on farming. Agriculture, particularly rain-fed agriculture, is their means of survival. In addition to farming, households also engage in animal rearing and bee keeping. In *Modjo* since there are watercourses such as *Awash* River, Lake *Koka*, and many other human made lakes, some practice fishing.

Nevertheless, some farmers who received compensation have started new business activities. Some have purchased public transport vehicles such as minibuses and tri-wheeled cars commonly known as *Bajaj*, used heavy trucks, houses for renting as well as commenced petty trading in addition to farming.

Construction of rail spur to connect Modjo Dry Port with Ethio-Djibouti railway, where land was acquired in 2015 to about to start. To finalize the spur, an additional estimated 10 hectares of land will be required. As a result, few households (estimated to be not more than 8) will encounter physical and economic displacement. These households will be resettled in accordance with the project RPF prepared along with this ESIA. AResettlement Action Plan (RAP) will be prepared by the borrower and the World Bank will review and approve before the RAP is implemented. Currently, the construction of the rail spur is suspended until all social safeguards due diligence, including scoping and preparation of RAP is done. Other negative social impact of the dry port expansion identified during the due diligence study is that it could lead to expansion of drug houses and HIV and AIDS, particularly around *Modjo* Dry Port, due to the increase in the number of dry port users, expected increase in truck traffic, drivers and auxiliaries, clearing agents, customers, workers, etc., who will spend weeks within the community, which will increase the risk of spread of HIV/AIDS. The stakeholders also noted the increase in the number of women working as prostitutes in *Modjo* town; Increase in dust problem as a result of construction activities, operation of reach stackers and forklifts.

There are no recorded cultural heritage or archaeological sites known in this site or in the immediate vicinity. However, Operational Policy 4.11 (Physical and Cultural Resources) is triggered because there is the potential for artefacts to be uncovered during excavation, a chance find procedure is proposed in the management plan for chance finds (Annex 3) will be implemented during construction and rehabilitation activities.

Negative Environmental Impacts

There is no negative impact on forest resources and other natural habitat since the current land use and land cover is dominated by cropland with some pastureland, bushland and very few tree stands. The construction of railway spur connecting the Dry Port with the Railway terminal, will be done in the inside the land acquired in 2015, which has been assessed as part

of this report and will be subjected to the social and envronmental safeguards requirement as an associated facility.

This Project will increase the magnitude and scale of various activities inside the port by removing key infrastructure, institutional, and regulatory constraints and fostering better coordination at key nodes along the trade logistics chain in the country. Therefore, this dramatic change in the magnitude and scale of port operations will potentially exacerbates the negative environmental impacts from port operations if mitigation actions are not put in place.

The potential impacts are largely temporary, site-specific and manageable. The major potential environmental and social impacts during operation include air pollution, noise pollution, and soil and water pollution. There are also specific occupational safety and health risks related to physical and chemical hazards and those having to do with exposure to dust and noise. Hazardous materials, if not properly managed, could affect not only employees but also neighbouring communities. The major potential negative impacts emanating from construction and enlarged operation of the Port from this Project include soil and water pollution; air pollution, noise and vibration, public health risks, and increased road accidents.

The rise in industrial wastewater, sanitary wastewater and stormwater, which will happen due to the expansion of the Port, is expected to negatively affect the health of soil and water. There is a deep gorge close to the port that includes an ephemeral river called *Melkalemi*, which drains to Lake *Koka*, an economically useful lake to a large number of downstream communities.

Air pollution is also expected to rise due to a surely growing volume of vehicular traffic into and out of the city. Noise and vibration is also expected to increase due to an increase in number of machineries, trucks and quarry activities in and around the Port. The stones for the expansion plan are going to be sourced from the same area while selected materials will be obtained from diffeent other sources. The contractor takes full responsibility to identify quarry and borrow pit sites and negotiate with the relevant office in the regional government to get excavation license. These quarry sites are also a potential source of public health risk for some diseases such as malaria and other water-borne diseases, which will be managed by the contractors.

The construction activities and the resultant expansion of the dry port have the potential to exacerbate current air pollution from dust and bring about noise pollution on adjacent communities, employees in the compound, and customers visiting the port.

Given the fact that the baseline environmental management of the dry port points to the need for greater and better focus on the same in the future, the Project undoubtedly presents a great opportunity to address these concerns. The current environmental performance of the dry port needs to show improvements in terms of occupational safety and health, solid waste management, hazardous cargo and waste management, air pollution, traffic congestion, and noise pollution.

Solid waste management in the port was observed to be very traditional in that different kinds of solid waste such as papers and plastics are being simply dumped into an open yard and burned all together. Waste collection containers have been largely non-existent in the compounds. Toilet facilities are not only sub-standard but also fail to adequately address the needs of customers visiting the facilities.

The lack of adequate machineries, especially reach stackers, with poor technical conditions compounded by the work overload on the machineries has hampered smooth flow of operations. This has often resulted in the failure of the machines and subsequent delays in service delivery, which eventually affected the smooth traffic flow of trucks creating unnecessary congestion and possible exacerbation in air and surface water pollution. This is exacerbated by lack of proper maintenance facilities in the respective dry port premises.

There is only one cafeteria/restaurant serving both employees and visitors in *Modjo* Dry Port and it is hygienically poor and is too small in size to accommodate the large size of clients including port employees and visitors.

In *Modjo* Dry Port, employees working in the dangerous cargo area have complained about pungent smells of sulphur and other chemical spillages. A container leaking chemicals to the soil was also observed. As a response measure, the container was simply separated from other containers and put on thick impermeable plastic sheet that would hold the chemical, to no avail. The response mechanism to chemical leakage is poor and out-dated. There are also incidents of acute poisoning inside the port. Safety and security personnel testified that there are at least five incidents of leakage every month in the dangerous cargo area although that is

also reported from non-dangerous cargo areas. There is also pungent smell in the dangerous cargo storage area. Sulphur spills are visible. It was reported that employees handling dangerous cargo do always complain, and they do not use respiratory masks.

Analysis of alternatives

The analysis of alternatives was thoroughly discussed with relevant stakeholders at EMAA, ESLSE and the dry ports. Given the rapidly increasing volume of cargo entering and leaving the country, the expansion of *Modjo* Dry Port was a unanimously agreed option due to its strategic social, environmental, and economic benefits. Therefore, the no-expansion option was ruled out from the very outset.

According to key government stakeholders, two candidate sites were considered for the Project, namely, *Modjo* Dry Port and *Endode* Dry Port. Although *Modjo* Dry Port was the favourite option in terms of economic parameters, the two sites were also compared using some social and environmental parameters. *Endode* was selected as a candidate because of its ease of access and proximity to a major railway terminal owing to its geographic location. A comprehensive comparative assessment was conducted to compare the two sites using eight key social and environmental factors.

On the social count, while all other social impacts remain more or less the same, three key parameters were selected to compare the two sites for the proposed project. These are settlements, traffic flow and accidents, and access to customers. Overall, *Modjo* turned out to be the better alternative in terms of social impacts. On the environmental count, five major parameters were employed to compare the candidate sites. These were climate impacts; wild flora and fauna; land availability for development; and access to water and electricity. Again, *Modjo* turned out to be the better alternative in this regard.

The kinds of impacts anticipated for both sites are the same. The difference lies mainly in the magnitude of the impacts, which is partly a function of distance to the densely populated capital city. Proximity to settlements aggravates impacts such as air pollution, increase in road accidents, traffic congestion. Moreover environmental problems are more severe on some counts in the capital city than *Modjo* town, e.g., traffic congestion and air pollution. In addition to its less economic appeal, the mitigation costs for social and environmental impacts would be greater for *Endode* due to the above exacerbating factors. Therefore, *Modjo* Dry Port is selected as a better candidate not only due to economic factors but also social and environmental parameters.

Mitigation Measures

Mitigation and enhancement measures are proposed in detail to address potential impacts at the design, construction and operation phases. These include both hardware and software interventions. While the hardware component is technical fixes, the software component includes at least three major components: promoting better coordination among key actors, mainstreaming environmental issues into the key institutions; and conducting further assessments. Lack of coordination among key actors would simply create delay in services, which would have the potential to increase air pollution from vehicles with local and global level impacts. Therefore a strong coordination platform is recommended. Moreover, the key institutions in implementing the Project, namely, EMAA, ESLSE, and the dry ports do currently have a vivid environmental deficit in terms of institutional arrangement, knowledge, staffing, and practice. Therefore, recommendations are put forward to make the right adjustment to the existing safety and security units so that they would accommodate environmental concerns. This should be accompanied by proper staffing at all levels and capacity development in some areas such as waste management. Further assessments are also recommended on some areas such as waste management and because suggested mitigation measures are contingent on availability of sufficient data on volume of current and projected quantities of waste and their types. The same thing applies for mitigation measures to promote renewable energy and energy efficiency in the dry ports.

Mitigation and enhancement measures are proposed in detail to address potential impacts at the design, construction and operation phases. These include both hardware and software interventions. While the hardware component is technical fixes, the software component includes at least three major components: promoting better coordination among key actors, mainstreaming environmental issues into the key institutions; and conducting further assessments.

Lack of coordination among key actors would simply create delay in services, which would have the potential to increase air pollution from vehicles with local and global level impacts. Therefore a strong coordination platform is recommended. Moreover, the key institutions, namely, EMAA, ESLSE, and the dry ports do currently have a vivid environmental deficit in terms of institutional arrangement, knowledge, staffing, and practice. Therefore, recommendations are put forward to make the right adjustment to the existing safety and

security units so that they would accommodate environmental concerns. This should be accompanied by proper staffing at all levels and capacity development in some areas such as waste management.

Further assessments are also recommended on some areas such as waste management and because suggested mitigation measures are contingent on availability of sufficient data on volume of current and projected quantities of waste and their types. The same thing applies for mitigation measures to promote renewable energy and energy efficiency in the dry ports.

Furthermore, specific and detailed mitigation plans are put forward for each phase of the Project, namely design, pre-construction, construction, and operation phases.

During the design phase, the main mitigating measure is making sure that the design clearly indicates, among others, quarry site, borrow pit, green area, waste management facilities, impermeable surface around dangerous cargo areas, upgraded toilet and restaurant facilities, and hardstanding across the site.

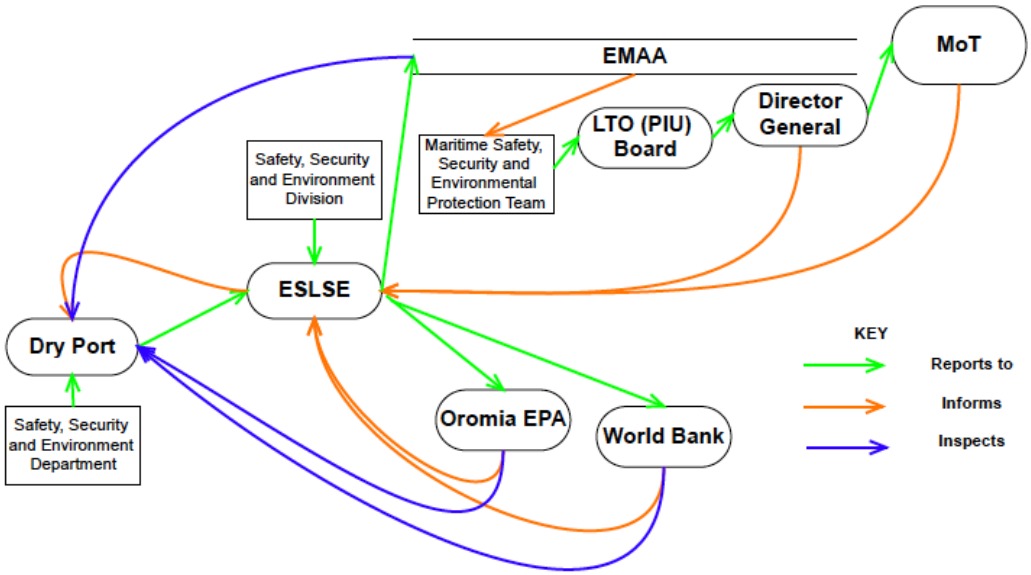
During the pre-construction phase, the key mitigation measures include, among others, facilitating employment opportunities, making sure that the contractor prepared a specific construction environment and social management plan, and the preparation of livelihood restoration plan.

During the construction and operation phases, there will be a range of specific mitigation actions including the preparation of environmental, social and health and safety management plan by the dry port, facilitation of livelihood restoration measures for the local community with a special preference to the most vulnerable and most affected, awareness raising events on HIV/AIDS, provision of training to workers on a wide range of social and environmental issues, the rehabilitation of the quarry sites and borrow pits in time, the introduction and operationalization of appropriate waste (solid, liquid, and chemicals) management facilities in the port, provision of relevant PPEs to the appropriate staff, ensuring that noise levels are managed according to WB EHS guidelines both inside the port premises and other residential areas in the town, undertaking excavations prudently and adopting chance find procedures if the need arises, introducing water and energy conservation systems, committing to some corporate social responsibility initiatives for the community, and maintaining vehicles in accordance with manufacturers' recommendations.

If additional land is required during construction phase, a RAP/ARAP will be prepared as agreed in the project's RPF.

Monitoring

Monitoring of the implementation of the ESMP will mainly involve EMAA that is legally mandated to regulate the dry ports. However, there will also be other government actors, who would be involved in monitoring the implementation of the environmental and social management plan (ESMP). Accordingly, an institutional arrangement is recommended for monitoring the ESMP whereby EMAA takes the lead and forges collaboration with ESLSE. The fact that EMAA and Ministry of Transport sit in the board of ESLSE is a huge opportunity that can be exploited to this effect.

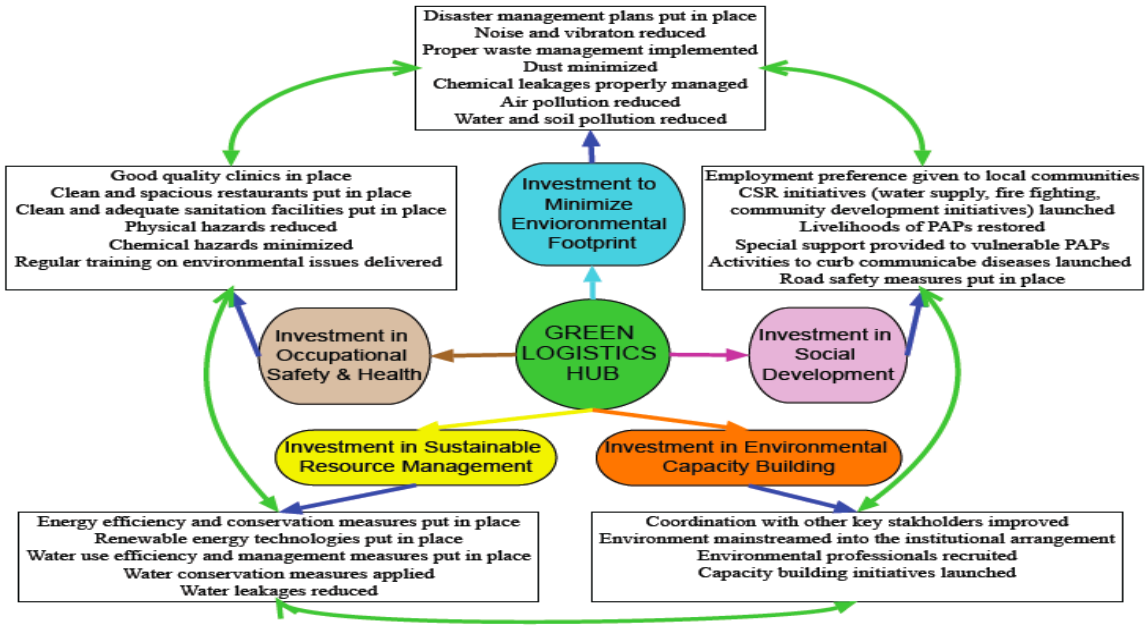


Conclusion

Most of the current negative social and environmental impacts of *Modjo* Dry Port are due to lack of resources, appropriate systems, capacity, and physical space. Therefore, the expansion and modernization of the *Modjo* Dry Port through this Project would present greater opportunity in terms of making the dry port not only more economically efficient but also more environment-friendly. The commencement of the railway service would reduce transport costs and reduce emissions drastically resulting in positive environmental benefits. Investments in modern ICT systems would facilitate smoother traffic flow of vehicles potentially reducing emissions from vehicles. Financial investments to secure additional

machineries and new warehouses would bring about safer environment and better capacity in safety and security.

This opportunity could be capitalized with the transformation of the dry port into green logistics hub. This assessment puts forward a draft framework for Green Logistics Hub, which hinges on investments to build five main intervention pillars, namely, minimizing environmental footprint; promoting occupational safety and health; fostering Corporate Social Responsibility initiatives; promoting sustainable resource management; and building capacity safe and green systems.



Green Logistics Hub Framework

Total Environmental and Social Cost

The total environmental and social cost (excluding costs of those measures that are part and parcel of the road design and routine/regular monitoring activities) is estimated at ETB 144 million, which is equivalent to USD 6.6 million. All in all, the grand total constitutes around 4.3% of the total project cost.

2. INTRODUCTION

2.1 Background and Purpose

The Government of Ethiopia (GoE) recognizes trade logistics as a priority area that needs transformative improvements. Improved trade logistics can help connect Ethiopia to global value chains (GVCs), produce more and better jobs, greater opportunities for domestic suppliers, increased exports, and higher productivity.

Under the overall guidance of the Ethiopian Maritime Affairs Authority, the GoE has finalized a National Freight Logistics Strategy (NFLS) for Ethiopia. The strategy document provides an assessment of the Ethiopia's logistics sector, identifies the main logistics impediments and provides key recommendations to transform the logistics sector.

The ETLP triggered OP/BP 4.01 on Environmental Assessment, OP/BP 4.11 on Physical and Cultural Resources, and OP/BP 4.12 on Involuntary Resettlement as the proposed activities under Component A may result in less and manageable adverse impacts. Detailed assessment of impacts has revealed that the project is Category B project, thereby prompting an ESIA. The purpose of ESIA report is to provide all the necessary information for EMAA, regulatory bodies, and financiers to assess the proposed project in environmental and social terms; and details of environmental and social impacts, mitigation measures and costs required for their implementation during the design, construction and implementation phases.

2.2 Project Objective

The overall aim of ETLP is to enhance the performance of the Ethio-Djibouti corridor through improvements in operational capacity, efficiency and range of logistics services at the *Modjo* Dry Port.

2.3 Scope of Services and Objectives

The Terms of Reference (TOR) prepared by the Client, EMAA, calls for the assessment of impacts of the Ethiopian Trade Logistics Project on the environment of the project area; and to identify the potential sources of social and environmental impacts. It also requires the consultant to put forward measures that would enhance positive impacts and mitigation measures for adverse impacts; to undertake public consultation and prepare environmental and social management and monitoring plans.

2.4 Project Description

The Project seeks to tackle the different constraints that lead to high trade logistics costs in Ethiopia focusing on critical nodes along the logistics chain that need to be addressed to deliver efficient and reliable trade logistics services and ensure that the impact on competitiveness of the large-scale investments in transport infrastructure that have been made by the government is fully realized. The proposed lending instrument is Investment Project Financing (IPF) with total proposed IDA credits of USD 150 million. The project would take a holistic approach looking at removing key constraints including infrastructure, institutional, regulatory and problems of poor coordination at key nodes along the trade logistics chain in Ethiopia.

Project beneficiaries would primarily be exporters, importers, manufacturers, farmers and those working for companies producing goods for export.

The project involves construction of logistics facilities such as container yards, truck parking areas, cold storage facilities, warehouse facilities and triggered the Environmental Assessment (OP/BP 4.01), Physical and Cultural Resources (OP/BP 4.11), and Involuntary Resettlement (OP/BP 4.12) Safeguard policies for the activities in Component A of project. T

The Ethiopian Shipping and Logistics Services Enterprise (ESLSE) has acquired 150 ha in 2007 and 2015 for establishment and expansion of existing facility in *Modjo* Dry Port. Thus, project activities for *Modjo* will be carried out within existing locations. The project will support feasibility study for the establishment of One Stop Boarder Post at Ethio-Djibouti corridor at *Galafi* or *Dewale*.

To address any legacy issues related to land acquisition for *Modjo* Dry Port, a social due diligence assessment was conducted and it was confirmed that the land acquisition was done in accordance with the legal requirements of Ethiopia. To align with the World Bank Safeguards, proposed mitigation actions are integrated into this ESIA.

2.5 Description of Project Components

Diagnostic work by the Bank and others (e.g. Nathan Associates, 2014; UNDP, 2014) identifies delays and inefficiencies at three main nodes in Ethiopia's logistics system. These are in the Port of Djibouti, at the border between the two countries and at inland clearance facilities, especially around Addis Ababa. The causes of the delays are many but the main

ones are inefficient handling, processing and clearance of goods, poor infrastructure design and low capacity, and shipper behaviour and practices. The delays and processes at the inland nodes and links of the corridor have ramifications and spill-overs in the port. The Project seeks to address the major constraints in Ethiopia by financing improvements to infrastructure and systems and reforms to policies and procedures for handling goods and traffic. Improvements to core logistics systems is expected to lay the foundation and offer a powerful signal to the private sector to offer modern services and to innovate to meet new market demands. The private sector has expressed interest in developing storage and warehousing services. In relation to first and last mile logistics connectivity, the project interventions will include infrastructure and systems for multi-modal interfaces between road and rail transport. Based on the above, it is proposed to structure the Project in three components, one on each of the major categories of issues that need to be addressed to reduce trade logistics costs in Ethiopia.

The project comprises a mix of public infrastructure at the *Modjo* dry port, coordinated with targeted investment in ICT and regulatory and administrative reforms that improve the efficiency and coordination of logistics facilities and services. The project will also support institutional capacity building to ensure effective implementation and sustainability. The main components and sub-components of the Project are depicted in Figure 2-1.

Component 1: Improvement of infrastructure at *Modjo* ($120 million)

The *Modjo* Dry Port is the key logistics node in the intermodal transport system that is being developed in Ethiopia. This facility will be the focus for the interconnectivity between the rail link to Djibouti and road transportation for distribution and collection of import/export goods within Ethiopia. Integrating rail and road transport from Djibouti to the hinterland through this logistics node would significantly reduce freight cost, operational delays and time of delivery. The *Modjo* Dry Port will also remain the main node in the road transport system linking Ethiopia to the port of Djibouti. *Modjo* is located at a strategic point in the system and the capacity and efficiency of logistics at this site will have a critical bearing on the performance of the trade logistics system as a whole. Given its proximity to Addis Ababa and the surrounding economy, *Modjo* is the most important of the logistics nodes in Ethiopia.

The investments in infrastructure at *Modjo* will support the facility to achieve three key objectives: (i) to improve the efficiency of processing of current traffic flows through the dry

port; (ii) to increase the capacity of *Modjo* to process the projected increasing volumes of trade, including the interconnectivity between rail and road transportation, and (iii) facilitate the transformation of *Modjo* to become a logistics hub offering a wide of range of logistics services to exports as well as imports and to support diversification into a wider range of higher value-added exported products.

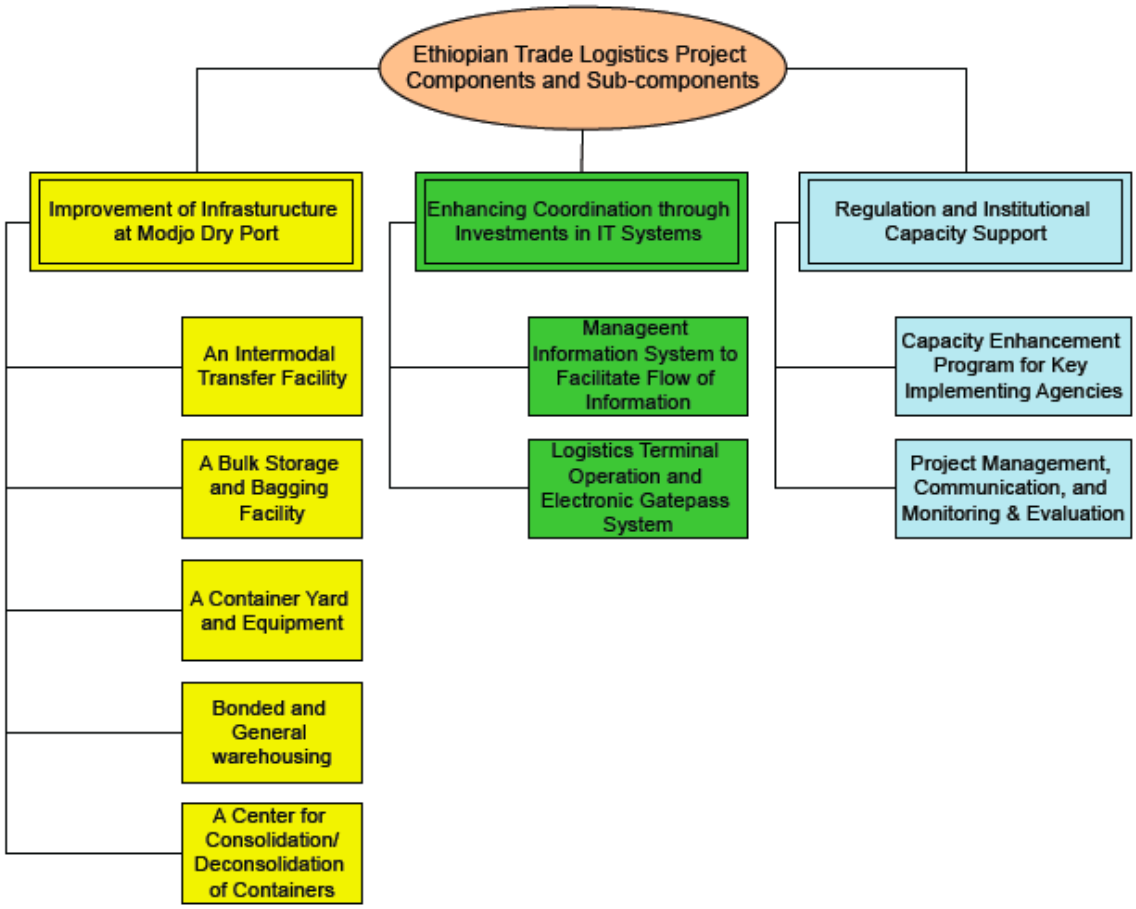


Fig. 2-1: ETLP Components and Sub-components

The proposed project will finance the expansion and upgrading of the *Modjo* Dry Port through investment in the following facilities:

An intermodal transfer facility ($27m). A rail spur into the *Modjo* Dry Port is currently being constructed by the ESLSE on existing land acquired in 2015 which the due diligence assessment has duly covered. An estimated additional 10 hectares of land will be acquired affecting eight households. This project will finance investments in capacity to allow the efficient processing of freight to/from the rail link to Djibouti from/to origins/destinations within Ethiopia served by road transportation. These investments will be essential to ensure

the seamless processing of import and export goods and to ensure that the competitive advantages from low cost rail transportation are not undermined by high costs and delays in the dry port. The project will finance a cross-docking facility and a Rail Mounted Gantry crane (RMG) to allow for efficient cargo movement from rail to trucks and truck to rail.

A bulk storage and bagging facility ($25m). Investments in bulk storage and bagging of bulk products, and especially fertilizers and grains, at *Modjo* will allow for the evacuation of these products from Djibouti and the reduction in congestion, ship waiting times and demurrage costs. The project will invest in silos and appropriate handling equipment, including bagging machines.

A container yard and equipment ($32m). To improve the capacity of *Modjo* to process current traffic flows and be ready for the projected increase in trade the project will finance civil works for an expansion of the container yard, warehouses, office buildings, utilities (such as electricity, water and sewage), machinery and equipment, including cargo handling equipment such as RTGs, reach stacker and forklifts.

Bonded and general warehousing ($20m). Currently, imported products are stored at *Modjo* in containers and the containers unstuffed at final destination. The average dwell time in the dry port for a container is 60 days. This leads to significant costs and delays in the inefficient use and allocation of containers, in congestion in the dry port and in the management of the facility. The current limited warehousing capacity is mainly devoted to customs inspection. The project will support investment in modern warehousing facilities to expedite the prompt unstuffing of containers at *Modjo* and storage of products. This investment will improve the management of containers within the port, avoiding unnecessary movements and organization of container stacks due to the long dwell times and making empty containers available to shipping lines more quickly, reducing demurrage penalties for overstayed containers. It will also help in the repositioning of empty containers for export. For high-value high duty products a secure bonded warehouse will be required.

A center for consolidation/deconsolidation of containers ($16m). Currently the logistics system is strongly geared towards the un-stuffing of import containers at the premise of the importer. There is no stuffing of containers at *Modjo,* which is partly why all containers from *Modjo* to Djibouti return empty. As a result small firms and firms without the capacity to load/unload containers on their site are severely hampered in participating in trade. A

deconsolidation facility will also reduce the transportation of empty containers from the shipper's facility, where they are currently unstuffed, back to the *Modjo* Dry Port. The project will invest in the buildings that are necessary for the un-stuffing of import containers for subsequent storage and distribution to final destination. This will enable small firms to order part container loads which are then deconsolidated on site. For exports the facility will provide for consolidation of export goods and the stuffing of export containers as well as buildings that provide for ancillary services such as packaging.

Component 2: Enhancing coordination through investments in IT systems ($15 million)

The Ethiopia logistics sector is characterized by poor coordination among logistics participants, fragmented implementation of logistics policies and the provision of low quality and unreliable logistics services. The problem is often linked to the low level usage of ICT. Continued reliance on paper documents in the exchange of official information between government agencies and the private sector means current practice is slow, unpredictable and prone to errors and omissions. Inefficient in-house business processing of information delays decision-making and release of information/decision. And yet internationally, ICT is increasingly considered as the backbone of efficient logistics systems.

Component 2 will address specific coordination failures that limit efficiency of the dry port and constrain the flow of information between stakeholders. The project will invest in 2 critical ITC based intelligent systems to reduce coordination failures and improve the efficiency of logistics provision. These systems are common features of advanced logistics systems in countries throughout the world.

Component 2A: A management information system to facilitate the provision of documents and flow of information between agencies along the corridor. ($5m)

The project will support the development of an information system that eliminates the current practice of dispatching clerks and couriers to rush physical documents to and from government office and Port of Djibouti. The current system is extremely cumbersome, time consuming and costly. It introduces unnecessary delays and uncertainty into the supply chain. An ICT based management information system will enable the electronic flow of information required by regulatory agencies along the logistics system. ESLSE does not have an adequate ICT system. The two main systems that are used by ESLSE are SES for managing the

shipping business and Sea Liner for cargo-related activities. There is no clear ICT strategy, appropriate technology, and the required investment for the freight forwarding, inland transportation, and dry port business. Consequently, too much is handled manually and communication is mainly via telephone, fax, mail and internet. The project will finance the necessary hardware and software for an Enterprise Management information System with an efficient integration platform.

Component 2B: Logistics terminal operation and Electronic Gate Pass system at the *Modjo* Dry Port ($10m)

A terminal operating system is a key part of the logistics supply chain. Such a system controls the movement and storage of various types of cargo in and around a container terminal or port and assists in the planning of use of labour and equipment. Terminal operating systems based upon ICT allow for the efficient organization of the flow of products in, out and around the terminal through a set of computerized procedures to manage cargo, machines and people within the facility to enable a seamless link between different operations within the facility. The project will support the purchase of necessary equipment, the tailoring of the system for the specific needs of the *Modjo* Dry Port and the consultancy services required for implementation of the system. The electronic Gate Pass System will be developed to reduce queues at the security entrance and enable growth of the Logistics Hub.

Component 3: Regulatory and Institutional Capacity Support ($15 million)

Component 3A: Capacity Enhancement Program for the Ethiopian Maritime Affairs Authority, Ethiopian Shipping and Logistics Enterprise, Logistics Transformation Office and Ethiopia National Logistics Transformation Council ($5 million)

The efficiency with which *Modjo* is operated and its evolution into a modern logistics hub are determined by policy, regulatory, and capacity issues. As such, the project will address the full set of binding constraints on logistics performance by combining investments in critical infrastructure with support for necessary regulatory improvements. The project will support assessments of the policy and regulatory framework that is required to ensure that *Modjo* becomes an effective and efficient central hub providing a cluster of logistics services demanded by exporters and importers. The project will support capacity building in the EMAA to assess the main regulatory challenges that may hamper the development of *Modjo*

and how they can be overcome. The main objective is to identify a policy and regulatory framework by which *Modjo* evolves from being a facility not only for ESLSE that focuses on customs clearance but a multi-user facility whereby many stakeholders cluster together to provide modern logistics services. Support from the project will include analysis (and possibly study tours) of the logistics systems in other large exporting countries, including in East Asia, and how the development of key logistics hubs has been influenced by policies and regulations.

The project will finance feasibility studies for One Stop Border Posts at *Galafi* and *Dewele*. More than 90% of the volume of Ethiopia's trade currently passes through the *Galafi* border post by road. Delays at the border add considerably to the time taken along the corridor and impact on the operation of the *Modjo* Dry Port. While processing of goods at the border post can be improved through reforms to procedures, the facilities at the border post are limited and in need of improvement. Significant investments are required to increase the speed of flow of goods and people across the border. The Joint Commission of the Governments of Ethiopia and Djibouti had agreed to improve the border posts at *Galafi* through a One Stop Border Post (OSBP). *Dewele* is the other official route from Djibouti to Ethiopia along which traffic is expected to intensity following improvements to the road. A new OSBP has been constructed by the government at *Dewele* for rail traffic. The Governments of Ethiopia and Djibouti have expressed an intention to also introduce an OSBP for road traffic along the *Dewele* corridor. The feasibility studies would focus on a baseline study, which would include an environmental scan and identify site location issues and ground realities that would impact the functioning of an OSBP or any other alternative to improve the efficiency of the border post. The recommendations would be discussed by stakeholder workshops and analysed by the Project's Technical Working Group.

Component 3B: Project Management, Communication and Monitoring and Evaluation ($ 10 million)

This component would finance the activities of the Project Implementation Unit (PIU). The PIU would oversee the implementation of project activities, fiduciary management, monitoring and evaluation (M&E), and reporting. The continuous M&E of the implementation of policies and key programs will be a critical role of the PIU and therefore a strong emphasis will be put on capacity building.

The geographic location of the current *Modjo* Dry Port is indicated in Fig. 2-2. Figures 2-3 and 2-4 depict the current port and the proposed Project sites.

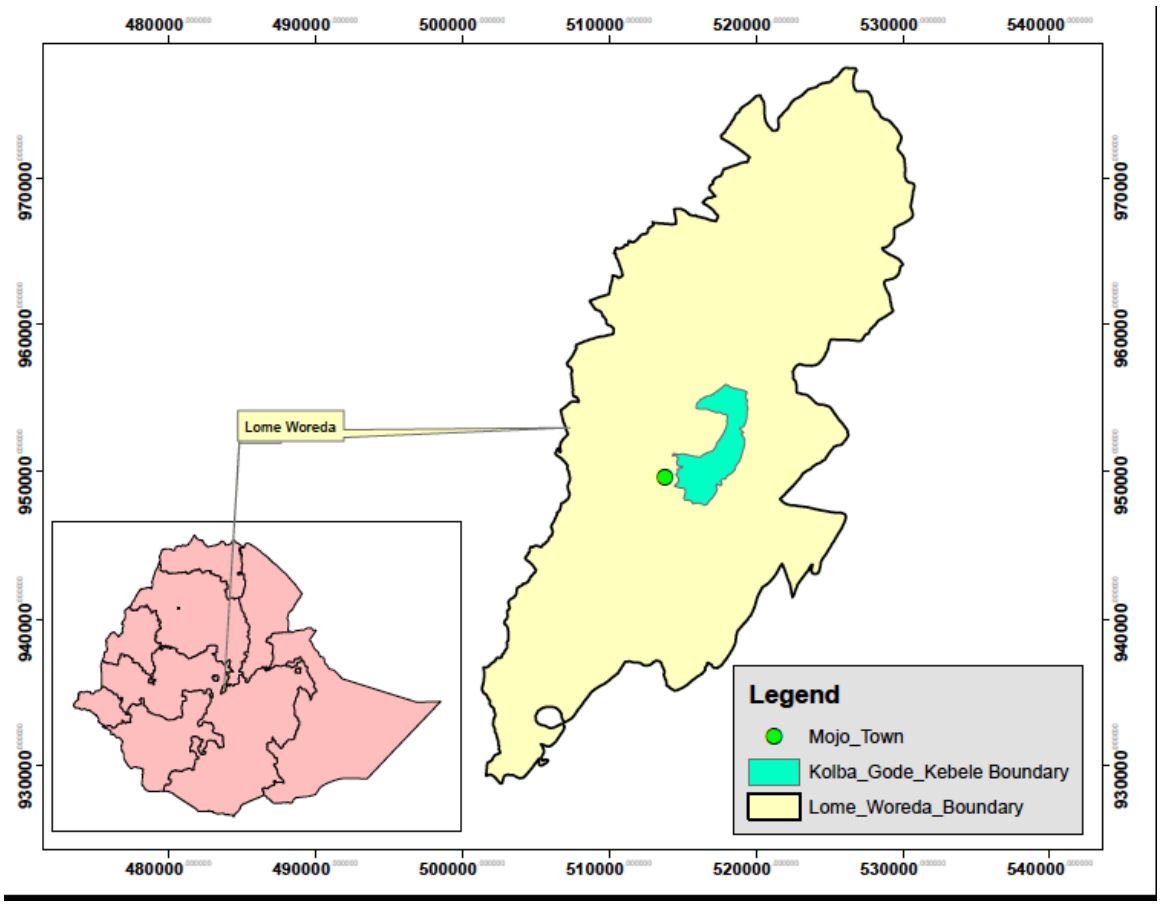


Fig. 2-2: Location map of the current *Modjo* Dry Port

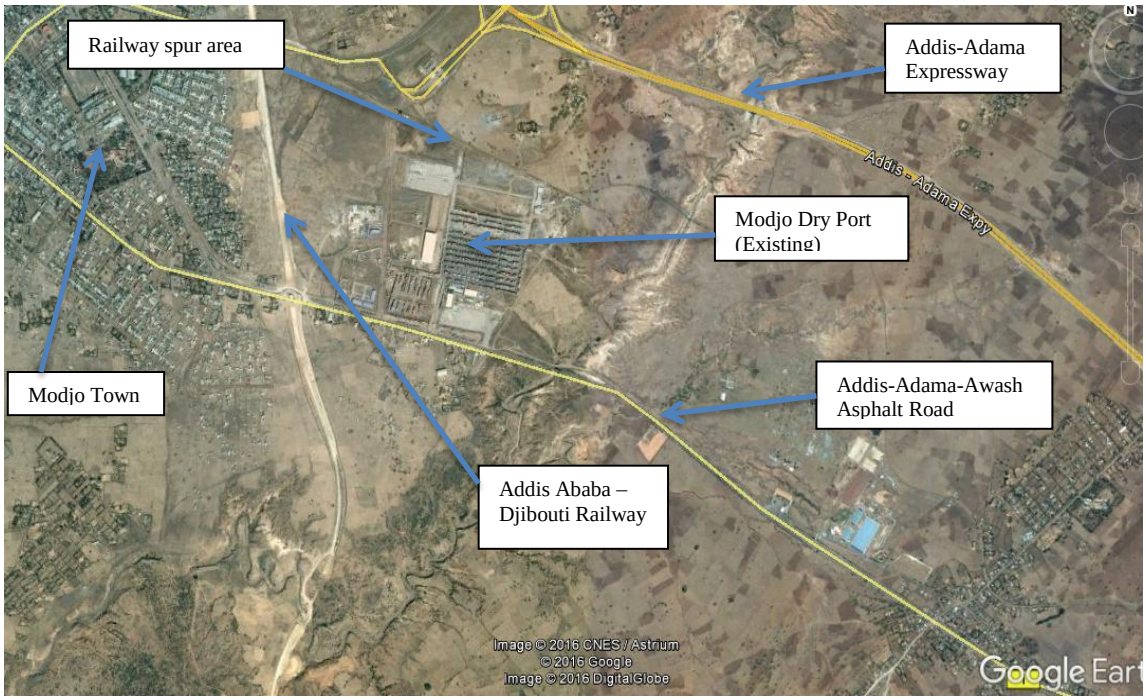


Fig. 2-3: Location map of the current *Modjo* Dry Port

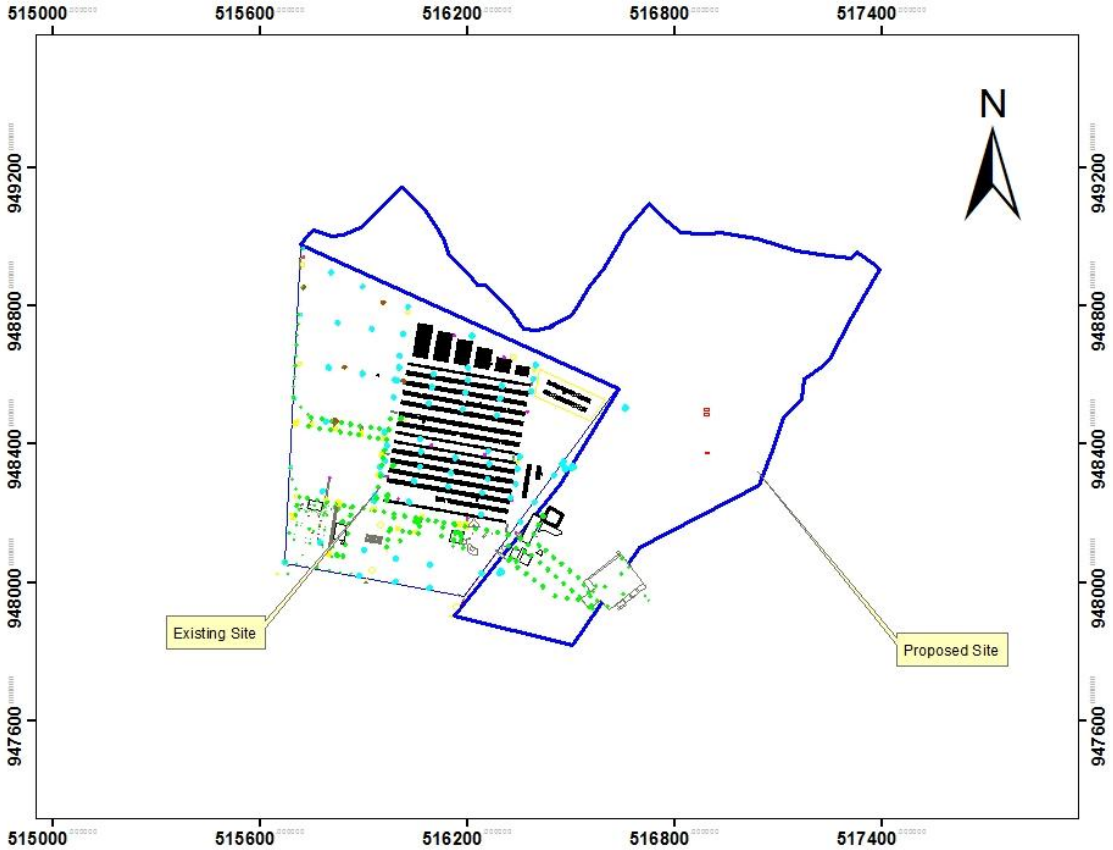


Fig. 2-4: The proposed Project area at *Modjo* Dry Port

3. ADMINISTRATIVE, ENVIRONMENTAL POLICY AND LEGAL FRAMEWORK

This chapter presents relevant environmental policies, legislative framework at the Federal and Regional level in which the Ethiopian Trade Logistics Project is proposed, with which the project must comply. The chapter also presents organizations responsible for the preparation of environmental policy and technical guidelines, review and close follow-up of implementation of environmental safeguard measures.

3.1 Institutional and Administrative Framework

3.1.1 Federal Democratic Republic of Ethiopia

The Federal Democratic Republic of Ethiopia (FDRE) comprises the Federal State and nine Regional State members. The power and duties of the Federal, Regional and Local governments have been defined by Proclamations 33/1992 and 41/1993, and 4/1995. Under these proclamations, duties and responsibilities of Regional States include: planning, directing and developing social and economic development programs, as well as the protection of natural resources of their respective regions.

3.1.2 Regional Governments

The *Modjo* Dry Port is located in the *Oromia* Regional State. A region is divided into zones and *woredas*. The basic administration unit is the *Woreda* and each *woreda* is sub-divided into *Kebeles* and Peasant/Farmer Associations. Each administrative unit has its own local government elected by the people. Based on the powers and responsibilities vested in the regional governments during establishment, the regional governments under consideration have established sectoral bureaus, commissions and authorities.

3.1.3 Institutional Arrangement for Environmental Protection

The Environmental Protection Organs Establishment Proclamation No. 295/2002, which was entered into force on 31st October 2002, establishes the institutional arms of the Federal Government of Ethiopia to ensure the realization of the objectives of the Constitution and of the Environmental Policy of Ethiopia with respect to environmentally sustainable management of economic and social development of the country, both at federal and regional levels. The Proclamation directs every relevant sectoral agency of the federal government to set up an environment unit as part of its organizational structure and also for each regional state to establish an autonomous regional environmental agency. Apart from assigning specifically defined responsibilities to the Environmental Protection Authority (EPA), the

Proclamation links the efforts of regional states with that of the EPA by instructing the regional states to prepare and submit reports on the respective state of the environment and sustainable development to the EPA.

In view of the multi-sectoral nature of the EPA and the number of government agencies involved in various aspects of environmental management, overall co-ordination and policy review and direction is the responsibility of an Environmental Protection Council (EPC) within EPA.

The EPC is charged, among others, to review proposed environmental policies, strategies and laws, and issue recommendations to the Government; evaluate and provide appropriate advise on the implementation of the environmental policy of Ethiopia based on report submitted to it by the EPA; and review and approve directives, guidelines and environmental standards prepared by the Authority. The EPC comprises the following as members: the Prime Minister or his designate (Chairperson); Ministers to be designated by the Federal Government; a representative designated by each National Regional State; a representative of the Ethiopian Chamber of Commerce; a representative of local environmental non-governmental organizations (NGOs); a representative of the Confederation of Ethiopian Trade Unions; and the Director General of the EPA. The council shall hold its regular meetings once every six months; but it may also, at any time, hold extraordinary meetings whenever deemed necessary.

3.1.4 Ministry of Environment, Forest and Climate Change (MEFCC)

EPA was re-established in October 2002, under Proclamation 295/2002. It is an autonomous federal institution reporting directly to the Prime Minister. EPA was upgraded into Ministry of Environment and Forest as per the Proclamation to amend the proclamation on the definition of powers and duties of the executive organs of the Federal Democratic Republic of Ethiopia (Proclamation No. 803/2013). The ministry's mandate was further expanded to include climate change as per Proclamation No. 916/2015 and it was renamed as Ministry of Environment, Forest, and Climate Change (MEFCC). This proclamation mandates MEFCC to exercise the following powers and duties:

- Coordinate activities to ensure that the environmental objectives provided under the Constitution and the basic principles set out in the Environmental Policy of the Country are realized;

- Establish a system and follow up implementation for undertaking environmental impact assessment or strategic environmental assessment on social and economic development polices, strategies, laws, programmes and project set by the government or Private Sector;
- Prepare a mechanism that promotes social, economic and environmental justice and channel the major part of benefit derived thereof to the affected communities to reduce emissions of greenhouse gases that would otherwise have resulted from deforestation and forest degradation;
- Coordinate actions on soliciting the resources required for building a climate resilient green economy in all sectors and at all Regional levels; as well as provide capacity building support and advisory services;
- Establish a system for evaluating and decision making, in accordance with the Environmental Impact Assessment Proclamation, the impacts of implementation of investment programs and projects on environment prior to approvals of their implementation by the concerned sectoral licensing organ or the concerned regional organ;
- Prepare programmes and directives for the synergistic implementation and follow up of environmental agreements ratified by Ethiopia pertaining to the natural resources base, desertification, forests, hazardous chemicals, industrial wastes and anthropogenic environmental hazards with the objective of avoiding overlaps, wastage of resources and gaps during their implementation in all sectors and at all governance levels;
- Take part in the negotiations of international environmental and climate change agreements and, as appropriate, initiate a process of their ratification; play key role in coordinating the nationwide responses to the agreements;
- Formulate or initiate and coordinate the formulation of policies, strategies, laws, guidelines and programs to implement international environmental agreements to which Ethiopia is a party; and upon approval, ensure their implementation;
- Formulate environmental safety policies and laws on the production, importation, management and utilization of hazardous substances or wastes, as well as on the development of genetically modified organisms and the importation, handling and

utilization of genetically modified organisms or alien species, and ensure their implementation;

- Prepare or cause the preparation of environmental cost benefit analysis and formulate an accounting system to be integrated in development plans and investment programs, as the case may be, monitor their application;
- Propose incentives or disincentives to discourage practices that may hamper the sustainable use of natural resources or the prevention of environmental degradation or pollution;
- Establish an environmental information system that promotes efficiency in environmental data collection, management and use;
- Coordinate, and as may be appropriate, carry out research and technology transfer activities that promotes the sustainability of the environment and the conservation and use of forest as well as the equitable sharing of benefits accruing from them while creating opportunities for green jobs;
- In accordance with the provisions of the relevant laws, enter any land, premises or any other place that falls under the Federal jurisdiction, inspect anything and take samples as deemed necessary with a view to discharging its duty and ascertaining compliance with the requirements of environmental protection and conservation of forest;
- Prepare and disseminate a periodic report on the state of the country's environment and forest as well as climate resilient green economy;
- Promote and provide non-formal environmental education programs, and cooperate with the competent organs with a view to integrating environmental concerns in the regular educational curricula;
- Establish a system for development and utilization of small and large scale forest including bamboo on private, communal and watershed areas, and ensure implementation of same;
- Establish a system for protection and, as the case may be, for sustainable utilization of the natural forest resources of the country; and ensure its implementation;

- Establish a system to rehabilitate degraded forestland and ensure its implementation to enhance their environmental and economic benefits.

With these powers, MEFCC has the mandate to involve itself with all environmental issues and projects that have a federal, inter-regional (involving more than one Region) and international scope.

3.1.5 Regional Environmental Agency

Proclamation No. 295/2002 empowers each regional state to establish its own independent environmental agency with the responsibilities to coordinate and follow-up the regional effort to ensure public participation in the decision making process, to play an active role in coordinating the formulation, implementation, review and revision of regional conservation strategies as well as to foster environmental monitoring, protection and regulation. Many of the responsibilities related to environment within the regional governments have been formulated and autonomous bureaus have been organized to handle or manage environmental activities in every regional government.

According to this proclamation, the regional government‘s office for environmental protection activities shall: coordinate the formulation, implementation, review or revision of regional conservation strategies based on the CSE; facilitate the establishment of lower level environmental coordinating bodies at the zone, *woreda* and community levels; ensure the implementation of Federal environmental standards or, as appropriate, issue and implement their own no less stringent standards, and prepare reports on the state of the environment and sustainable development of their respective states and submit them to the Authority.

3.1.6 Sectoral Environmental Units

Each federal and regional organization of the government that deals with environmental matters is required by Proclamation No. 295/2002 to set up its own unit with the responsibilities to coordinate and follow-up in order to ensure that its activities are in harmony with the national efforts to protect the environment. Several institutions at federal and regional levels have established their in-house environmental units.

3.1.7 Ethiopian Maritime Affairs Authority (EMAA)

EMAA was established according to the Maritime Sector Administration Proclamation (549/2007). EMAA is bestowed with a number of powers and duties, some of which are, to inspect and regulate all dry port and vessel services and facilities, the services of custom

check points; to regulate and supervise dry ports, freight forwarders, ship agents, and the operation of customs clearing, to issue detailed directives, coordinate their tasks, and improve their capacity; conduct research and prepare plans and programs for dry ports and other projects relating to maritime transport construction, improve and maintain dry ports and their facilities for the use in accordance with the authorized programs, ensure the availability of safe and adequate marine transport and dry port services; require the provision of necessary marine and surface transport issuance. There is no direct provision about regulating pollution in and around dry ports. However, Article 6.15 mandates the EMAA to regulate maritime pollution and contamination.

The Logistics Transformation Office (LTO) of EMAA is the project implementation unit (PIU) of the Ethiopian Trade Logistics Project. EMAA has a special Maritime Safety and Security, and Environmental Protection Team whose roles and responsibilities are tilted towards maritime safety and security. Staffed with just one person, the team apparently lacks the staff and capacity and initiative to accommodate environmental issues in and around the dry ports.

The PIU reports progress to the EMAA PIU Board consisting of four members, who are directors of four directorates in EMAA. The board is be chaired by Head of the Logistics Division (logistics Transformation Office). The PIU Board reports to the Director General of EMAA. The Director General of EMAA reports to the Minister of Transport, and both sit in the board of ESLSE, the latter serving as its Chair.

3.1.8 Ethiopian Shipping and Logistics Services Authority (ESLSE)

Dry ports in Ethiopia are owned and operated by ESLSE. The Council of Minsters Regulation No. 136/2007 about Dry Port Administration Enterprise Establishment established the enterprise. The establishment of the dry ports is intended to ensure the import and export of goods with optimum efficiency in Ethiopia. ESLSE currently manages eight dry ports, namely, *Modjo*, *Dire Dawa*, *Bahir Dar*, *Kombolcha*, *Mekelle*, *Gelan*, *Semera*, and *Comet*.

3.1.9 Ministry of Transport

EMAA is currently accountable to the Ministry of Transport, which shall have, among others, the powers and duties to: promote the expansion of transport services; ensure that the provision of transport services are integrated and are in line with the country's development

strategies; ensure the establishment and implementation of regulatory frameworks to guarantee the provision of reliable and safe transport services; and ensure that transport infrastructures are constructed, upgraded and maintained.

3.2 National Policies and Strategies

3.2.1 Constitution of the FDRE

The Constitution of the FDRE, which entered into force on August 21st 1995, forms the fundamental basis for enactment of specific legislative instruments governing environmental matters at the national level and which are relevant to the Project Road. Articles 43, 44 and 92 of the Constitution specifically deal with the right to development, environmental rights and environmental objectives respectively. Thus:

In a section that deals with the right to development (Article 43):

- Article 43 (1) gives broad right to the peoples of Ethiopia to improved living standards and to sustainable development.
- Article 43 (2) acknowledges the rights of the people to be consulted with respect to policies and projects affecting their community.
- Article 43 (3) requires all international agreements and relations by the State to protect and ensure Ethiopia's right to sustainable development.

In a section that deals with environmental rights, Article 44 guarantees "the right to a clean and healthy environment". On the other hand, in a section that deals with environmental objectives, Article 92 sets out the Federal policy principles and significant environmental objectives. More specifically Article 92:

- Affirms the commitment of the Government to endeavor towards ensuring that all Ethiopians live in a clean and healthy environment.
- Warns that the design and implementation of development programs and projects should not to damage or destroy the environment.
- Guarantees the right of people to full consultation and their expression of views in the planning and implementation of environmental policies on projects that affect them directly.
- Imposes the duty on Government and citizens to protect the environment.

In the context of land ownership and holding right:

Article 40 (3) vests the right to ownership of rural and urban land, as well as of all natural resources, in the government and in the peoples of Ethiopia. It recognizes land as a common property of the Nations, Nationalities of and peoples of Ethiopia and prohibits sale or any other exchange of land.

Article 40 (4) guarantees the right of farmers to obtain land without payment and protection against eviction from their possession; and

Article 40 (5) guarantees the right of pastoralists to free land for grazing and cultivation as well as the right not to be displaced from their own lands.

In recognition of the value of human input on land, Article 40 (7) states that "Every Ethiopian shall have the full right to the immovable property he builds and to the permanent improvements he brings about on the land by his labor or capital. This right shall include the right to alienate, to bequeath, and where the right to use expires to remove his property, transfer his title, or claim compensation for it."

3.2.2 National and Regional Conservation Strategies

Since the early 1990s, the Federal Government has undertaken a number of initiatives to develop regional, national and sectoral strategies for environmental conservation and protection. Paramount amongst these was Conservation Strategy of Ethiopia (CSE), approved by the council of ministers, which provided a strategic framework for integrating environmental planning into new and existing policies, programs and projects. The CSE is an important strategy document, which views environmental management from several perspectives. The CSE itself provides a comprehensive and rational approach to environmental management in a very broad sense, covering national and regional strategies, sectoral and cross-sectoral strategy, action plans and programs, as well as providing the basis for development of appropriate institutional and legal frameworks for implementation.

The plan comprehensively presented the exiting situation within the country and gave a plan of priority actions on the short and medium term. In particular, it recognizes the importance of incorporating environmental factors into development activities from the outset, so that planners may take into account environmental protection as an essential component of economic, social and cultural development.

3.2.3 Environmental Policy of Ethiopia

Ethiopia has formulated a national policy and Conservation Strategy on April 1997 for environmental management and protection and hence to implement the provisions of the Constitution on environmental matters. These policy and strategy documents address environmental issues in a holistic manner.

The overall environmental policy goal of Ethiopia is to improve and enhance the health and quality of life of all citizens and to promote sustainable social and economic development through the sound management and use of natural, human-made and cultural resources and the environment as a whole so as to meet the needs of the present generation without compromising the ability of future generations to meet their own needs.

The environmental policy has specific policy objectives including the improvement of the environment on human settlements, prevention of pollution of land, water and air, the improvement of the cultural and natural heritage of the country, the empowerment and participation of the society in environmental management, the need for environmental education and environmental impact assessment.

Overall, the environmental policy seeks to:

- Ensure that essential ecological processes and life support systems are sustained, biological diversity is preserved and renewable natural resources are used in such a way that their regenerative and productive capabilities are maintained and, where possible, enhanced so that the satisfaction of the needs of future generations is not compromised; and, where this capability is already impaired, to seek through appropriate interventions a restoration of that capability;
- Ensure that the benefits from the exploitation of non-renewable resources are extended as far into the future as can be managed, and minimize the negative impacts of their exploitation on the use and management of other natural resources and the environment;
- Identify and develop natural resources that are currently under-utilized by finding new technologies and/or intensifying existing uses which are not widely applied;
- Incorporate the full economic, social and environmental costs and benefits of natural resource development into the planning, implementation and accounting processes by

a comprehensive valuation of the environment and the services it provides, and by considering the social and environmental costs and benefits which cannot currently be measured in monetary terms;

- Improve the environment of human settlements to satisfy the physical, social, economic, cultural and other needs of their inhabitants on a sustainable basis;
- Prevent the pollution of land, air and water in the most cost-effective way so that the cost of effective preventive intervention would not exceed the benefits;
- Conserve, develop, sustainably manage and support Ethiopia's rich and diverse cultural heritage;
- Ensure the empowerment and participation of the people and their organizations at all levels in environmental management activities; and
- Raise public awareness and promote understanding of the essential linkages between the environment and development.

The policy is currently under review in order to encompass emerging issues (such as climate adaptation, greenhouse gas mitigation, management of e-wastes and wetland management). A brief summary of the draft policy is presented in the section below.

Revised Environment Policy of Ethiopia (draft)

The draft is currently in its eighth iteration subject to approval by the competent government body. Its goals, objectives and guiding principles are largely unchanged from the previous policy. It has nine sectoral policy and 18 cross-sectoral goals. Climate Change issues are amplified as a major cross-sectoral goal in the revised policy. Accordingly, sections are included to reflect this issue and ensure that Disaster Risk management (DRM) and Climate Change Adaptation are included within respective sectoral policies to minimize and eliminate possible climatic and environmental hazards. The Policy, in this line also seeks to:

- Strengthen early warning and response systems to monitor the emerging climatic and related hazards in order to be able to trigger early and appropriate responses to reduce or mitigate disaster.
- Enhance early warning and response systems for climate induced and non climate disaster risk reduction

- Integrate climate change into development strategies
- Ensure climate-financing mechanism that will help the country take advantage of new and emerging climate change funds and also includes innovative ways to fund climate change actions.
- Develop and implement awareness raising strategies and capacity development programs on the climate change adaptation and mitigation measures.

3.2.4 National Population Policy

This National Population Policy (NPP) was issued in April 1993 and aims at closing the gap between high population growth and low economic productivity through a planned reduction in population growth in combination with an increase in economic returns. With specific reference to natural resources, the main objectives of the NPP are:

- Making population and economic growth compatible and the over-exploitation of natural resources unnecessary;
- Ensuring spatially balanced population distribution patterns, with a view to maintaining environmental security and extending the scope of development activities;
- Improving productivity of agriculture and introducing off-farm non-agricultural activities for the purpose of employment diversification; and
- Maintaining and improving the carrying capacity of the environment by taking appropriate environmental protection and conservation measures.

3.2.5 National Policy on Women

In 1993, the government introduced the National Policy on Women (NPW) for Ethiopia. Among the major objectives of the NPW are creating conducive environments to ensure equality between men and women so that women can participate in the political, social, and economic decisions of their country, and facilitating the necessary condition for rural women to have access to basic social services. The policy is also intended to create the appropriate structures within the government offices to establish and monitor the implementation of different gender-sensitive and equitable public policies.

Following the policy recommendation of creating an appropriate government structure at the various tiers of government, there are now ministries/bureaus/offices of women's affairs. At

the federal level, one of the duties and responsibilities of the ministry for women, youth and children affairs is conducting and monitoring women's affairs activities at the national level and creating an environment for the implementation of the NPW in different sectors. At regional, zonal, *woreda*, and *kebele* levels, there are respective offices (at *Kebele* level, usually individuals are assigned in lieu of an office). On the other hand, those situated in line sectors/ministries are mandated to identify issues of gender gaps and develop strategies to address inequalities in the respective line ministries and their sub-sectors. The Women's Affairs Offices are formally accountable to their respective councils, many of which have women's affairs or social affairs committee that are engaged in oversight activities. The plans included steps to enhance rural women's access to and control over productive resources like land, extension, and credit.

3.2.6 Rural Development Policy and Strategy

The Agriculture Development-led Industrialization's (ADLI's) core tenet is that increased agricultural productivity is the engine for both agricultural and industrial growth. That is, through the use of Green Revolution technologies, the low productivity of traditional Ethiopian farming systems would be substantially improved.

The ADLI is reflected in the Rural Development Strategy (2001), which further stresses the role of increased agricultural production as the basis for the country's development. The strategy is driven by the quest for ensuring food security and enhancing rural employment opportunities. The Strategy is made up of eight building blocks; namely, Technology generation and dissemination; Food security, including resettlement and water harvesting; Agricultural extension and vocational training; Agricultural marketing (of inputs and outputs); Rural finance; Development of cooperatives; Rural transport; and Rural land administration and management.

In most of the above building blocks, environmental considerations are included in an implicit manner. Explicit consideration is rather given to the need to sustain production through use of appropriate technologies, development of tailored extensions and trainings to agro-ecological zones, and sustainable land management and land use.

Resettlement, which is included under the food security block, also includes the need for careful assessment of land resources and disease problems in the resettlement sites. It also

calls for communities to take responsibility for environmental protection and rehabilitation within resettlement areas.

3.2.7 Second Growth and Transformation Plan (GTP-II)

The second Growth and Transformation Plan (GTP II) is the five-year national development strategy document covers the period 2015/16-2019/20, framed as a sequel to GTP I that was implemented for the preceding five years.

The second GTP acknowledges the successes of the GTP 1 in bringing about significant achievements through natural resource conservation and management activities undertaken throughout the country. As such, during the GTP I period major activities have been carried out in watershed management, soil and water conservation works through productive and organized social mobilization. Forestry development, protective and utilization were also implemented with increased effectiveness by active engagement of communities across the county. Besides, it underscores the role of Ethiopia's Green Economy Strategy in inspiring and mobilizing the nation.

The current strategy clearly stipulates the need and commitment for mainstreaming environmental considerations in the industrial development and structural transformation of the nation. It also underlines the need for meeting national and international environmental standards and regulations for some sectors that have potential negative impacts on the environment.

Building climate resilient green economy is one of the nine key strategic pillars for GTP II. In line with this, during this period, Ethiopia will focus on adaptation to climate change and mitigation of greenhouse gas (GHG) emissions, reducing greenhouse gas emission through enhancing productivity of the crop and livestock sub-sectors that improve food security and income of farmers and pastoralists, protecting and rehabilitation of forests for their economic and ecosystem services. Expanding electricity power generation from renewable sources of energy for domestic and regional markets, leap frogging to modern and energy efficient technologies in transport, industry and buildings strategies will be a major agenda to build climate resilient green economy. The post-2015 sustainable development goals related to green economy will be integrated and implemented aligned with the sectors' climate resilient green economy development strategy.

In order to achieve the aforementioned and other goals of the sector, several strategies and

mechanisms are designed.

- In terms of reducing GHGs, sector specific GHG reduction action plan will be prepared and strong monitoring and follow-up will be carried out to achieve these goals.
- In order to mobilize more resources, strong partnership will be created with domestic and international development partners who are affiliated to climate change and green economy.
- Besides, various strategies will be implemented to realize climate resilient and sustainable development and their implementation will be monitored, and ensuring the implementation of climate change adaptation strategies at all levels and preparing compliance reports will also be prepared.
- In relation to forest development, to deepen lessons and research on forest protection and utilization, strategies are designed in areas of conducting capacity need assessment of implementing institutions, creating systems to work with training and research institutes and developing forest development packages and manuals and conducting different trainings.
- Besides, developing systems in relation to environmental protection and forest development and utilization creating awareness on environmental strategies and laws at different levels of officials, experts and the community at large are also among the strategies designed.

In a nutshell, a major objective of this key strategy is enabling rapid and equitable economic growth to be achieved in sustainable and environmentally sound manner, ensuring the implementation of the CRGE strategy in each sector of the economy and increasing the economic and social impact of the forest sector through enhancing forest development, protection and utilization are the objectives of the sector in the second GTP.

The GTP II Strategy document also sets out some key indicators with targets that are relevant to this assessment.

3.2.8 Climate Resilient Green Economy Strategy

Building on the positive development of recent years, Ethiopia aims to achieve middle-income status by 2025 while developing a green economy. To this end, boosting agricultural productivity and strengthening the industrial base will be essential to reach this goal.

Following the conventional development path would, among other adverse effects, result in a sharp increase in GHG emissions and unsustainable use of natural resources. To avoid such negative effects, the government has developed a strategy to build a climate-resilient green economy (CRGE).

The CRGE initiative follows a sectoral approach and aims at overcoming the challenges of developing a green economy. This strategy focuses on four pillars (including renewable and clean sources of power) that will support Ethiopia's developing green economy:

- Adoption of agricultural and land use efficiency measures;
- Increased GHG sequestration in forestry, i.e., protecting and re-establishing forests for their economic and ecosystem services including as carbon stocks;
- Deployment of renewable and clean power generation; and
- Use of appropriate advanced technologies in industry, transport, and buildings.

It is believed that establishing these pillars within the relevant parts of the economic development plan will prevent the economy from being locked into an unsustainable pathway and can help to attract the investment required for their development.

3.3 Environmental Framework Legislation

The broad guiding principles under the Federal Constitution and the more instructive directions set out under the Environmental Policy of Ethiopia have been further expanded and refined by three environmental framework legislations designed to enable implementation of the Federal policies on environment. These legislations are instrumental to translating the broad objectives of the policies into practice, as they provide for specific rules of substance and procedures having the force of law across the country. The legislations are described below.

3.3.1 Proclamation on Institutional Arrangement for Environmental Protection

The Proclamation for the Establishment of Environmental Protection Organs, No. 295/2002, was issued to establish a system that fosters coordinated but differentiated responsibilities among environmental protection agencies at Federal and Regional Levels. The Proclamation recognizes assigning responsibilities to separate organizations for environmental development and management activities on the one hand, and environmental protection, regulations and monitoring on the other is instrumental for the sustainable use of environmental resources, thereby avoiding possible conflicts of interests and duplication of efforts. A series of institutional mandates that would extend the powers and duties of the EPA EPC beyond those defined in the enabling legislation, which established these bodies are also included. Powers and duties are also proposed in relation to Zonal, *Woreda* and Community Environmental Coordinating Committees, which will also be established.

3.3.2 Proclamation for the Establishment of Oromia Bureau of Land and Environmental Protection

Proclamation No. 147/2009 of the *Oromia* National Regional State (NRS) provides for the establishment of *Oromia* Bureau of Land and Environmental Protection (OBoLEP), which came into force as the 5th of Mach 2009 and proclamation on *Oromia* Rural Land Administration and Use in line with the powers given to regional governments, the *Oromia* NRS issued (Proc. No. 55/2002) for those projects in *Oromia* region.

3.3.3 Proclamation on Environmental Impact Assessment

The Environmental Impact Assessment Proclamation was issued in 2002 in order to make environmental and social impact assessment a mandatory procedure for projects to be undertaken by the government, public or private entities that require environmental and social impact analysis. The Proclamation elaborates considerations with respect to the assessment of positive and negative impacts and states that the impact of a project shall be assessed on the basis of the size, location, nature, cumulative effect with other concurrent impacts or phenomena, trans-regional context, duration, reversibility or irreversibility or other related effects of a project. Based on directives or guidelines pursuant to this proclamation, projects will be categorized as:

- Projects that are not likely to have negative impacts, and thus do not require environmental impact assessment; and
- Projects that are likely to have negative impacts and thus require environmental

impact assessment.

As per this proclamation, ESLSE needs to undertake ESIA before embarking on its operations. After securing funds for the Project, ESLSE will then submit the report to the regional EPA for review and approval.

3.3.4 Proclamation on Environmental Pollution Control

The Proclamation on Environmental Pollution Control (No. 300/2002)[1] is mainly based on the right of each citizen to a healthy environment, as well as on the obligation to protect the environment of the Country. The primary objective of the Proclamation on Environmental Pollution Control is to provide the basis from which the relevant ambient environmental standards applicable to Ethiopia can be developed, and to make the violation of these standards a punishable act. The Proclamation states that the "polluter pays" principle will be applied to all persons.

Under this Proclamation, the EPA is given the mandate for the creation of the function of Environmental Inspectors. In order to ensure implementation of environmental standards and related requirements, inspectors of the Authority or of the relevant Regional environmental agency are empowered by the Proclamation (Article 7(1)) to enter, without prior notice or court order, any land or premises at any time, which seems to them appropriate. Such a wide discretionary power of inspectors explains the serious concern and commitment of Ethiopia to the protection of the environment from pollution.

The aim of the proclamation is to control and manage possible causes of environmental pollution from hazardous substances, waste and any other forms of pollutants that pose serious environmental, social and health threats. The proclamation has important provisions on environmental standards, inspection procedures, offences and penalties, etc. In its provision to control pollution, the proclamation states that, among others:

- No person shall pollute or cause any other person to pollute the environment by violating the relevant environmental standards,

[1] Although several standards were issued for various industrial sectors following this proclamation, none of these standards directly apply to the current Project.

- The Authority or the relevant Regional environmental agency may take an administrative or legal measure against a person who, in violation of law, releases any pollutant to the environment.

3.3.5 Proclamation on Solid Waste Management

This proclamation on solid waste management (No. 513/2007) aims to prevent the adverse impacts and enhance benefits resulting from solid waste management practices. It provides the framework for the preparation of solid waste management action plans by urban local governments. The law recognizes existing solid waste management problems in the country and emphasizes the need to prevent environmental pollution that may result from the disposal of solid waste. While it empowers regional environmental agencies to draw out their plans as regards the implementation of the Proclamation and monitoring efficacy, it gives the mandate of coordination overseeing implementation to the Ministry of Forest, Environment and Climate Change.

Community participation is a core principle in the Proclamation. Urban local governments are empowered to prepare solid waste management action plans. Urban Administrations are duty bound to ensure the participation of the lowest administrative levels and their respective local communities in designing and implementing their respective solid waste management plans. Under Article 5.1 it is expected that each regional state or urban administration would set its own waste management schedule and, based on that, prepare its solid waste management plan and report the implementation of such plans.

3.3.6 Regulation 159/2008, Prevention of Industrial Pollution Regulation

This is one of the subsidiary legislations aiming at implementing the Environmental Pollution Control Proclamation No. 300/2002 across industrial activities. Its objective is to ensure compatibility of industrial development with environmental concerns through ethical and proper management of resources.

The law confers obligations to industrial operators whereby their facility, should it fall under the ambit of jurisdiction of the regulation, prevent or minimize the generation and release of pollutants to a level not exceeding the set environmental standards of the country. The regulation also obliges industrial operators to handle its equipment, inputs and products in a manner that prevents damage to the environment and to human health. Moreover, the regulations urge industrial operators to prepare and implement an emergency response system

of their own. On the other hand industrial operators are required to prepare and implement internal environmental monitoring systems and keep written records of the pollutants generated and the disposal mechanisms employed to get rid of them. In relation to this, factories are required by the regulation to submit annual compliance reports with the provision of the regulations.

3.3.7 Environmental Guidelines

As a step forward in developing the environmental policies and legislations, the EPA issued a procedural guideline, which defines specific examinations to which a proposed project needs to be subjected in the process of environmental impact assessment.

To this effect, at the project identification phase, based on EPA's guideline, projects are categorized in one of the following three schedules: namely:

- ***Schedule 1***: Projects, which may have adverse and significant environmental impacts, and may, therefore, require full EIA;
- ***Schedule 2***: Projects whose type, scale or other relevant characteristics have potential to cause some significant environmental impacts but not likely to warrant an environmental impact study; or
- ***Schedule 3***: Projects, which would have no impact and does not require environmental impact assessment

According to the guideline, all projects in environmentally sensitive areas are treated as equivalent to Schedule 1 activities irrespective of the nature of the project. On this basis, therefore, the Ethiopian Trade Logistics Project is Schedule 1 Project requiring full environmental impact assessment, necessitating this ESIA.

The procedural guideline currently in effect is one that was issued in November 2003 and sets forth the various stages of evaluation that a project proposal needs to pass through. These stages are pre-screening consultation, screening, scoping, environmental impact study, reviewing and decision-making. Pre-screening consultation is not an actual stage in the EA process but a point where the proponent and the relevant environmental organ establish contact and hold consultation on how best to proceed with the EA. The environmental organ may also conduct environmental audit or surveillance of a project to ensure compliance with

the environmental quality criteria or other provisions stated in the environmental impact assessment.

3.4 Social Legal Frameworks

3.4.1 The Federal Rural Lands Administration and Utilization Proclamation

The Constitution leaves the detailed implementation of the provisions concerning tenure rights over rural land to be determined by subsequent specific laws to be issued at both the federal and regional levels. Accordingly, at the Federal level, the Rural Lands Administration and Utilization Proclamation were enacted in 1997 to further determine the land use system and use rights in the country.

The Proclamation provides that land administration laws to be enacted by Regions should be based on the provisions provided therein and specifies the basic principles of rural land distribution and utilization including the scope of land use right, which Regional laws should grant. Similar to the Constitution, the Proclamation provides that peasants and nomads (pastoralists) shall have the right to get rural land holding the size of which shall be determined based upon the particular conditions of the locality and free of charge.

3.4.2 Proclamation on Expropriation of Land and Compensation

The Federal legislation on Expropriation of Land for Public Purposes and Compensation (Proclamation No. 455/2005) in effect repealed the outdated provisions of the Ethiopian Civil Code of 1960 regulating land acquisition and compensation for the purpose of public projects. This new legislation established detail procedures setting the time limits within which land could be acquired after a request is received from a proponent, principles for assessment of compensation for properties on the land as well as for displacement compensation. It also empowered the *Woreda* Administration to establish valuation committees to value private properties. In the case of public-owned infrastructures to be removed from the right-of-way, the owners of the structures would assess the value of the properties to be removed. Additionally the legislation provided for appeals on valuation decisions but such action would not delay transfer of possession of land to the proponent or contractor appointed by the proponent.

This Proclamation helps to undertake smoothly issues related to expropriation of land holdings and compensation, which has been the main agenda during the implementation of the Ethiopian Trade Logistics Project.

As discussed earlier, the Constitution lays down the basis for the property to be compensated in case of expropriation as a result of State programs or projects in both rural and urban areas. Art. 44.2 clearly states that "All persons who have been affected or whose livelihoods have been adversely affected as a result of state programs have the right to a commensurate monetary or alternative means of compensation, including relocation with adequate state assistance" Thus, persons who have lost their land as a result of acquisition of such land for the purpose of constructing roads are entitled to be compensated to a similar land plus the related costs arising from relocation; assets such as buildings, crops or fruit trees that are part of the land etc.

Hence, the project plans must include an "attractive" and sustainable resettlement strategy, offering adequate compensation and incentives to the loss of livelihood of the project affected people (PAPs) at least as per the provisions of the proclamations No. 455/2005.

Ethiopia has formulated National Social Protection policy in 2014 with general objective to create an enabling environment in which citizens have equitable access to all social protection services that will enhance their growth, development. Ethiopia's social protection policy is a central public policy component for addressing poverty, vulnerability and inequality. Social Protection improves the effectiveness and efficiency of investments in agriculture, hygiene and health, education, and water thus accelerating the attainment of the development goals of the country, especially for the most vulnerable members of society. Investing in social protection reduces the vulnerabilities of poor people to external shocks such as aggregate income shocks, instability in the price of essential commodities, and the effect of climate change.

The following are among the objectives of Social Protection Policy of Ethiopia:

1. Protect poor and vulnerable individuals, households, and communities from the adverse effects of shocks and destitution;
2. Increase access to equitable and quality health, education and social welfare services to build human capital thus breaking the intergenerational transmission of poverty;
3. Guarantee a minimum level of employment for the long term unemployed and under-employed;
4. Enhance the social status and progressively realize the social and economic rights of the excluded and marginalized;

3.5 Regional and International / Multilateral Agreements

In addition to national environmental legislations, the Federal Democratic Republic of Ethiopia is also a party to a number of regional and international conventions and protocols pertaining to environment and which are of relevance to the project. The international agreement to which Ethiopia is a signatory includes:

United Nations Convention on Biological Diversity (CBD): The Convention on Biological Diversity has three goals. These are: the conservation of biodiversity; the sustainable use of the components of biodiversity; and the fair and equitable sharing of the benefits arising from the use of genetic resources. The Convention was ratified by Ethiopia by Proclamation 98/94, on May 31, 1994.

By Proclamation No. 362/2003, Ethiopia has ratified the Cartagena Protocol on Bio-safety to the Convention on Biological Diversity.

United Nations Convention to Combat Desertification (UNCCD): The objective of the Convention is to combat desertification and mitigate the effects of droughts in countries experiencing serious drought and/or desertification, particularly in Africa. Ethiopia has ratified the Convention through its Proclamation No. 80/1997.

The Vienna Convention for the Protection of the Ozone Layer: The basic objective of the Convention is to combat the negative impact on the environment and human beings resulting from ozone depleting substances by reducing the amounts released and eventually banning their commercial use through internationally agreed measures. The Montreal Protocol entered into force in 1989 to facilitate the implementation of the Convention.

Ethiopia ratified and became party to the Vienna Convention and the Montreal Protocol in January 1996. The National Meteorological Services agency has been mandated for the coordination and supervision of implementation of this convention.

United Nations Framework Convention on Climate Change (UNFCCC), 1992: Ethiopia ratified this convention through Proclamation No. 97/1994 on May 2/1994. This convention takes into account the fact that climate change has trans-boundary impacts. The basic objective of this convention is to provide for agreed limits on the release of greenhouse gases into the atmosphere so as to prevent the occurrence of climate change. It also aims to prepare countries to minimize the impact of climate change should it occur.

The Stockholm Convention: *In the year 2002,* Ethiopia fully accepted and ratified the Stockholm Convention on Persistent Organic Pollutants by proclamation No. 279/2002 designed to ban the use of Persistent Organic Pollutants (POPS). The Environmental Protection Authority has the full mandate to implement the Convention at the national level.

The Rotterdam Convention: The Rotterdam Convention on Prior Informed Consent (PIC) relates to prior informed consent in the context of international trade in specific hazardous chemicals and pesticides. The EPA is the organ responsible for the domestic implementation of this convention, which has been ratified by Ethiopia proclamation No. 278/2002.

. A mitigation plan is proposed in the environmental and social management plan (Section 9.2) to be implemented during construction and rehabilitation activities.

World Bank Operational Policies

In order to address the environmental and social impacts of the Project from the WB perspective, the following relevant operational policies are triggered for application.

Operational Policy: OP 4.01, Environmental Assessment (EA)
World Bank OPs central to this project are: OP/BP 4.01(Environmental Assessment) and OP/BP 4.12 (Involuntary Resettlement). OP/BP 4.01 has the objective to help ensure the environmental and social soundness and sustainability of investment projects. Ultimately, it supports the integration of environmental and social aspects of projects in the decision-making process. This policy is triggered if a project is likely to have potential (adverse) environmental risks and impacts on its area of influence. OP 4.01 covers impacts on the natural environment (air, water and land); human health and safety; physical cultural resources; and trans-boundary and global environment concerns.

Summary of Provisions:

- States that all projects proposed for World Bank Group funding require EA review/analysis to ensure that they are environmentally and socially sound/sustainable;
- An EA evaluates a project's potential environmental impacts; examines project alternatives; identifies ways of preventing, minimizing, mitigating or compensating for adverse environmental impacts and enhancing positive impacts;

- EA considers: the natural environment (air, water and land); human health and safety; social aspects (involuntary resettlement, cultural property); as well as, trans-boundary and global environmental aspects;
- Projects are categorized based on environmental significance. Category 'A' projects require a full EIA undertaken by independent EA experts;
- Project sponsors for Category A projects must prepare a Public Consultation and Disclosure Plan (PCDP) and an Environmental Action Plan (EAP). Project sponsor must consult project-affected groups and local NGOs at least twice: before TORs for EA are finalized and once a draft EA report is prepared; and
- During project implementation, the project sponsor reports on compliance with (a) measures as agreed upon with IFC, including implementation of an EAP; (b) status of mitigation measures; and (c) the findings of monitoring programs.
- Projects are classified as Category B if potential adverse environmental impacts on human populations or environmentally important areas are less adverse than those of Category A projects. These impacts are site-specific; few if any of them are irreversible; and in most cases mitigatory measures can be designed more readily than for Category A projects.
- The scope of EA for a Category B project may vary from project to project, but it is narrower than that of Category A EA. Like Category A EA, it examines the project's potential negative and positive environmental impacts and recommends any measures needed to prevent, minimize, mitigate, or compensate for adverse impacts and improve environmental performance.
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Operational Policy: OP 4.11, Cultural Property (WB), OPN11.03, Cultural Property (IFC)

Summary of Provisions:

According to this Policy, cultural property encompasses both remains left by previous human inhabitants and unique natural environmental features. The World Bank's general policy regarding cultural properties is to assist in their preservation, and to seek to avoid their elimination. Accordingly, any project that includes large-scale excavations, movement of earth, or demolition should follow a procedural guidance in which the cultural property aspects of the proposed project site are primarily determined, and if here is any question of

cultural property in the area, a brief reconnaissance survey should be undertaken by a specialist. There are also provisions for managing chance finds in the Policy.

There are no known physical cultural resources in the project area. However given the possibility that there may be cultural assets and/or sites in the project area and on the bases of chance finds, a mitigation plan is proposed in the environmental and social management plan (Section 9.2) to be implemented during construction and rehabilitation activities.

Operational Policy: OP 4.12, Involuntary Resettlement

Summary of Provisions:

The objective of OP/BP 4.12 is to (i) ensure that the development process fosters full respect for the dignity, human rights, and cultural uniqueness of indigenous peoples; (ii) ensure that adverse effects during the development process are avoided, or if not feasible, ensure that these are minimized, mitigated or compensated; and (iii) ensure that indigenous peoples receive culturally appropriate and gender and intergenerational inclusive social and economic benefits.

The objective of World Bank OP4.12 is to (i) avoid or minimize involuntary resettlement where feasible, exploring all viable alternative project designs; (ii) assist displaced persons in improving their former living standards, income earning capacity, and production levels, or at least in restoring them; (iii) encourage community participation in planning and implementing resettlement; and (iv) provide assistance to affected people regardless of the legality of land tenure. OP/BP4.12 states that:

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

> or to levels prevailing prior to the beginning of project implementation, whichever is higher.

Thus, the Bank to ensure social protection under OP/BP 4.12 stipulated the rights of people who are affected by Bank funded project to give their pre-informed consent, need to be fully consulted and, if possible, avoid or minimize involuntary resettlement and land acquisition. Besides, the Bank emphasized the improvement of the living standard of project affected persons (PAPs) beyond the level they are living prior, if not at least to the former level, no less.

The OP/BP 4.12 describes the coverage of the policy as "direct economic and social impacts that both result from Bank-assisted investment projects, and are caused by the involuntary taking of land resulting in i) relocation or loss of shelter; ii) loss of assets or access to assets; or iii) loss of income sources or means of livelihood, whether or not the affected persons must move to another location …".

It is important to note that OP/BP 4.12 is applicable whenever land is taken involuntarily for a Bank-financed project. Besides, "the essential criteria for the application of the policy are: (a) the resettlement being involuntary; (b) the project being location specific; and (c) the taking of land or restriction of access being for a Bank-financed investment. The policy does not apply when these criteria are not met".

In case where involuntary resettlement and land acquisition is inevitable, OP/BP4.12 demands actual replacement of expropriated assets and compensation at replacement cost plus alternative rehabilitation measures acceptable to the displaced people. According to OP/BP4.12, "prompt and effective compensation at full replacement cost for losses of assets attributable directly to the project" should be made. The OP/BP4.12 distinguishes between compensation for expropriated assets and rehabilitation measures and assistance to help improve, or at least restore, incomes or standards of living of displaced persons. Thus compensation and income restoration of displaced persons should not be compromised. OP/BP4.12 maintains the preference of land-based solution as compensation. On top of compensation, to restore people's income-earning opportunities after land acquisition and resettlement, OP/BP4.12 requires the provisions of additional assistance to PAPs. It states, "displaced persons are . . . provided with development assistance in addition to compensation measures . . . , such as land preparation, credit facilities, training, or job opportunities".

The OP/BP4.12 also gives due consideration for vulnerable segment of the population. It states that "particular attention is paid to the needs of vulnerable groups among those displaced, especially those below the poverty line, the landless, the elderly, women and children, indigenous peoples, ethnic minorities, or other displaced persons who may not be protected through national land compensation legislation". During land acquisition for the dry port in 2015, vulnerable groups were not given special benefit packages (this subject is treated in detail in Section 9.2).

World Bank Environmental, Safety and Health General Guidelines (2007)

This instrument provides management guidance for a wide range of issues including noise. Noise level guidelines for daytime (07:00-22:00) and night-time (22:00-07:00) are recommended for various receptors. Accordingly, the maximum noise levels for residential, institutional, and educational receptors for day and night times respectively are 55 and 45 dBA while for industrial and commercial receptors, the maximum noise levels are 70 dBA. Compared with the Occupational Safety and Health Directive issued in 2008 by he Ministry of Labour and Social Affairs (MoLSA), the WB Guidelines is more stringent. The MoLSA Directive recommends ambient noise levels in residential, commercial and industrial places. This directive stipulates noise level standards for day and night times respectively for different receptors. That is, a maximum of 55 dBA and 45 dBA for residential areas, 65 dBA and 55 dBA for commercial areas, and 75 dBA and 70 dBA for industrial areas during day and night times respectively (MoLSA, 2008).

4. APPROACH AND METHODOLOGY

4.1 Methodology for Data Collection

The ESIA involved both primary and secondary data sources. Review of secondary materials was carried out to grasp the legal and regulatory frameworks of the World Bank and the GoE rules and regulations related to land expropriation and compensation as well as environmental protection and health. Besides the project document of 'Ethiopian Trade Logistic Project' was consulted. Secondary data analyses helped to gather both qualitative and quantitative information that are useful to prepare ESIA report.

The assessment involved initial consultations with key figures in the GoE project implementation unit, namely, the Logistics Transformation Office of the Ethiopian Maritime Affairs Authority (EMAA) and other implementing partners such as the ESLSE, ERCA. Detailed analysis of socio-economic and environmental data of visited *kebele* was made. To verify and validate the data obtained through triangulation, key informant interviews (KII), community consultations and observations were undertaken.

KIIs were carried out with government officials who were responsible to, and concerned with, trade and logistic transit. KII was also conducted with the PAPs, selected elders and larger community at *kebele* level (*Kolba Gode Kebele* at *Modjo*). During the fieldwork, officials and community members at *woreda* and *kebele* levels were interviewed to collect information about socio-economic characteristics of PAPs, vulnerable groups, special provisions to be made for vulnerable segments of the society, land acquisition, compensation, and to know the likely risks that would affect the implementation of the project, ways by which grievances were redressed, land tenure system, and livelihood activities. Likewise, environmental information was collected through these interviews.

Field observation is the second method employed during SIA. The consultants visited *Modjo* Dry Port and the expansion areas in *Kolba Gode Kebele* of *Lume Woreda*. The field observation was very important to have a clear understanding of the areas and give the opportunity to informally talk to PAPs and other community members.

Community and stakeholder consultation was made with an intention to determine how each stakeholder and/or relationship between stakeholder groups was (socially and environmentally) affected by the Project; and to identify expected social development outcomes and actions proposed to achieve those outcomes.

4.2 Methodology for Impact Identification

The identification of impacts resulting from projects takes into consideration and brings together project characteristics and baseline environmental characteristics with the aim of ensuring that all potentially significant environmental and Social impacts (adverse or favorable) are identified and taken into account in the ESIA process in the form of environmental and social scoping.

4.3 Method of Impact Evaluation

Once potential (beneficial and adverse) impacts are identified, they are further screened in terms of their magnitude, reversibility or otherwise, and duration of impact.

4.4 Enhancement and Mitigation Measures

Measures that would enhance beneficial impacts and mitigate harmful impacts are discussed in detail for each impact category identified. Cost estimates are also calculated for implementing the mitigation measures. Where estimating cost has become difficult, further detailed assessment has been recommended and a lump sum budget is suggested that would include the assessment, putting in place the mitigation measure, and sometimes training costs.

5. EXISTING BASELINE CONDITIONS

5.1 Background

Modjo Dry Port is located in *Kolba Gode Kebele* of *Lume Woreda* in East Shoa Zone of *Oromia* Regional State established in 2009on a total area of the port covers a total area of 64 hectares, which is expanding by 86.922 hectares of land acquired in 2015 as part of the intended expansion and modernization. The additional land is already secured by the port following the economic relocation of 47 farmers.

5.2 Physical Environment

5.2.1 Topography

Lume is one of the *woredas* of East Shoa Zone, *Oromia* Regional state, located around 73 km in the eastern direction from Addis Ababa, the capital city. *Lume Woreda* has a total land area of 75,220.32 hectares.

5.2.2 Climate

Most areas of the *Lume Woreda* are found in Rift Valley region that has a medium rain distribution ranging between 300 mm and 1200 mm. There are two rainy seasons, *Meher* and *Belg*. The temperature of the *Woreda* ranges between 12^0C and 28^0C. There are three main climate zones in the *Woreda*, namely, *Cold* (30%), *Temperate* (45%) and *Hot* 25% covering 30%, 45%, and 25% of the *Woreda* respectively.

5.2.3 Land use

The major land use in *Lume Woreda* is agriculture covering around two-thirds of the total land surface. Forest cover that makes up a little more than 3% of the total area follows as the next major land use/land cover category (Table 5-1).

Table 5-1: Land use/ land cover of *Lume Woreda*

Land use/land cover type	Area (km^2)	% of total
Cultivable	47582	63.26
Forest	2463	3.27
Shrubs and bushes	802.41	1.06
Grazing land	363	0.48
Irrigation	817	1.09
Others	15834.91	21.05

Source: *Lume Woreda* Administration Office (2015.)

5.2.4 Geology and Soil

According to the *Modjo* Dry Port Master Plan (2009) designed by the Construction Design and Share Company, volcanic rocks dominate *Modjo* and its surrounding areas, which are

represented by basalts, tuffs, and ignimbrites. This is followed by unconsolidated lacustrine sediments such as sand, silts and gravel. The study area is covered with loose, unconsolidated and uncemented brown to grey volcano-sedimentary deposits with thin grey ash intercalations and the underlying tuff deposit. The topsoil is relatively dark brown and composes abundant clay, whereas silt dominates depth wise mixed with some fine sand. The whole or flat part of the *Modjo* dry port is covered by light brown to gray clayey silt/silty clay soil mixed with some fine sand. The top part of the soil is relatively dark and composes abundant clay. It is loose, unconsolidated and uncemented, erodible material deposited either by ancient lake or by recent flood. Then, volcanic tuff deposit is observed underlying the loose overburden soil. This is yellowish to grayish, relatively consolidated and resistant to erosion as compared to the top overburden material. This covers some part of the gully wall and the whole gully floor. Still some part of the dry port contains grey scoriaceous basalt. Gullies are the major erosional features in the study area as in floor of the main Ethiopian rift. The principal cause of instability and gully formation is surface runoff initiated by the natural topography accompanied by geology. Land use changes due to agricultural expansion and urbanization are thought to have accelerated the growth and extension of gullies in *Modjo* and its surroundings.

5.2.5 Water Resources

Lume Woreda harbors two major rivers, *Modjo* and *Awash*, the former covering nine *kebeles* while the latter just one *kebele*. It also contains several man-made lakes, the largest of which is Lake *Koka*. The lakes are used for irrigation, washing/drinking, and livestock watering. According to the *Woreda* Water Resource Development office (cited by the *Woreda* Administration), there were four major schemes of water resource development in 2007 E.C. (Table 5-2).

There is a deep gorge at the east of the Port facility, which is also an ephemeral river (*Melkalemi*) that fills only during the rainy season and drains to Lake *Koka*, which is located 25-30 km away from the Port. Lake *Koka* is an artificial lake that is used to generate hydropower, for irrigation and also fishing.

Table 5-2: Types of water work and coverage in *Lume Woreda* (2007 E.C.)

Water work	Quantity
Deep wells	13
Shallow wells	1
Hand-dug wells	35

Water storage	17

Source: *Lume Woreda* Administration Office

The *Modjo* Dry Port gets its water supply from a municipal line and the water is stored in water tanks. Water supply is not enough to meet the demand by the port for various activities and hence there is an urgent need to develop new and independent water source for the Port. The area is believed to have a moderate ground water resource with an estimated depth for drilling of 250 m, potentially generating 5 liters per second on average.

Modjo Dry Port is already providing some basic services to the local communities residing around the dry port. It is providing potable water to communities whose homestead was situated adjacent to the Port. This was also confirmed during community consultation and interview conducted with community members. The participants reported that the port ~~has~~ allowed them to collect potable water at one station since 2015.

5.2.6 Air Pollution

Field observation confirms that the actual project area is embedded in a rural setting. *Modjo* town is characterized by severe dust problems owing to its geology, and exacerbated by the change in the land cover. With the expansion of the dry port, air pollution due to dust might increase due to the growing vehicular traffic into and out of the town.

5.2.7 Noise and Vibration

The major sources of noise and vibration inside the port facilities are machineries, trucks, and quarry sites. The noise from quarry and machineries hardly affects the adjacent community because of the distance of the Port from residential areas. The expected increase in traffic volume as a result of expansion is, however, expected to increase in noise levels.

According to Port management, stones for construction will be sourced from two sources: stones remaining from the construction of the current Port; and further excavation in the new expansion area inside the Port. Exact sites for this will be determined later. However, selected materials for the construction will be sourced from other quarry sites and borrow pits to be identified by the Contractor. It is up to the contractor to identify sites for these materials, secure excavation permit/s from the appropriate office in the region, and collect the materials for use. In some cases, the contractor may buy some selected materials from licensed operators.

5.2.8 Waste Management

The practice of solid waste management has been very poor in the port. The solid waste generated by the dry port mainly constitutes plastics, papers, food refuses, cartons, and wood palettes. Currently, there is no system in place in the dry port to properly segregate the different types of waste. There are no dustbins in both compounds and hence, for instance, 5-10 sacks of paper and plastic waste are reportedly collected manually by cleaners on a daily basis in the *Modjo* Dry Port. Besides, all the solid waste minus the metals and the wooden pallets are taken to a temporary, poorly prepared, open yard in the outskirts of the port, where everything is burnt together without any care for the solid waste composition (see Fig. 5-1). Burning of plastic waste would release some harmful chemicals into the soil and the air. It was reported that there was a fire incident, which started in the open landfill, and blown by wind into the compound threatening the other properties. Although the fire fighters eventually put down this fire, this incident points to the fact that the issue of poor solid waste management needs to be carefully addressed.

Fig. 5-1: Solid waste dumping site at *Modjo* Dry Port

5.2.9 Wastewater and Chemicals

Sanitary wastewater from restrooms and kitchens is collected in a septic tank, which is regularly collected by municipal or private collectors. The Port is currently constructing an oxidation pond in the outskirts of the compound facing the deep gorge to treat this wastewater and release clean water to the gorge downstream. The oxidation pond will be finalized and starts operation late in 2017.

There is also industrial water generated from industrial operations inside the Port including process wastewater, wastewater from utility operations, and runoff from miscellaneous activities such as the machine and vehicle maintenance shop. Currently, the disposal of industrial wastewater is just drained to an open well in the direction of the deep gorge, which needs to be corrected in the near future. Moreover, it was reported by the port authorities that there are averagely two storm water events every year, one during the *Belg* (small rains) season, and the other during the *Kiremt* (main rainy) season, which is collected by drainage canals and discharged into the open surface. The stormwater washes waste including leakages in the compound and joins the deep gorge downstream, which may bring about soil contamination and possible pollution of water bodies. With an increase in magnitude of port operations due to this Project, the risk of chemical and hazardous waste being washed off by storm water is expected to increase. There is no container cleaning and maintenance facility inside the premises of the port at the moment. Used oil in *Modjo* Dry Port is stored in drums and sold to interested buyers.

Chemical waste: Unless such kind of waste is carefully removed, there is a big danger of the harmful chemicals spreading to the nearby environment. Overall, the practice of dangerous cargo handling is very poor in the dry port, which needs to be urgently corrected with the ETLP project. The current system simply segregates the containers with dangerous cargo and stacks these containers according to international standards. Otherwise, there is no system put in place to deal with leakages, fencing to avoid collision, and proactive measures to deal with these containers according to the potential harm of their contents.

Equally importantly, the dry port does not have specialized disposal area and systems for expired food items, medical products, and chemicals. Therefore, there is a strong need to develop a disposal area for far from living areas and workplaces. This may include facilities for incineration and also landfill spots. With the new project some investment needs to be made towards this facility.

All in all, while the oxidation pond will be ready for use towards the end of 2017, two separate treatment facilities are required for the wastewater from the garage, and for managing the storm water. This is because the industrial wastewater should be separated from the sanitary waste. Moreover, the storm water is usually very high in volume and consists of a large amount of silt, which needs to be treated separately from the wastewater generated from the garage/s on a regular basis. Therefore, the technology options for these two types of treatment facilities will be decided following a preliminary assessment that identifies the nature, volume and characteristics of the wastewater generated from the Port.

5.3 Biological Environment

5.3.1 Floral and Faunal Resources

Oromia Region is endowed with forest cover than other regions of the country. However, forest resources of the *Oromia* Regional State are gradually dwindling due to a set of factors, mainly population pressures, expansion of small-scale agriculture. *Lume Woreda* has protected forest areas sporadically located in various *kebeles*. Neither of these protected forests is located in *Kolba Gode Kebele*. The *kebele* reportedly consists of 111 hectares of communal forest on degraded lands. According to the informants from the *Kebele* administration, two organized unemployed youth associations comprising 239 members (about 20% women) are currently involved in this rehabilitation effort mainly growing *Acacia* and *Eucalyptus* trees. According to *Lume* Woreda Administration Office, the *Woreda* is home to some wildlife resources, namely, hyenas, rabbits, monkeys, leopards, chimpanzees, and fox. However, the project site, largely used as farmland, barely harbours wildlife resources. The communal forests are outside the current jurisdiction of the *Modjo* Dry Port, nevertheless. As the land being considered for the expansion project has been a farmland, rare and scarce species have not been recorded.

5.4 Socio-economic Environment

5.4.1 Demography

According to a report by the *Lume Woreda* Administration Office, the total number of population in *Lume Woreda* is 110,025 (52% male and 48% female). Urban residents make up around 11% of the total population while the remaining are rural inhabitants. Population density in the *Woreda* is estimated at 146/km^2. The rate of population growth is almost 3%. *Kolba Gode Kebele*, which hosts the dry port, has a population size of 2250 (1138 females and 1112 males) and in total there are 245 households, out of which 38 are female headed

households. The *Kebele* currently has a total area of 1136 hectares that excludes the land that is already transferred to the dry port. The average landholding size in the *kebele* is 5 hectares per household.

5.4.2 Ethnicity and Language

Lume Woreda is inhabited mainly by *Oromo* ethnic group. The three largest ethnic groups reported in *Lume* are the Oromo (66 %), the *Amhara* (29.7%), and the *Silt'e* ethnic groups (1%); all other ethnic groups made up 3.09% of the population. Specifically, in *Modjo* dry post hosting *Kolba Gode Kebele*, the dominant ethnic group is Oromo, constituting about 80% of the total population while the remaining 20% are *Amhara*.

5.4.3 Economic Activity

Rural and urban residents inhabit *Lume woreda*. In *Lume Woreda*, 91% of the populations are farmers. Hence, the livelihood activities of the people vary significantly. The urban people (those living in *Modjo* and other *kebeles* with small towns) are enjoying urban way of life and mainly engaged in economic activities like trading, cafeteria, shop keeping, hotel services, etc. Besides, the many urban households are practicing farming to supplement their income for the non-agricultural sector. The rural residents are agrarian and depend on farming to gain their livelihood. They produce crops through rain-fed agriculture. In *Lume Woreda,* there are some households who have irrigable lands and practice small-scale irrigation as well as fishing around *Modjo* and Awash rivers and many manmade lakes. Irrigation is practiced through traditional and modernized system. Generally, the *Woreda* has about 8,175 hectares of irrigable land. With irrigation, farmers cultivate vegetables such as cabbage, tomato, onion, watermelon, green pepper, potato, etc. Livestock rearing is also practiced by rural and some urban households as additional means of livelihood and for consumption purpose. For instance, data obtained from *Lume Woreda* Agricultural Office shows that in 2015/16 the total number of livestock was around 241,978. Bee keeping is also an activity practiced both in traditional and modern ways.

Specifically, residents in the proposed project *kebele* of *Kolba Gode* in *Modjo* are famers. The major means of their livelihood is derived from agriculture and they make their living on the cultivation of crops. The main crops produced in *Kolba Gode* area include '*teff*', wheat, barley, maize, etc. There are also pulses like bean, peas, chickpea, etc. Besides, there are subsidiary livelihood activities practiced by all farmers in the two *kebeles* such as rearing animals (cattle, sheep, goats, donkey, etc.), working as daily laborer, etc.

5.4.4 Educational Services

According to information the Education Bureau of *Lume Woreda* submitted to the *Woreda* Administration in 2006 E.C, there are 59 governmental and 5 private schools in the *Woreda*. The total number of students enrolled in schools in the *Woreda* in 2007 E.C. was 19155 (10052 males and 9103 females), out of which elementary school and high school students constitute 18175 (9497 males and 8678 females) and 980 (555 males and 425 females) respectively.

5.4.5 Health Services

Even though there is no hospital in *Lume Woreda*, there are different types of health care centres in the *Woreda*. Accordingly, there are 35 health posts, 5 health centres and 14 private clinics. Table 5-3 gives the general overview of health service providers in the *Woreda*. The major top ten diseases reported in *Lume Woreda* are listed in Table 5-4.

Table 5-3: Total number of health care experts in *Lume Woreda* for the year 2014/15.

Types of health service experts	Government	Non-government
Nurse	29	20
Health extension	67	0
Health officer	9	
Laboratory technician	11	
Pharmacist	5	2
Sanitary	2	
Health assistant	0	
Laboratory	6	
Total	129	

Source: *Lume Woreda* Administration Office (2015/16.)

Table 5-4: Top ten diseases in *Lume Woreda* (2014/15.)

No.	Types of Disease	People affected	Percentage (%)
1	Acute upper respiratory infection (AFI)	5283	22.57
2	Acute febrile illness	4861	20.77
3	Diarrhea (non-bloody) Typhoid fever	3052	13.04
4	Pneumonia	1758	7.50
5	Dyspepsia	1636	6.99
6	Disease of musculoskeletal system and connective tissue	1630	6.97
7	Unitary tract infection	1537	6.57
8	Trauma (injury, fracture, etc.)	1446	6.18
9	Infection of skin and subcutaneous tissue	1182	5.05
10	Diarrhea (non-bloody) dysentery	1023	4.37

Source: *Lume Woreda* Administration Office (2015/16)

The port currently has a clinic providing free medical service to its employees. Workers in the dry port do also have 24 hours free medical insurance. The family clinic at *Modjo* Dry Port is collaborating with a few NGOs, mainly Family Guidance Association of Ethiopia (FGAE) and *Mekdem* Ethiopia, in providing reproductive health education, free and voluntary HIV/AIDS testing, and distribution of condoms. There are three condom-dispensing sites in the compound. There has also been free ovarian cancer test for women employees in collaboration with FGAE. The clinic offers regular medical services to employees, and emergency services to employees and all kinds of visitors. The clinic refers patients to three medical facilities, *Modjo* Health Center, *Adama* Hospital, and Ecclesia Clinic in *Adama* City.

According to the clinic management, eye and respiratory tract infections are among the leading illnesses of employees, which might have direct relationship with the dust and other chemical spillages in the port (Table 5-5). Employees working in the dangerous cargo area have complained about pungent smells of sulphur and other chemical spillages. We have also observed a container that was leaking chemicals that made contact with the soil (Fig. 5-2). As a response measure, the container was simply separated from other containers and put on thick plastic canvas sheet that would hold the chemical, to no avail. The response mechanism to chemical leakage is very poor and out-dated. When there is leakage, the department urgently contacts the owner and if response is delayed, the container is separated from the rest and put on a canvas. According to the Clinic, there are incidents whereby some workers were brought to the clinic after being suffocated while opening dangerous cargo containers.

Table 5-5: Top five diseases for employees of *Modjo* Dry Port

Rank	2014/15	2015/16
1	Respiratory tract infections	Soft tissue injury
2	Accidental soft tissue injury	Peptic ulcer diseases (dyspepsia and gastritis)
3	Eye diseases	Acute gastro-enteritis (diarrheal) diseases
4	Acute gastro-enteritis (diarrheal) diseases	Acute bronchitis
5	Peptic ulcer diseases (dyspepsia and gastritis)	Upper respiratory tract infection

Source: Family Clinic at the *Modjo* Dry Port

Other major occupational challenges in the *Modjo* Dry Port, according to a labour union representative and safety and security staff are: lack of clean cafeteria and restaurant, lack of adequate toilet facilities for employees, serious workplace risks related to physical accident, dust and chemical exposures. There is only one cafeteria/restaurant serving both employees and visitors and it is hygienically unacceptable in terms of its sanitation and is too small in

size to accommodate the large size of clients including port employees and visitors. The clinic team added that sometimes people come to the clinic with acute food related contamination issues.

Fig. 5-2: Observed chemical leakage from containers and its out-dated management

Safety and security personnel testified that there are at least five incidents of leakage every month in the dangerous cargo area although that is also reported from non-dangerous cargo areas. We have experienced pungent smell in the dangerous cargo storage area. Sulphur spills were also visible. It was reported that employees handling dangerous cargo do sometimes complain, and they do not use respiratory masks. Health workers in the clinic confirmed that there were incidents whereby some workers are brought to the clinic after being contaminated while opening dangerous cargo containers.

Physical hazards are another source of concern for employees. There have been a few incidents of empty containers falling on the ground due to heavy winds and improper stacking at *Modjo* Dry Port.

Empty holes after construction were also singled out as a major concern due to an incident when a patrol officer fell into the hole while walking in the compound. There have been registered collisions between trucks and sometimes trucks hitting people in the compound. At

least a truck reportedly killed one person in the compound. It is now compulsory for any person walking into loading and unloading areas to wear shiny clothes to increase visibility and reduce risks.

The proposed operation will clean up chemical leakage sites and provide capacity building support on good waste management, and establish a viable mechanism for waste management both for the life of the project, focusing on technical and regulatory solutions. Ethiopia is not short of waste management laws but the main challenge is weakness in enforcement and effective coordination between all levels of government in the planning and management of the process. Citizens and private sector involvement will be useful in stimulating enforcement.

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An incident report summarized by the Safety and Security Office of *Modjo* Dry Port listed the main physical accidents that were experienced between August 2015 and September 2016, which is presented hereunder (Table 5-6).

Table 5-6: Incident Report Summary of *Modjo* Dry Port (2015/16)

No.	Date	Accident type	Injury by type
1	Aug. 2016	Truck-Trailer crash	Minor body damage on the truck
2	Oct. 2015	Empty Container Handler/ECH accident	Death of one person
3	June 2016	Truck-wall collision	Wall (port-fence) damaged
4	Mar. 2016	Damage by reach stacker	Right hand injury of a person
5	Sep. 2015	Fall of truck-full container on truck cabin	Minor personal injury and container damage
6	Sep. 2015	Truck collision with empty container	Container damaged
7	Aug. 2015	ECH-ECH crash	Electric system of one ECH damaged
8	Aug. 2015	Truck accident	Death of a person
9	Aug. 2015	Truck collides with remarking tower	Minor injury and tower damage

Source: Safety and Security Department (*Modjo* Dry Port)

Modjo Dry Port has a strong fire-fighting department working round the clock with two standby fire-fighting trucks. There are 22 well-trained and equipped employees in the department. Besides, basic fire-fighting trainings have been provided to the whole *Modjo* Dry Port staff and also specialized trainings to safety and security department staff. Fire incident in the compound is very rare. There was one incident when fire erupted due to electrical failures, which was controlled swiftly by the fire fighters. On another occasion, there was an

incident when fire from the solid waste-dumping site by wind was blown into the compound threatening the other properties. The fire fighters immediately put down the fire, nevertheless.

A railway spur connecting the *Modjo* Dry Port with the Ethio-Djibouti Railway is being constructed by the ESLSE, currently the construction is happening on the land acquired in 2015 for the expansion of the dry port. In accordance with the complementary RPF, once cleared, ESLSE will prepare an ARAP for the estimated additional 10 hectares of land to be acquired which will economically and physically displace eight households. A draft outline for the preparation of the ARAP is included on the complementary RPF page 45.

6. PUBLIC CONSULTATION AND STAKEHOLDER PARTICIPATION

6.1 Community Consultation Summary

Public consultation was conducted with communities residing in *Kolba Gode Kebele* around the dry port in *Modjo*. The participants agreed that even though the ETLP will not be implemented for the sake of alleviating their pressing challenges, the project has important contributions to the national development in general and the dry port hosting *kebeles* in particular. Community members indicated that they would benefit directly and indirectly from the economic development of the country. However, they underscored their needs to see mechanisms in the project that can directly benefit them and strategies devised to ensure the same. They demanded that priority should be given for them for employment opportunities.

Consultation participants recounted their past experience that the compensation payment was delayed during the land acquisition for private agro-industries enterprises as well as the land acquisition for *Modjo* Dry Port. However, Proclamation No. 155/280 of the *Oromia* regional State, regarding the expropriation of landholding under Article 3 (sub article 1) states that "*woreda* or an urban administration shall, upon payment in advance of compensation in accordance with this Proclamation, have the power to expropriate rural or urban landholdings for public purpose where it believes that it should be used for a better development project to be carried out by public entities … where such expropriation has been decided by the appropriate higher regional or federal government organ for the same purpose". However, except for the delay, the compensation for affected people was paid as per the land expropriation code No. 155/280, which is in line with the national proclamation 455/2005 and Council of Ministers Regulation 135/2007.

The delay of compensation payment for affected people during land acquisition for the dry port was due to many factors mainly related to structural and administration issues. Firstly, since farmers' parcel of land size was measured by the *Woreda* Administration Property Valuation Committee (with low technical capacity and low precision tools), there was an overlap in measurement of parcels of individual farmers. Hence, to clear this issue the town administration's technical team together with the *Woreda* Administration team re-measured the farmers' plots of land. Interviewed town municipality technical expert stated that initially when *woreda* administration committee measured farmers' land, it was 91 hectares. But later, the team corrected the overlap and the land under farmers' holding was confirmed to be 86.922 hectares.

Secondly, the delay emanated from the fact that *Kolba Gode Kebele* is administratively located in rural administration, whereas *Modjo* Dry Port is found within the urban administration of *Lume Woreda*. ESLSE presented land claim for land (to develop the dry port) to the *Modjo* town administration, and then the town administration communicated with a letter to the *Lume Woreda* rural administration to make land available. Consequently, the rural *Kebele* Administration in consultation with affected people measured the size of each household's landholding and communicated to *Modjo* town administration. Since this process took a long period and it delayed the compensation payment.

Thirdly, there was a political issue that led to frequent turnover of town municipality mayors leading to the re-examination of the proposed compensation payment to ensure its genuineness not to take risks of elite capture. According to informants and consultation participants, two mayors were altered in less than a year. Each new mayor spent some more time to reconfirm the proposed payment through forming new committee, which was one reason for the delay.

The participants were informed about the ETLP objectives and its components. During the consultation participants acknowledged the importance of the project for the county's economy and they asked how the project would benefit them. They were informed that the project will contribute to the local community through creating employment opportunities as well as involve them in small business around the port such as cafeteria, small shops, coffee houses, etc. Besides, the participants demanded the project to address their serious problem in the *kebele* like access to basic services including electricity and potable water, if possible. The participants were informed that provision of basic services is not priority of the project and there might be probability of getting these services following the establishment of the port, i.e., when the port is built, water and electricity are basic requirements for its operation and their access would be facilitated.

Women and elderly consultation participants complained that they were not beneficiaries of most projects located in their *kebele*. They said the elderly people should be given priority in jobs like gatekeeping and others that do not demand intensive labour works. Women also underlined their need to be employed in jobs that do not demand professional trainings such as cleaning and serving as messengers.

Youth consultation participants indicated that priority should be given to the residents of the *kebele* that is hosting the dry port. There are youth associations formed in *Kolba Gode Kebele* of *Lume Woreda*, which hosts *Modjo* Dry Port.

During the public consultation, participants were informed about the World Bank OP 4.12 regarding land acquisition and oriented about the preparation of RPF. Besides, they were introduced to the objective of the RPF as tool to be used in the future, if possible, avoid involuntary resettlement and land acquisition, and if not to minimize its impact on affected people.

6.2 Consultations with other Key Stakeholders

Consultations were also undertaken with key government stakeholders (Table 6-1 and Fig. 6-1) that deal with environmental and social issues in *Modjo*. Offices that deal with water and energy issues were also consulted.

Table 6-1: List of meetings conducted and people interviewed

Name	Position
Captain Getinet Abay	Nautical Adviser, LTO, EMAA
Dr Mengist Hailemariam	Logistics Lead Expert, LTO, EMAA
Ato Desalegn G/Hiwot	Deputy CEO, Port and Terminal Service Sector, ESLSE
Ato Abebe Gudissa	Port and Facility Development Department Director, ESLSE
Ato Habtamu Abebe	Capital Investment, Study, Planning and Monitoring Division Manager, ESLSE
Ato Garedew Aweke	Senior Civil Engineer, ESLSE
Ato Abraham	Modo Dry Port Civil Engineer
Ato T/Haymanot Araya	*Modjo* Dry Port Terminal Operation Manager
Ato Aksumawi T/Mariam	*Modjo* Dry Port Ware House and Container Freight Station Officer
Ato Birhanu Abdisa	*Modjo* Dry Port Safety and Security Manager Delegate and Safety Team Leader
Ato Dereje Wasie	*Modjo* Dry Port Security Team Leader
Ato Ashenafi Mersha	*Modjo* Dry Port Workers Association Delegate
Ato Adisu Trefe	*Modjo* Dry Port Clinic Manager
Ato Masersha Dessealegn	*Modjo* Dry Port Laboratory Technician
Ato Gezahegn Tadesse	*Lume Woreda* Land and Environmental Protection Office Head
Ato Deriba Birhanu	*Lume Woreda* Land Use Expert
Ato Leuleseged Tesfaye	*Lume Woreda* Administrator
Ato Abaye Tenkolu	*Kolba Gode Kebele* Development Agent
Ato Abera Yami	*Kolba Gode Kebele* Manager
Ato Mesfin Deneqe	*Kolba Gode Kebele* Chairperson
Ato Buruse Roba	*Modjo* Town Municipality Land Administration Vice Head and Technical Section Head
W/ro Emebit Feseha	Dire Dawa Dry Port Manager Delegate and Finance Head

Fig. 6-1: Public consultation at Modjo

7. *LAND ACQUISITION AND COMPENSATION PROCESS*

Conceptual clarification

Rural land holding: "*holding right" means the right of peasant farmer(s) or semi-pastoralist and pastoralist to use rural land for purpose of agriculture and natural resource development, lease and bequeath to members of his family or other lawful heirs, and includes the right to acquire property on his land thereon by his labor or capital and to sale, exchange and bequeath same"*

Acquisition and use of rural land: in accordance with Proclamation 456/2005: peasant farmer(s)/pastoralists engaged in agriculture for a living shall be given rural land free of charge. While article 7. Duration of Rural Land Use Right (1) The Rural land use right of peasant farmers, semi-pastoralists and pastoralists shall have no time limit.

The due diligence assessment was conducted for the land acquisition made to expand the Modjo dry port in December 2015. The due diligence assessment has not covered the land acquisition happened in 2007 (64 hectares where the port is established and started its operation). As a result, for the expansion of *Modjo* Dry Port a total of 86.922 ha of land was acquired in 2015. The land use type for the 86.922 hectares includes both agricultural and grazing land. The farmland and the grazing land were dominantly used by the farmers, except about one hectare of *kebele*'s farmland owned by the *Kolba Gode Kebele* Administration. The grazing land was estimated to be 1.005 hectares while the rest is agricultural land. All the 47 families, impacted as a result of the expansion of the Modjo Dry Port and the 8 families likely to be affected by the associated facility (Rail Spur) have rural land holding certificates.

Public Land: Annual Competitive Lease

The public land of the *Kebele* Administration was rented to farmers and its income was used to cover overhead costs of the *kebele*. The *Kebele* Administration has been using the land through outsourcing annually for different farmers on a competitive basis. There are no perpetual users of the *Kebele* land and the renters (farmers using the land) change every year. During the land acquisition for the intended expansion of the dry port, those farmers who won the competition to farm the public land had already harvested their crops and as such did not have any more use right over the land. As stated before, the measurement of the land was undertaken after the tenants/renters have harvested their crops and they were no more entitled to use the land for the coming harvest season because the *Kebele* Administration has been

preparing to outsource it to other farmers through a tendering process for the coming farming season.

Due to *Modjo* Dry Port establishment and expansion, a total of 105 people were affected and encountered economic displacement leading to permanent loss of their agricultural and grazing land in two rounds of land acquisition in 2007 (58 households) and 2015 (47 Households). In the second wave of land acquisition for the dry port expansion in 2015, 47 households encountered economic displacement giving up 86.922 hectares of land.

Valuation and Estimation of Loss

Note on Entitlements for Compensation

- Proclamation 455/2005, Section 3, article 7 sub article 1, states that, 'a landholder whose land holding has been expropriated is entitled to payment of compensation for the property situated on the land and for permanent improvements made to such land'.
- In Ethiopia, land for land is the preferred option. However, if land is permanently expropriated without replacement land, the compensation payment will be calculated taking five years average prices before the expropriation of the land and multiplied by projected 10 years.
- Proclamation 455/2005, Section 3, article 7 sub article 2, indicated that, the amount of compensation for property situated on the expropriated land shall be determined on the basis of replacement cost of the property. Thus, valuations are made for the property, improvements on the land and products.
- Accordingly, compensation for the 47 families, economically impacted, was calculated taking the above process into consideration.

For *Modjo* Port expansion (the 86.922 hectares), a total of Ethiopian birr 24,085,435.08 (twenty-four million eighty-five thousand four hundred thirty-five birr and eight cents) was paid as compensation (see annex 1 the amount paid per person).

For agricultural and grazing lands lost cash compensation was paid at full replacement cost. According to Proclamation 455/2005 and Council of Ministers Regulation 135/2007, replacement cost for agricultural and grazing land is defined as payment of cash compensation using five years average price preceding the land acquisition year and multiply the value for ten years production. This is because according to the constitution of Ethiopia,

land belongs to the nations, nationalities, and people of Ethiopia, where citizens have only use right over the land under their possession. Hence, compensation could not be paid for the land.

The compensation was paid as per Proclamation No. 455/2005 (a proclamation to provide for the Expropriation of Landholdings for Public Purposes and Payment of Compensation) and Council of Ministers Regulation No 135/2007 (Payment of Compensation for Property Situated on Landholding Expropriated for Public Purposes). Cash compensation was made because of lack of agricultural land to be given as replacement to the farmers.

According to informants, land compensation was estimated taking into account the following important criteria:

i) Productivity of the land; and
ii) Average prices of dominant crops in the area ('*teff*' and wheat) for the past five consecutive years as recorded by the Woreda Office of Agriculture.
iii) Since the land acquisition was made after the harvest season, same price was set, i.e., ETB 28.28 for production per m^2 and ETB 9.40 per m^2 of grazing land).
iv) Then, the compensation was paid for 10 years of production as per the proclamation. Participants indicated that the size of each farming household's land possession was measured properly and they were notified. Compensation money was covered by ESLSE, which owns the dry port (see Annex 1 for the list of households and the amount of payment including the total hectare of land).

Consultation and Support to the Project

Community members were asked about the procedure followed during payment of compensation. They indicated that they were consulted before land acquisition and discussed about compensation a year before their land was expropriated. According to community member the discussion was held in 2014 with the community in the presence of East *Shoa* Zone Administrator, *Modjo* Town Administrator, *Lume Woreda* Administrator, and *Modjo* Dry Port Manager. During the discussion consensus was reached to effect the compensation as per the Ethiopian land expropriation proclamation. Affected community members gave their consent to hand over their landholding for the dry port expansion. They agreed to hand over their land because the project has greater national contribution to expand import and export.

Compensation Valuation Committee

According to community members and government officials, to effect the compensation payment, first a compensation committee was established. The team was composed of delegates from the following offices: Zonal Administration Office, *Woreda* Investment Office, *Woreda* Agriculture Office, *Woreda* Administration Office, *Kebele* Chairperson, *Lume Woreda* Land Administration and Environmental Protection Office, *Woreda* Trade and Marketing Office, elders and representatives of affected farmers. The role of community elders was to confirm whether the land claimed by farmers for use right really belonged to them or not. It is after these community elders and *kebele* administration confirmation the claim that the land was measured and compensation was estimated.

The committee had the obligation to identify eligible persons for compensation, measure the size of farmland and grazing land under each household's possession, and prepare the amount of compensation payment sheet to be signed by each household for its certainty.

After the committee was established and oriented, participants indicated that the size of each household's farm and grazing land possession was measured properly and they were notified. Each household was made to first check and confirm the hectares of its plot and sign for its certainty in front of the public and the compensation committee. Then, all affected people were made to open a bank account (in the name of both husband and wife where it applies) and the compensation money for the affected people was transferred to their respective accounts by the *Modjo* Town Municipality, which has collected the money from ESLSE.

Grievance Redress Mechanism

A complaint handling committee was established to timely address complaints regarding compensation. The committee members were drawn from the above-mentioned offices but represented by individuals different from those in the compensation committee. Members of the two committees were independent.

There were farmers who had complaint related to the compensation paid. The first is concerning the paucity of payment made per square meter, i.e., ETB 28.28 per m^2. Affected persons revealed that in *Adama*, 51 birr per meter square was paid for those households who were displaced for the establishment of *Adama* Industrial Park. The complaint was put forward by the communities because although *Adama* and *Modjo* are found in the same zone

(East *Shoa* Zone of *Oromia* Region), different amount was paid per square meter of farmland. The local government stated that, compensation rates vary from year to year and from *kebele* to *kebele*, largely drawing on differences in productivity and locational value of the area. For example, *Lume Woreda* had three types of compensation rates per m^2 of farmland, ETB 24, 28, and 35 in 2014. *Kolba Gode Kebele* falls in the second category with compensation rate of ETB 28 per meter square. Therefore, compensation was paid according to this government assigned rate. The Town Administration believed that compensation paid was fair and legitimate as per the legal provisions of the country.

The second complaint was regarding lack of special treatment for those households having relatively larger household members (those having greater than six members). Affected people indicated that compensation was effected for those household members who had land certificate; and no compensation was paid for dependent youths aged eighteen years and above with in the same household. Affected people that have relatively larger number of household size were more likely to be affected than those with lower household size.

Other livelihood restoration activities were not implemented for such households to ease their burden and enable them continue at least their current living standard. As such, there were no income restoration activities as well as trainings targeted to improve the skill and income generating activities of the farmers. However, there were moves to organize and allow them get access to employment opportunities in the dry ports.

In a nutshell, the compensation process followed standard guidelines and there was adequate grievance resolutions procedure, which in both cases the local government paid attention. Complaints, whenever and wherever occurred were largely administrative shortfalls rather than the lack of willingness on the part of the *Modjo* Dry Port administration.

The construction of the railway spur to connect *Modjo* Dry Port with Ethio-Djibouti Railway is being undertaken by ESLSE and is not part of the ETLP. Even though the spur is not part of the ETLP, it is an associated facility. Its construction is being done on the land acquired in 2015. An estimated 10 hectares of additional land is required for the construction of the spur, which is about 1.5 km long. As a result, eight households will encounter displacement. In line with the RPF, an Abbreviated Resettlement Action Plan (ARAP) will be prepared to ensure proper compensation payment and provide livelihood restoration and rehabilitation to align

with the resettlement principle stated in World Bank OP 4.12. The outline for the preparation of ARAP is included in the complementary RPF on page 45.

8. ANALYSIS OF ALTERNATIVES

Given the rising volume of cargo and the current inefficiency of the logistics sector, the interventions through the Ethiopian Trade Logistics Project would be real game changers. Maintaining the status quo is not strategically affordable and wise. While the average volume of throughput at *Modjo* Dry Port has seen about a 10-fold increase between the commencement of operation and now, the trade forecast for the next 10 years (Figures 8-1 and 8.2) is also very promising, necessitating and justifying the expansion and modernization of the facility so that ESLSE can capably rise up to the growing challenges.

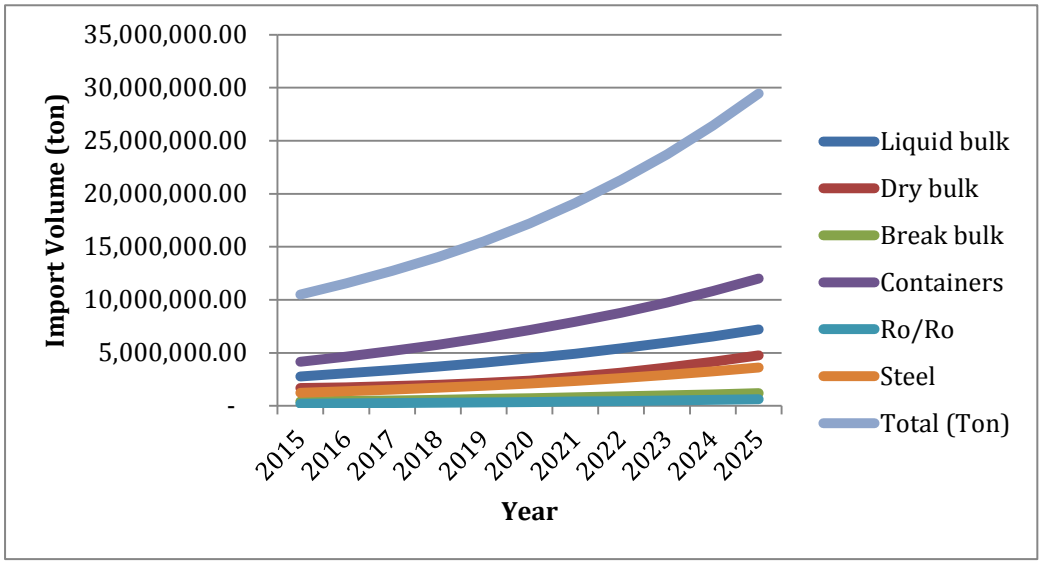


Fig. 8-1: Trade forecast for import by commodity (2015-2025)

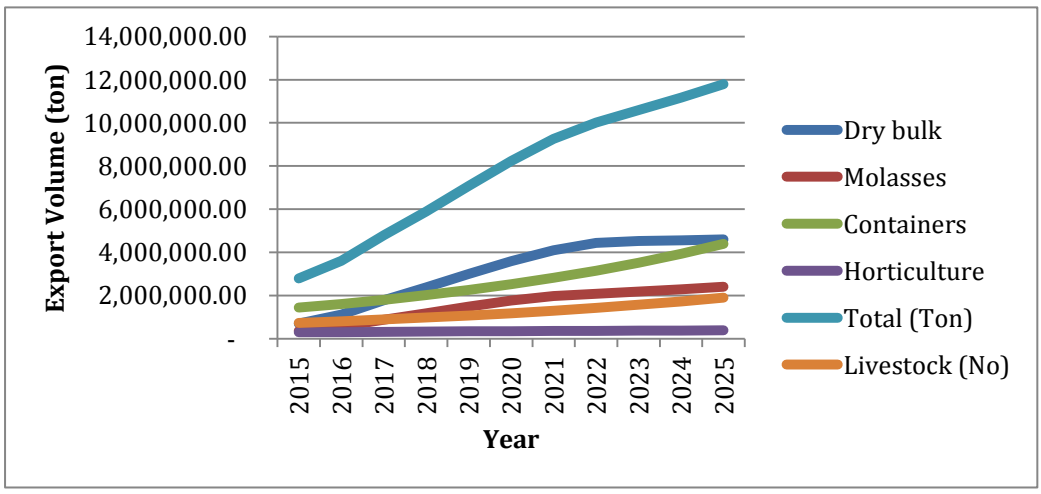


Fig. 8-2: Trade forecast for export by commodity (2015-2025)

Source: LTO, EMAA

8.1 Background on the Alternatives

Maintaining the status quo would be unaffordable and unwise given the rising volume of cargo and the need to promote exports through the dry ports. In view of its strategic location and comparative economic advantages over other ports, the government of Ethiopia has already made the decision to promote *Modjo* Dry Port into the first trade logistics hub by way of investments made through the Ethiopian Trade Logistics Project. Regardless of this economic decision, the team has asked the relevant government offices whether other alternatives were considered for the Project. In line with this, the team learnt that the other alternative considered for this Project was *Endode* Dry Port, which is located in the *Oromia* Special Zone, adjacent to Addis Ababa. *Endode* is not only close to Addis Ababa but also situated next to a new railway terminal.

Therefore, as part of this ESIA study, the team conducted a comprehensive assessment to compare *Modjo* Dry Port with *Endode* Dry Port using eight key social and environmental factors, the results of which are summarized in Table 8-1.

Table 8.1: Summary of comparative assessment of alternatives

Parameters		Central Hub	
Category	Factors	*Modjo*	*Endode*
Social	Settlements	-2	-3
	Traffic flow and accident risks	+1	-3
	Access to customers	+3	+1
Environmental	Climate impacts	-1	-1
	Wild flora and fauna	-2	-2
	Land availability for development	+2	0
	Availability of water	+2	+2
	Availability of electricity	+3	+3
Total score		**+7**	-1
Keys: **Impact**: + Positive, - Negative; **Magnitude of impact**: 0: Neutral, 1: Low, 2: Medium, 3: High			

8.2 Social Assessment

While all other social impacts remain more or less the same, three factors stand out that would differentiate between the given alternative sites. These are settlements, traffic flow and accident risks, and access to customers. As indicated in Table 8-1, *Modjo* turns out to be the better alternative in terms of social impacts.

***Settlements*:** The *Endode* site is located right next to a rapidly expanding city suburb on both the eastern and western sides, namely, *Kality* area and *Lebbu* area. There is also a big condominium site close to *Endode*. As the site is close to the capital the density of the

farming population on the land is expected to be larger than average, which would make the relocation and compensation process much more complex. For *Modjo* Dry Port, however, the land is already secured through following GoE legal acquisition process.

Traffic flow and accident risks: *Endode Dry Port*, situated adjacent to Addis Ababa, presents a greater challenge because of the rapid expansion of the city that would create competition for water, roads for vehicles, and even space for further expansion. There is a big risk of severe road congestion with the *Endode* option. The risk of road accidents will also be higher with the *Endode* alternative because of a net rise in traffic flow. Situated around 50 km away from Addis, *Modjo* Dry Port presents a much lesser risk in this regard.

Access to customers: Both Modjo and *Endode* are close to railway terminal and the Addis-*Modjo* express road. *Endode* currently hosts a new Railway Terminal, as does *Modjo*. This allows direct integration to the rail transport. While *Modjo* is situated centrally to the capital city, and all southern and western regions, *Endode* specifically suits metropolitan customers more than many other regional customers. Owing to its geographic location, *Endode* would incur additional cost on many customers from outside Addis Ababa because of the additional 70 km that they would need to travel to process their cargo. *Modjo* is preferable in this regard because it can serve all customers fairly equally. Looking forward, *Modjo* has a strategic advantage because a number of SEZs located in the eastern and southern parts of Ethiopia, which are under construction or operation, namely, *Hawassa*, *Arerti*, *Adama*, *Dukem*, and *Bole Lemmi*, surround it. Moreover, fruit and vegetable export would benefit better with the *Modjo* option because most of the production takes place in the Rift Valley region, situated closer to *Modjo* than *Endode*.

8.3 Environmental Assessment

Five key environmental parameters were selected to compare the alternatives for the central and hub. These are climate impacts; wild flora and fauna; land availability for development; and access to water and electricity. Overall, *Modjo* turns out to be the better alternative in this regard.

Climate impacts: Increased atmospheric temperature, high rainfall and flood are expected due to the global climate change. In line with this, *Modjo* and *Endode* have more or less similar climate impacts due mainly to the current land use/land cover dominated by farming and some livestock rearing in both cases.

Wild flora and fauna: Both alternative sites are mainly farmlands close to urban areas with very little or no wild vegetation and animals on the given plots.

Land availability for development: The land at *Endode* is not yet secured and the acquisition process might take at least another year. Given the proximity of the site to the Capital and its large size, compensation costs are also expected to be much higher.

Access to Water and Electricity: For *Endode*, no big problem is expected regarding access to utilities, water and electricity, because of its relative proximity to the national capital. However, the same applies with *Modjo* due to the special strategic importance attached to the dry port.

8.4 Mitigation Cost Assessment

The kinds of impacts anticipated for both sites are the same. The difference lies mainly in the magnitude of the impacts, which is partly a function of distance to the densely populated capital city. Proximity to settlements aggravates impacts such as air pollution, increase in road accidents, traffic congestion. Moreover environmental problems are more severe on some counts in the capital city than the small *Modjo* town, e.g., traffic congestion and air pollution. In addition to its less economic appeal, the mitigation costs for social and environmental impacts would be greater for *Endode* due to the above exacerbating factors.

The findings were also very much in line with the alternatives opted for by key stakeholders based on consultations conducted with the same. It was found out that the choice of the key stakeholders was largely dictated by economic factors. However, from social and environmental perspectives the same candidates held for both the central and eastern hubs.

The fact that the *Endode* options have more adverse social and environmental impacts does also mean that more money is needed to mitigate these additional impacts. Therefore, above and beyond the total mitigation cost outlined in Section 9.4 for *Modjo* Dry Port, additional cost would be needed to implement the project.

9. IMPACT IDENTIFICATION AND EVALUATION

The Ethiopian Trade Logistics Project that intends to promote the expansion and modernization of the *Modjo* Dry Port is expected to have both social and environmental impacts. There will be both beneficial and adverse impacts on environmental resources, occupational health and safety, community health and safety. The beneficial impacts include positive impacts as a result of the introduction of new initiatives and the improvement of the current state. The negative impacts occur due to different activities of the Project during construction and operation phases; and are different in their nature, magnitude, duration, etc. The following sections present: i) the overall impact identification; ii) overall impact evaluation; iii) beneficial impacts; and iii) adverse impacts.

9.1 Identification of Impacts

Table 9-1 comprehensively summarizes the positive and adverse impacts of the Project.

Table 9-1: Matrix for Impact Identification of Possible (Major) Impacts

Potential Impact	Type	Effect	Duration	Period	Reversibility
Contribution to macro economy	+++	D, I	LT	CP, IP	
Contribution to local economy	+++	D, I	LT	CP, IP	
Employment opportunity	+++	D	LT	CP, IP	
Air pollution (national)	+++	D	LT	IP	
Social services (schools, health etc.)	++	D	LT	IP	
Carbon emissions (national and global)	+++	D	LT	IP	
Impact on vegetation and wildlife	-				R
Soil and water pollution	- - -	D	LT	CP, IP	NR
Local air pollution	- - -	D	LT	CP, IP	NR
Noise and vibration	- -	D	LT	CP, IP	NR
Spread of malaria and other water-borne diseases	- -	D	ST	CP	PR
Spread on communicable diseases including HIV/AIDS	- - -	D	LT	CP, IP	NR
Impacts from road accidents	- -	D	LT	CP, IP	NR
Impacts from loss of plots of land	- - -	D	LT	CP, IP	NR
Impacts on historical, cultural and archaeological heritages	-	I	LT	CP, IP	NR
Impacts on occupational safety	- - -	D	LT	CP, IP	NR
Impacts on occupational health	- - -	D	LT	CP, IP	NR
Fire hazards	- - -	D, I	LT	CP, IP	NR
Impact on water resources	- - -	D	LT	CP, IP	NR
Impact on energy	- -	D	LT	CP, IP	NR
Keys: Positive impact: +++ High impact, ++ Low to medium impact Negative impact: - - - High impact, - - Low to medium impact, 0 No impact Effect: D = Direct, I = Indirect Duration: ST = Short-term, LT = Long-term Period: CP = Construction phase, IP = Implementation phase Reversibility: R = Reversible, PR = Partly reversible, NR = Not reversible					

Source: Consultant's analysis

9.2 Evaluation of Impacts

On the basis of impact evaluation method in the Methodology section of the Report, the possible impacts resulting from the project under consideration are summarized in Table 9.1.

9.3 Beneficial Impacts

The major beneficial impacts due to implementation of the Project are the following:

9.3.1 Macro and Micro-economic impacts

The Ethiopian Trade Logistics Project will increase the economic benefits by addressing key technical, institutional, and policy constraints and promoting better coordination and efficiency at all levels of the logistics chain.

This Project intends to reduce the costs of bulk shipments, which are largely fertilizers, humanitarian assistance, and relief (food security) imports (wheat, sugar, cooking oil, etc.), by facilitating direct loading of the bulk shipment onto rail wagon, which will eventually be stuffed at the dry port. The timely arrival of these goods will not only reduce demurrage costs but also reduce the chance of expiry of perishable items.

This project will also build the ICT infrastructure of ESLSE so that the customers can receive real time information, track their cargo all along, and accordingly make all necessary preparations to acquire the freight in time. Moreover the introduction of more machineries and expansion of the facilities would significantly improve the service delivery at the port.

The new Project will also allow the establishment of consolidation facility at *Modjo* that would be helpful in increasing value added services to some export commodities like coffee. Currently up to 90% of export items are being stuffed at Djibouti seaport. Therefore, delivering this service at *Modjo* would drastically cut the foreign currency expenses, and total cost involved with the consolidation. This would increase not only the export volume but also the competitiveness of export products.

The dry port is already creating additional revenue streams for local governments and communities through stimulating the proliferation of small and medium businesses around the port and inside the town. These economic opportunities are expected to grow proportionally with the expansion and modernization of the *Modjo* Dry Port.

In line with this, *Modjo* Dry Port has a plan to construct shades for businesses that will be distributed to the youth members of the affected households to run small business besides

fences of the dry port. This activity also contributes to create positive attitude of community members through potentially increasing the income of youth members of the affected communities.

With the new Project, the Port has planned to institutionalize this support to communities. Accordingly, the *Modjo* Dry Port management will allocate about ETB 10 million to support *Modjo* town to construct basic service infrastructures such as school, health centre, water points, road outlets, technical and vocational school, which would be effected based on a formal request by *Lume Woreda* administration and/or *Modjo* town. Negotiation has already begun between the Port management, local communities and local government institutions to come up with mutually agreed investment plans. Therefore, there is a greater opportunity for inhabitants of the town and *Kolba Gode kebele* to benefit from for such social responsibility initiatives with the expansion of the Dry Port.

The dry port has also been providing fire protection services to residents in *Lume Woreda*. So far, they tackled forest fire, factory fire, and fire on crop harvests and hay. Hence, with the expansion of the dry port, these services will be further strengthened and expanded to control forest fire and other accidental fires occurring in and around the dry port.

As testified by *Woreda* and City Administration officials, *Modjo*, which had bad reputation for street crimes, is now much safer due partly to the arrival of the police force that is fully supported by the dry port, and the employment opportunity created by the port for some of the delinquent youth who used to be part of the criminal gangs. The Project will have the potential further enhance the security of the town through creating more employment opportunities and promoting social stability.

9.3.2 Employment Opportunity

The various institutions in the Dry Port Facility of *Modjo* currently employ 1,181 employees, about a quarter of which are women (Table 9-2). The two major employers in the facility are the Dry Port and the Ethiopian Revenue and Customs Authority, which together account for about 76% of the workforce. About thirty percent of these employees are women. Besides, there are 60 federal police members serving to keep peace and security of port brought by the *Modjo* Dry Port. All in all, a total of 1,181 are currently under employment inside the Port and Terminal as employees of the Dry Port and other several institutions.

Table 9-2: Type and number of employees inside the *Modjo* Dry Port Facility

Employer	Male	Female	Total	Grand total
Modjo Dry Port				
- Permanent	337	88	425	
- Temporary	23	4	27	
- Daily laborers	26	34	60	512
- Loading and unloading Cooperative workers	245	3	248	248
Ethiopian Revenue and Customs Authority workers	251	134	385	385
United Bank workers	2	2	4	4
Commercial Bank of Ethiopia workers	3	0	3	4
Oromia International Bank workers	1	1	2	4
Ministry of Transport workers	4	1	5	5
Ministry of Trade workers	4	0	4	4
Ministry of Health workers	8	2	10	10
Ministry of Agriculture and Natural Resources workers	2	1	3	3
East-West workers	1	3	4	4
Heavy Truck Drivers Association workers	1	0	1	1
Total	908	273		1181

Source: *Modjo* Dry Port Human Resource Department

Regarding employment opportunity to the local people, all grade three and lower employees of the *Modjo* Dry Port come from the locality while the higher grades are open for all applicants from anywhere in the country as these required academic qualification and experience. The association of loaders and unloaders, consisting of 248 people, who came from the local community has now bought heavy trucks and are earning around ETB 1 million per month. This group of labourers that served for three years is going to be replaced with another batch of organized unemployed youth from the surrounding, a process that is undergoing currently.

The expansion of dry port will create hundreds of employment opportunities for the unskilled and skilled labour in *Modjo* Dry Port. The *Modjo* Dry Port Manager has speculated the doubling of its workers as a result of the expansion of the dry port.

Modjo Dry Port has also contributed to improving the security of the city through deploying federal police, who are providing services beyond the port premises, and through providing employment opportunities to some youth delinquents. As such, *Modjo* Dry Port introduced 60 federal police staff for security purposes and covers their local costs including housing. The Port has leased a building for the federal police and intends to build a residential quarter for the same in the expansion area. As testified by *Woreda* and Town Administration officials, *Modjo*, which had bad reputation for street crimes, is now much safer due partly to

the arrival of the Police and employment opportunity created for some of the delinquent youth who used to be part of the criminal gangs as loaders and unloaders.

9.3.3 Environmental Benefits

A modern dry port has a huge potential to contribute positively to the environment mainly via reducing congestion and pollution. *Modjo* Dry Port cannot be an exception. Along this line, there is ample scientific evidence drawn from various studies conducted on dry ports all over the world.

Henttu and Hilmola (2011) cites several sources to underline that the implementation of dry ports increases the use of intermodal transport, especially rail transport and hence can decrease the environmental impacts of the whole transportation system. These studies provide empirical evidences that rail transport is environmentally friendlier mode of transport than road transport (2013).

The environmental benefits stem from the modal shift resulting in reduced number of long-haul trucks plying on roads. This leads to reduction in freight emissions of CO_2 and local air pollution (Hanaoka and Regmi 2011). It is believed that truck carriage generates about six times the carbon emissions of rail to move the same level of freight (Iannone 2013). These benefits with both local and universal importance are directly related to the vehicle's fuel consumption. Therefore, Roso (2009) underlines the difficulty of estimating fuel consumptions of vehicles because this is a function of a host of factors, which include, among others, speed, acceleration, traffic volume, driving style, weather, vehicle age and fuel type, and road condition.

Furthermore, there will be reduced congestion at the seaport as a result of the modal shift properly implemented, which is contingent on the proper implementation of the dry port. According to Roso (2009), one train can substitute about 35 trucks in Europe, which greatly reduces the external environmental effects of the trucks. The reduction in road transportation also greatly minimizes congestion at seaport cities and connector roads. Roso (2010) further asserts that the introduction of intermodal transport reduces the risk of road accidents.

The establishment of the dry ports in Ethiopia has undoubtedly reduced congestion in Djibouti seaport and all connector roads and also reduced pollution dramatically. This benefit would be enhanced by this Project via introducing intermodal transportation of freights and modernization of the system in the logistics chain. However, failing to put in place proper

coordination and operation at the dry ports would just transfer most the social and environmental risks from Djibouti to mainly *Modjo*.

Daily throughput of containers in *Modjo* Dry Port has increased dramatically since start of operations as depicted in Table 9-3. For *Modjo* Dry Port, the container throughput volume has seen a five-fold increase in the last three years. This necessitates the expansion and modernization of the dry ports at any cost because without such interventions, the social, environmental and economic value added of the dry ports would be seriously jeopardized. The Project envisages increasing the throughput of the *Modjo* Logistics Hub by roughly 60% in the next five years.

Table 9-3: Trends in container throughputs at the dry ports (tonnes/year)

Dry Port	Container throughput in TEU		
	2006 E.C.	2007 E.C.	2008 E.C.
Dire Dawa	8016[2]	11423	17707
Modjo	98089[3]	341630	484168

Source: Management offices of the dry ports

Currently, *Modjo* Dry Port is experiencing significant operational constraints that include, among others, lack of proper management system for the facility leading to delays in locating containers; and increased congestion around the facility due to poor traffic flow patterns and lack of parking spaces for trucks. The Project intends to address these and a number of other constraints through financing the expansion and/or improvement of the dry port. This includes the deployment of a modern management system including for coordinating the flow of traffic; and improved traffic circulation in the area around the dry port. These investments will reduce the environmental footprint of the dry port via reducing air pollution, fuel consumption, and road congestion. Moreover, the Project will further reduce transit time of cargo in the dry port and dwell time in Djibouti, both of which will have environmental benefits.

[2] The report includes only the number of incoming containers, and not outgoing ones. Therefore the total throughput was estimated with assumption that 90% of the incoming containers left the terminal during that year.

[3] This figure is the sum of the actual number of stuffed containers received and sent (53389) and an estimated number of empty containers handled by the terminal (90% of the planned 49664 containers).

9.4 Adverse Impacts

9.4.1 Adverse Environmental Impacts

9.4.1.1 Soil and Water Pollution/Contamination

The Project under consideration, the pollution of soil is mainly due to poor waste management in camps, garages, truck, container equipment washing sites, etc. Especially the waste from toilets, garages (used oil, grease, etc.) and equipment washing yards (oil and grease in combination with the water after washing) are highly dangerous.

The construction of the railway spur connecting the Dry Port with the Ethio-Djibouti Railway terminal, will be done inside the land acquired in 2015 for the expansion of the Modjo dry port, which is duly covered in this assessment. The EMAA/ESLSE will prepare a RAP based on the principles and outline proposed in the complementary RPF.

There is a deep gorge around 1 km away in the eastern direction of the Port facility, which also includes an ephemeral river (*Melkalemi*) that fills only during the rainy season and drains to Lake *Koka*, which is located 25-30 km away from the Port. Lake *Koka* is an artificial lake that is currently used to generate hydropower, for irrigation and also fishing. Without a proper treatment facility for storm water and industrial wastewater being drained from the Port, the soil downstream, the groundwater, and the surface water would be threatened with pollution. There are no other direct receptors of this pollution like schools, hospitals, and religious institutions.

The major sources of soil and water pollution in the ports are solid waste, liquid waste and chemicals. The solid waste currently generated by the dry port mainly constitutes plastics, papers, food refuses, cartons, and wood palettes. While the current practice of solid waste management is currently very poor, the expansion of the port is expected to result in the generation of more amount of solid waste with potentially adverse impacts on the soil and water.

The land in the expansion area of this Project that was originally a farmland and did not generate any kind of wastewater will generate more wastewater due to an increase in the number of employees and customers. The wastewater will have negative impact on the environment unless collected and treated adequately. There is currently a plan and construction work has already begun to set up an oxidation pond to be located far from the

garage. With the current Project, additional machineries and increased volume of trucks in and around the port is expected to exacerbate the release of effluents.

These impacts are expected to occur both during construction and implementation phase and are largely site-specific to the dry port.

9.4.1.2 Air Pollution

While the upgrading and expansion of *Modjo* Dry Port into full-fledged logistics hub will allow the replacement of long distance trucks with rail transport, there will be an increase in number of trucks traveling between *Modjo* Dry Port and other parts of the country, potentially making *Modjo* town in general and the port premises in particular more congested. This congestion will result in more dust and more effluent gases from the trucks into the air. Air pollution is expected to increase during the implementation phase and will tend to be more permanent.

9.4.1.3 Noise and Vibration

Noise and vibration will result from activities during construction and operation phases of the Project. During the construction phase, the major sources of noise and vibration are machines operating in quarry and construction sites. This will specifically affect the employees working in the quarry and construction sites and other adjacent work sites inside the Port. Residential, institutional, and educational receptors are located far away from the expansion areas, hence hardly receive impacts of noise and vibration. According to Port management, stones for construction will be sourced from two sources: stones remaining from the construction of the current Port; and further excavation in the new expansion area inside the Port. However, selected materials for the construction will be sourced from other quarry sites and borrow pits to be identified by the Contractor. It is up to the contractor to identify sites for these materials, secure excavation permit/s from the appropriate office in the region, and collect the materials for use. In some cases, the contractor may buy some selected materials from licensed operators.

The expected increase in traffic volume as a result of expansion is, however, expected to increase in noise levels. The Project will also bring more port machineries (such as those used in loading and unloading) into operation, which will result in more noise pollution inside the port premises, predominantly affecting port employees and customers.

9.4.2 Impacts on Occupational Health and Safety

During construction work, accidental discharge or spillage caused from inflammable, toxic, explosive and chemical substances could create health risks on the workforce. During operation, employees will be increasingly exposed to a wide range of physical and chemical hazards. The physical hazards include machine-related and car accidents. Workers may also be exposed to dust, chemicals, and hazardous waste. Leakage of chemicals from containers is another source of chemical hazard to employees. Failure to provide personal protective equipment to workers, and put appropriate safety measures in place might create unnecessary health risks and problem on the workforce. Other potential dangers likely to happen during port operations are sudden fire, earthquakes, and other natural disasters. Since such disasters can have a tremendous impact on the port and its employees, mitigation measures need to be put in place.

9.4.3 Impacts on the Socio-economic Environment

The implementation of the Ethiopian Trade Logistics Project in *Modjo* brings substantial economic and social benefits to the country in general and the locality in particular. However, there would also be some adverse impacts posed on the local socio–economic environment of the project implementation area.

9.4.3.1 Spread of Malaria and Other Water Borne Diseases

Modjo is increasingly becoming a malaria-prone area, and hence, unless proper mitigation actions are taken, there is a possibility that quarry sites and borrow pits will become favourable breeding sites for malaria-transmitting *Anopheles* mosquito. The project will provide flexibility in implementation mechanisms, and ensure that any intervention is both prevention and treatment (for behavior change).

9.4.3.2 Impacts due to Sexually Transmitted Diseases (STD) and HIV/AIDS

There will be an increase in population flow into these cities as a result of the expansion of the dry port. With an average daily visits by 3000-4000 people, *Modjo* Dry Port has become extremely crowded. With further expansion of the Port facility, there will be more employees, and more visitors some of whom spending the nights there. Visitors include business people, transporters, agents, drivers and their assistants, among others. This increase in temporary and permanent residents poses a risk of exposing the host community to higher

rates of STDs and HIV/AIDS transmission. There is already an indication of proliferating bars, drug (chat) shops, and commercial sex work around the dry port.

9.4.3.3 Impacts from Road Accidents

While the volume of truck traffic between Djibouti and *Modjo* is going to be reduced due to the project, the volume of traffic into and out of the city is expected to dramatically increase following the increase in the capacity of *Modjo* Dry Port to handle increasingly greater volume of cargo. This will eventually increase the risk of traffic accidents in the town. Too many trucks staying in town will also escalate pollution from vehicular effluents such as leaking oil and truck washing.

9.4.3.4 Adverse Impact on Historical, Cultural and Archaeological Heritages

As the Project will be implemented on a piece of land that used to be cropland, there is no marginalized minority and indigenous community and culture as defined by the World Bank Safeguard policies, whose culture is expected to be affected. Hence there are no significant adverse impacts expected to happen on the traditions and customs of the community as a result of the project implementation. There is no religious or sacred site reported by local communities in the project area.

9.4.3.5 Loss of Plots of Land

i) Land Acquisition of local people

Due to land acquired (a total of 86.922 hectares) in 2007 and 2015 for the expansion of *Modjo* Dry Port, there was permanent loss of agricultural and grazing land. Farmers encountered economic displacement (not physical displacement) and permanently lost their agricultural land. The 86.922 hectares of land is not only a farmland of farmers, but also grazing land as well as about one hectare of *kebele administration*'s farmland that was also taken without compensation as government owned land The farmland of *kebele* administration was rented to landless farmers and its income was used to cover overhead costs. Since the law do not allow providing compensation for renters of public land, they were not entitled for compensation and the land was acquired after the harvest season, i.e., after trashing of crops was done (The total number of households economically displaced and compensated was 105.

In *Modjo,* public consultation was conducted with residents in project affected people *kebele* and who duly gave their consent to hand over their plots of land. It was after the affected

people have given their consent and compensation payment was effected that the land was taken from the landholders. This was confirmed during the community consultation and in-depth interview with the community members, affected households and government officials as part of the social due diligence assessment.

The community cited the contribution of the dry port to the national development as one key reason for their decision And indicated that access to and from their plots of land has become constrained due to its encirclement by three separate projects outside this project: *Addis-Adama* express way in north side, the railway in west side, and the dry port in the eastern direction. This has restricted the movement of farmers for farming activities.

ii) Conflict Redress Mechanism

Conflicts are addressed in project areas both in the formal judicial system and traditional ways. But the community members prefer the traditional way of conflict resolution because of its low cost, familiarity with arbitrators, and less time and procedure involved. In *Modjo*, since the dominant ethnic groups (80%) are Oromo, they address conflicts usually through the traditional conflict resolution system called *Gada*[4].

- Vulnerable Groups

There are vulnerable members of the society in the project area. These are the landless, women-headed households, elderly living alone, terminally ill household head, landless youth, and destitute households having large number of dependents (greater than six members). These groups need special attention and by their very nature are subjected to economic difficulties as well as social exclusion. During land acquisition, there was no special provision made to these segments of the society.

Hence to benefit the vulnerable groups from ETLP, livelihood restoration and rehabilitation activities will be required while preparing site specific RAP. The income restoration measures will target the vulnerable segments to maintain their quality of life and ensure that they are properly supported to overcome the potential adverse social and economic impacts from ETLP. During monitoring and evaluation of the RAP, special attention will be given to

[4] Democratic political organization of the Oromo Ethnic group in Ethiopia

the impact of resettlement on vulnerable groups and livelihood restoration activities done for these groups of the society.

10. ENVIRONMENTAL AND SOCIAL MANAGEMENT AND MONITORING PLAN

The Environmental and Social Management Plan (ESMP) comprises enhancement measures of the positive impacts of the Project and the mitigation measures of the potential adverse impacts associated with the Project. Towards this goal, an environmental and social management is recommended. Effective implementation of the ESMP is mainly a function of institutional arrangement that ensures proper integration of the ESMP with the overall project management. The implementing partners of the ESMP include the dry ports, the ESLSE, EMAA, and a host of other governmental and non-governmental organizations. The ESMP activities are categorized into three phases of the Project, namely, the design stage, the construction stage, and the implementation stage. As such, the predicted impacts of the Project; suggested mitigation measures; entity responsible for the mitigation measures; and cost estimates of the measures, where applicable, are presented in Tables 10.2.1; 10.2.2; 10.2.3; and 10.2.4.

This section assesses institutional issues for implementing the ESMP and its monitoring plan and accordingly recommends a reporting and monitoring framework before discussing the mitigation measures for each identified impacts in detail.

10.1 Institutional issues

More than and above managing the technical issues, an area of paramount importance for the successful implementation of this project is integrating environmental and social issues into the institutional framework under which this project will be implemented. As the implementation of this project will directly involve three layers of institutions, namely, EMAA, ESLSE, and the dry ports, the duty and responsibility of managing the environmental and social impacts should also be fairly distributed among these key actors in line with their mandates. The Ministry of Transport (MoT), as the apex body to EMAA, will also have a role in this process.

At the moment, the institutional arrangement to manage the dry ports fundamentally lacks institutional capacity to implement the current ESMP and its monitoring. This owes to lack of human resource and skill deficit in the area of environmental and social management and monitoring.

EMAA, which is mandated to inspect, regulate, and supervise all dry port and vessel services

and facilities, has Maritime Safety and Security, and Environmental Protection Team that is currently staffed with just one person, who exclusively deals with maritime safety and security issues with no activity geared towards the dry ports. Although there seems to be no direct provision about regulating pollution in and around dry ports, Article 6.15 mandates the EMAA to regulate maritime pollution and contamination.

ESLSE has safety and security division that exclusively deals with safety and security issues, but little on environmental and social issues. Furthermore, the dry ports have safety and security departments, which largely focus on security and safety issues with little capacity to adequately address occupational health, larger environmental and social issues.

The implementation of the mitigation measures recommended in this assessment requires active involvement of these institutions at different levels tasked with particular roles and responsibilities. This would involve the revamping of these existing units to include occupational health and broader environmental and social issues, the recruitment of additional personnel, and continuous capacity building of staff members in the team and beyond.

As such, regarding EMAA, the ToR of the roles and responsibilities need to be reviewed to accommodate environmental and social issues in and around the dry ports. Hence, one senior environmental and social officer, who will head all environmental and social activities, should be recruited for the lifetime of the project on short-term consultancy terms. It is assumed that EMAA will use this opportunity to build its own in-house environmental and social team comprising the desired number of experts in the meanwhile. The team will then issue environmental and social standards and guidelines, provides technical guidance to ESLSE and the dry ports, liaises with other entities dealing with environmental and social issues, gives overall guidance on implementation to ESLSE and the dry ports, and will be responsible for the monitoring and evaluation of the environmental and social mitigation measures in and around the dry ports.

Similarly, the Safety and Security Division of the ESLSE would be renamed as Safety, Security and Environment Division and will recruit an overall environmental and social coordinator and two experts specializing in occupational health, and (solid and liquid) waste management respectively. This division will have the following responsibilities: coordinating the overall implementation of the ESMP in the dry ports, planning and executing capacity

building initiatives, ensuring that the mitigation measures are implemented, liaising with other external stakeholders at the federal, and the local level; delegating responsibilities of implementation to the dry ports.

By the same token, the Safety and Security Department of the dry port would be renamed Safety, Security, and Environment Department, and there will be an additional Environment Unit besides the two existing safety and security units. The Environment Unit in the dry port will have a coordinator, at least two staff members each specializing in occupational health, solid and liquid waste management, and broader environmental and social issues (greening, CSR, etc.). This unit will be responsible in implementing the various hubs in the green logistics hub framework, and implementing the mitigation measures identified in this document, and liaising with local stakeholders. This team reports on a regular basis to the General Manager of the Dry Port, the SSE Division of the ESLSE, and the EMAA.

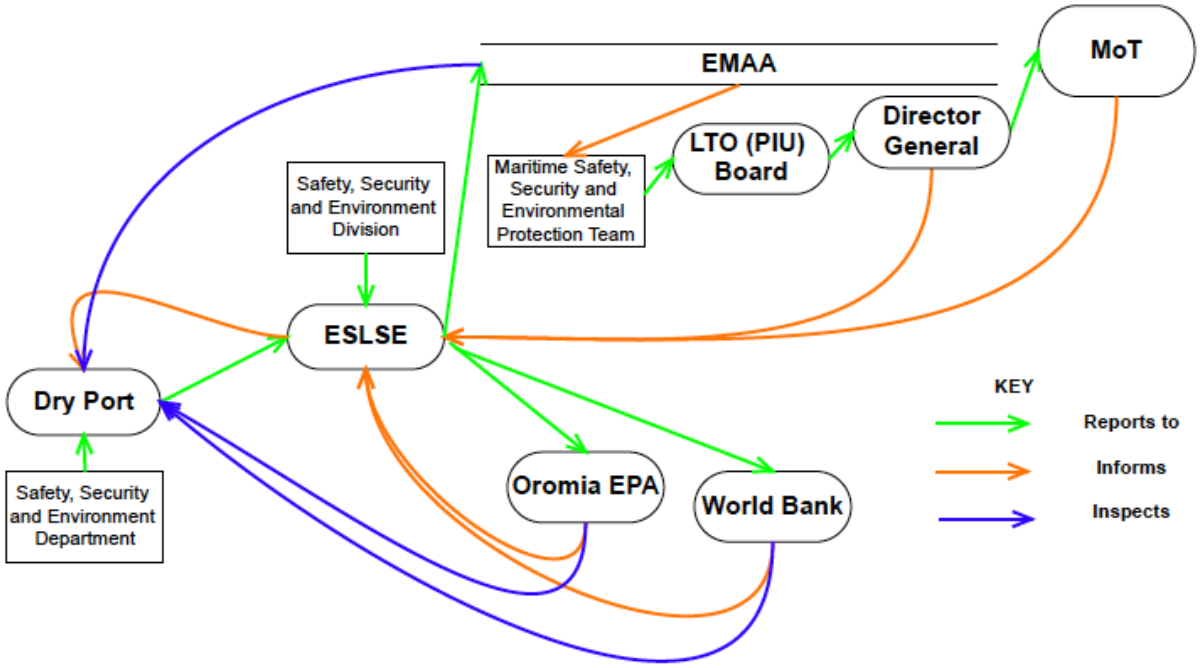


Fig. 10-1: Suggested management and monitoring framework for the ESMP

In a nutshell, an institutional arrangement is recommended (Fig. 10-1) for an efficient management and monitoring of the ESMP in the dry ports. The Director General of EMAA will be able to rectify any challenges and problems encountered during the implementation of the ESMP through the following three channels: 1) by taking the cases to ESLSE as per EMAA's mandate to regulate ESLSE and hence the dry ports; 2) by taking the case/s to ESLSE management in his capacity as a board member of ESLSE; 3) by reporting to the

Ministry of Transport, who is a board chair of the ESLSE. Once funds are secured for this project, the ESIA report will be submitted to OBoLEP that will review the report and grant approval for the implementation of the Project.

OBoLEP and the World Bank will receive regular reports from ESLSE and undertake periodical monitoring visits, which will form the basis for the these institutions to inform and advise ESLSE on the implementation of its environmental and social management plan.

10.2 Mitigation Measures for Identified Impacts

10.2.1 Design Phase Impacts

Identified Impacts	Enhancement/Mitigation Measures	Responsible Body	Estimated cost (ETB)
Socio-economic Issues			
A. Impacts on macro and micro economy	Promote coordination among the various government agencies involved in the operation of the dry port, including banks providing lending facilitates/ finances, ERCA responsible for collecting taxes and undertaking inspections, Ethiopian Railways Corporation, Ethiopian Telecommunications Corporation, Ethiopian Electric Power Agency, etc. Establish a permanent dialogue platform to ensure coordination and efficient services that would save time and resources.	ESLSE will coordinate all actors along with *Modjo* Dry Port	500,000.00
B. Human-made and natural disasters (such as fire and earth quakes)	Develop disaster plans for firefighting, flood control and earthquake resilience and relevant control standards, facilities, layouts and prevention measures.	Contractor commissioned by ESLSE to prepare disaster plans	500,000.00

Identified Impacts	Enhancement/Mitigation Measures	Responsible Body	Estimated cost (ETB)
C. Increase in traffic accidents	Undertake a Road Safety Audit of the design according to the Road Safety Audit Manual Federation of Democratic Republic of Ethiopia (2004) Make sure that speed reduction/break structures like humps and important road traffic signs and pedestrian crossing inside the port premises are included in the design Show in the design routes that segregate pedestrians from vehicles	Design Contractor supervised by ESLSE and Dry Port	Design cost[5]
Environmental issues			
D. Relatively high emission due to increased number of vehicular traffic causing more air pollution in and around the dry ports	Show slots set aside on the design for planting rows of trees in some places especially the parking areas for trucks as they provide a filtering service Show slots set aside on the design for green area inside the port premises that would not only clean the air but also provide other ecosystem services such as windbreaker	Design Contractor supervised by ESLSE and Dry Port	Design cost
E. Noise and vibration would be a problem both during the construction and operation phases especially during the night time	Make sure that the quarry site functioning as per World Bank Environmental, Social, and health and safety standard Show space set aside on the design for tree plantation in selected parts of the compound to absorb some noise from trucks and machinery	Design Contractor supervised by ESLSE and Dry Port	Design cost
F. Soil and water pollution/contamination	Undertake an assessment on the potential quality, quantity, frequency, and sources of solid and liquid waste from the port and propose technology options and show locations for these technologies in the design (these might include specialized disposal	Design Contractor supervised by ESLSE and Dry Port	Design cost

[5] Preparing the design in such a way that it would incorporate the comments of the ESIA to reflect some structures, we think, should be part of the design cost, which the administration should negotiate with the selected firm.

Identified Impacts	Enhancement/Mitigation Measures	Responsible Body	Estimated cost (ETB)
	area and systems for expired food items, medical products, and chemicals. This may be a facility for incineration and perhaps landfill spots; central waste collection, segregation and storage facility accessible to refuse vehicles to which waste from site will be taken; hard standing with collected and contained drainage for vehicle maintenance areas; a garage to accommodate cleaning and maintenance facilities that will incorporate container certifying unit that inspects and verifies proper cleaning and fumigation of containers and making them ready for reuse; drainage systems, incineration facility, etc.		
Occupational Health and Safety Issues			
G. Risks from dangerous goods might increase	Show on the design segregated and access-controlled storage areas for dangerous cargo Show on the design an impermeable surface with appropriate design to collect and contain any leaks for appropriate treatment and disposal Prepare a special isolated yard for dangerous cargo at a distance from the vehicular way, make fences around this block to avoid collision	Design Contractor supervised by ESLSE and Dry Port	Design cost
H. Poor hygiene and sanitation leading to more environmentally related diseases	Make sure that the design includes: -Upgraded toilet facilities with gender-segregated rooms at the dry port -Restaurant and café that can accommodate the growing staff and visitor size and ensure delivery of services with good quality	Design Contractor supervised by ESLSE and Dry Port	Design cost

Identified Impacts	Enhancement/Mitigation Measures	Responsible Body	Estimated cost (ETB)
I. Physical hazards associated with cargo handling and use of associated machinery and vehicles	Show in the design that people are separated from vehicles by making vehicle passageways one-way as much as possible, and segregated pedestrian walkways are provided Include in the design that the surface of port areas will be of adequate strength to support the heaviest expected loads	Design Contractor supervised by ESLSE and Dry Port	Design cost
J. High dust and bad smell that could affect workers and visitors' health	Make sure that dry bulk materials storage and handling facilities are designed to minimize or control dust emissions, via, among others, by installing dust suppression mechanisms (e.g. water spray or covered storage areas); using vacuum collectors at dust-generating activities; minimizing free fall of materials; minimizing dry cargo pile heights and containing piles with perimeter walls, removing materials from the bottom of piles to minimize dust re-suspension Indicate in the design that hard standing will be built across the site	Design Contractor supervised by ESLSE and Dry Port	Design cost
K. Soil and water pollution	Undertake an assessment on the potential quality, quantity, frequency, and sources of solid and liquid waste from the port and design technology options and locations for these technologies	Design Contractor supervised by ESLSE and Dry Port	Design cost
L. Fire hazards	Indicate site in the design for the incinerator	Design Contractor supervised by ESLSE and Dry Port	Design cost
Total estimated cost			1,000,000.00

10.2.2 Pre-Construction Phase Impacts[6]

Identified Impacts	Enhancement/Mitigation Measures	Responsible Body	Estimated cost (ETB)
A. Compensation was paid per meter square of land to households who had user rights without taking into account family size and the number of dependents on the household. The households with relatively larger number of family members (greater than six) are affected and suffering from loss of their farmland and subsequently affected their livelihoods	Facilitate employment opportunities with priority given for households with large family size and number of dependents	Contractor creates employment opportunities ESLSE and *Modjo* Dry Port prepare and implement livelihood restoration plan	Cost included in the Operation phase
B. Difficulty in ensuring that the contractor would adhere to the ESMP prepared for the construction of the Dry Port	Make sure that the contractor has prepared a Construction Environment and Social Management Plan for approval by the client that will detail the exact measures that the contractor will take to deliver the Environmental, social and health and safety performance required across the site and to deliver the measures outlined for the construction phase	Contractor prepares, ESLSE and Dry Port monitor	No cost
C. Livelihoods restoration and rehabilitation activities were not conducted for the affected people (most of the displaced persons have lost money paid as compensation and currently in a desperate situation)	To fill this gap, conduct a detailed livelihood restoration needs assessment in *Modjo*, with identification of possible intervention and develop a livelihood restoration plan acceptable to the Bank before ETLP commencement	ESLSE, *Modjo* Dry Port, *Woreda*/*City*/ *Kebele* administrations	6,150,000.00 ETB 150,000.00 for conducting needs assessment; a rough estimate of 6 million in *Modjo* for interventions
D. Potential Displacement of households for the construction of railway spur	Resettle PAPs as per the RPF and regulation of Ethiopia. The client will develops a RAP for associated facilities, including preparinglivelihood restoration activities based on adequate consultation with PAPs and will follow up in collaboration with the responsible stakeholders	ESLSE and EMAA in collaboration with *Lume Woreda* and Modjo town Administration	300,000 birr for ARAP preparation Budget for livelihood restoration is included section 'C' above since they are identified before construction and will be targeted

[6] The pre-construction phase mitigation plans are those fall neither in the design phase nor in the construction phase.

			together with affected people in 2015
Total estimated cost			6,450,000.00

10.2.3 Construction Phase Impacts

Identified Impacts	Enhancement/Mitigation Measures	Responsible Body	Estimated cost (ETB)
Socio-economic Issues			
A. Special support and assistance was not arranged to the vulnerable groups during land acquisition such as youths, women headed households, terminally ill and aged people	Facilitate employment opportunities for vulnerable groups who have the capacity to work in the dry port Support the construction of small business shades that will serve as shops, coffee house, cafeteria, etc., near the gate of or around the port Provide income generating start-up capital (seed money) and/or link them with credit providing institutions	ESLSE, *Modjo* Dry Port, *Woreda*/City Administration, Contractors	Employment cost is part of contractor and Dry port operation cost conducting livelihood needs assessment and developing livelihood restoration plan and seed money as part of part of livelihood restoration cost (see pre-construction) Construction of small business shades is part of the construction cost (number shades will depend on total number of persons deserving such services to be estimated together with Lume woreda administration/ the kebele)

Identified Impacts	Enhancement/Mitigation Measures	Responsible Body	Estimated cost (ETB)
B. There is high proliferation of drug houses such as Khat (*Catha edulis*) shops, shisha smoking houses, and prostitution that would cause the risk of high spread of HIV/AIDS in *Modjo*	Allocate resource for continuous awareness raising and training on HIV/AIDS and availing condoms on regular bases for construction workers and the larger community Ensure that all workers are trained and abide by a code of conduct approved by ESLSE	*Modjo* Dry port and ESLSE in collaboration with HAPCO	900,000.00 (300,000.00 * 3 years) Use the mini media of the dry port to raise awareness of visitors and workers Organize a one day event per year quarter for awareness raising for about 300 persons (250 per person)
C. Spread of malaria and other water borne vectors	Make sure that quarry sites and burrow pits are reinstated timely (not at the end of the Project) to an acceptable and safe slope (close to the original landscape as much as possible) Ensure that no containers of open water are left uncovered on site during construction. Ensure that pools of water are not allowed to collect across the works area.	Contractor supervised by *Modjo* Dry Port and ESLSE	Part of the construction cost
D. Waste from construction activities	Gather, sort and segregate waste currently on site and remove to appropriate and licensed facility During demobilization, remove all waste materials generated during the construction phase including those excess materials from right of ways, construction camps, etc.	Contractor supervised by *Modjo* Dry Port and ESLSE	Part of the construction cost

Identified Impacts	Enhancement/Mitigation Measures	Responsible Body	Estimated cost (ETB)
E. High dust and bad smell that could affect workers and visitors' health	Build hardstanding across the site Spray the site with water during windy conditions to minimize dust Upgrade the areas into paved asphalt Make sure that dry bulk materials storage and handling facilities are designed to minimize or control dust emissions, via, among others, installing dust suppression mechanisms (e.g. water spray or covered storage areas); using vacuum collectors at dust-generating activities; minimizing free fall of materials; minimizing dry cargo pile heights and containing piles with perimeter walls, removing materials from the bottom of piles to minimize dust re-suspension Provide personal protective equipment (PPE) such as masks, gloves, clothes, safety shoes, etc. to all pertinent workers and gatekeepers	ESLSE, *Modjo* Dry Port, Contractors	Part of the construction cost
F. Increase in road accidents	Erect proper traffic signs and warning posts using local languages inside and around port premises in collaboration with zonal and *woreda* traffic police Put in place speed reduction/calming structures like humps inside the port premises Introduce traffic management and routing in *Modjo* town and villages to minimize impacts And routes that segregate pedestrians from vehicles Improve visibility by removing sight limiting obstacles; provision of reflective studs and painting of zebra crossings	ESLSE, *Modjo* Dry Port, and Contractor in collaboration with *Modjo* Town traffic police	Part of the construction cost
Environmental Issues			

Identified Impacts	Enhancement/Mitigation Measures	Responsible Body	Estimated cost (ETB)
G. Relatively high emission due to increased number of vehicular traffic causing more air pollution in and around the dry ports	Avoid congestion of trucks in and around the port through facilitating efficient services Introduce traffic management and routing in *Modjo* town and villages to minimize impacts Develop green area inside the port premises that would not only clean the air but also provide other ecosystem services such as windbreaker[7] Require all trucks to be maintained in accordance with manufacturers' requirements	ESLSE and *Modjo* Dry Port, in collaboration with *Modjo* Town traffic police	1,000,000.00
H. Noise and vibration would be a problem for residential areas during the construction phase	Instruct truck drivers to avoid noises while passing through town and residential areas Ensure that noise levels from construction work and trucks do not exceed 55 and 45dBA during day and nighttime respectively	Contractor supervised by ESLSE and *Modjo* Dry Port	Some activities don't involve any costs For some activities, overall construction cost should cover such activities
I. Water and soil pollution/contamination	Make sure that the oxidation pond has started operations and is working properly Put in place a proper wastewater treatment facility, one for the treatment of industrial water, another for the treatment of stormwater Put in place appropriate technologies, which might include specialized disposal area and systems for expired food items, medical products, and chemicals. This may be a facility for incineration and perhaps landfill spots; Put in place a central waste collection, segregation and storage facility accessible to refuse vehicles to which waste from site	Contractor supervised by ESLSE and *Modjo* Dry Port	80,000,000.00 A lump sum of ETB 80 million is allocated to procure and/or construct appropriate technology to manage the solid, liquid and chemical waste from the Port; and provide training for safety and environment team members Waste collection containers and fences for the isolated yard should be part of the construction cost

[7] The 7 ha Green Area in *Modjo* Dry Port can have the following blocks: indigenous tree plantation (3 ha), productive forest plantation (1 ha), vegetable garden (1.5 ha), and compost site and recreation facility (1.5 ha). Assuming that 25% of the total budget would go for construction activities, the other 75% of Green Area Budget is assigned for the operation phase.

Identified Impacts	Enhancement/Mitigation Measures	Responsible Body	Estimated cost (ETB)
	will be taken; hard standing with collected and contained drainage for vehicle maintenance areas; a garage to accommodate cleaning and maintenance facilities that will incorporate container certifying unit that inspects and verifies proper cleaning and fumigation of containers and making them ready for reuse; drainage systems; incineration facility; landfill spot, etc. Strengthen solid waste treatment by giving priority to solid waste reduction, relying on waste reuse Make solid waste collection containers sufficiently available in the compound Segregate solid waste generated inside the compound Organize unemployed youth to segregate, reuse and recycle waste, and generate income Restrict most of the earthwork to the dry season Collect used oil and lubricants from garages in sealed containers (with the oil separation process) and disposed for recycling; reuse; or disposal by a licensed facility Store fuel, lubricants and oils in containers that do not leak, and on an impermeable surface. Prepare and put into use spill kits to clear up and contain leaks should be available on site close to the storage areas		At least a five-day training on general waste management and specialized waste management of chemicals and hazardous waste will be provided for 5 construction work supervisors, and 15 employees from the Safety, Security and Environment Department of the Dry Port
J. Physical and cultural heritage may be threatened	Undertake excavation work carefully so as to avoid any possible damage in case of chance finds Adopt the Chance Find Procedure (Annex 3) in case of any chance finds	Contractor	Part of the construction cost

Identified Impacts	Enhancement/Mitigation Measures	Responsible Body	Estimated cost (ETB)
K. Water recycling and water resource management	Promote the use of water saving appliances and devices to reduce any leakage or waste of water Develop and promote the recycling technologies of industrial water and reduce the water use Reduce the leakage of the water supply network	Contractor supervised by ESLSE and *Modjo* Dry Port	Part of the construction cost
Occupational Health and Safety Issues			
L. Air pollution	Maintain vehicles in accordance with manufacturers' recommendations Keep all equipment (e.g. cranes, forklifts, and trucks) in good working conditions Require vehicles to be switched off and not to idle during on- and off-loading activities	Contractor supervised by ESLSE and *Modjo* Dry Port	Part of the construction cost
M. Physical hazards associated with machinery and vehicles	Separate people from vehicles inside port premises and make vehicle passageways one-way as much as possible Introduce traffic management inside *Modjo* Dry Port premises Construct the surface of port areas to be of adequate strength to support the heaviest expected loads; level, or with only a slight slope; free from holes, cracks, depressions, unnecessary curbs, or other raised objects; continuous; and skid resistant Improve visibility by removing sight limiting obstacles; and providing reflective studs to all employees and visitors	Contractor supervised by ESLSE and *Modjo* Dry Port	Part of the construction cost
N. Dust in the workplace might worsen	Build hard standing across the site Spray the site and working areas with water during windy conditions to minimize dust Cover transport vehicles	Contractor supervised by ESLSE and *Modjo* Dry Port	Part of the construction cost

Identified Impacts	Enhancement/Mitigation Measures	Responsible Body	Estimated cost (ETB)
O. Noise and vibration would be a problem to Port workers during the construction phase	Ensure that noise levels from construction work do not exceed 70 dBA during day and nighttime	Contractor supervised by ESLSE and *Modjo* Dry Port	Some activities don't involve any costs For some activities, overall construction cost should cover such activities
Total estimated cost			81,000,000.00

10.2.4 Operation Phase Impacts

Identified Impacts	Enhancement/Mitigation Measures	Responsible Body	Estimated cost (ETB)
Socio-economic Issues			
A. Difficulty in implementing acceptable safety and health standards by the operator of the Dry Port	Prepare an Environmental, Social and Health and Safety Management Plan that will set out the procedures that will be followed during operation to deliver these requirements. The plan to be approved by the senior management and its implementation to be monitored periodically (minimum annually) with update and review to ensure that the port maintains ESHS performance in line with Good International Industry Practice	ESLSE, *Modjo* Dry Port to prepare the Health and Safety Management Plan, EMAA and Labor Office to monitor	500,000.00
B. Compensation was paid per meter square of land for land certified households lost without taking into account family size and the number of dependents in household. The households with larger number of family members are affected and suffering from loss of their farmland.	To fill this gap, create employment opportunities and give priority for households with large family size and large number of dependents Make sure that unemployed youth in the *Kolba Gode Kebele* are given preferences for employment	ESLSE, *Modjo* Dry port, *Modjo* Town municipality/ *Lume Woreda*/ *Kolba Gode Kebele* administration to make specific clauses on the preference	Part of contractor and Modjo dry port operation cost These groups are targeted in livelihood restoration in addition to employment opportunity

Identified Impacts	Enhancement/Mitigation Measures	Responsible Body	Estimated cost (ETB)
C. Special support and assistance was not arranged to the vulnerable groups during land acquisition such as youths, women headed households, terminally ill and aged people	Facilitate employment opportunities for vulnerable groups who have the capacity to work in the dry port; Provide support to vulnerable groups particularly, youths, women headed households, and the elderly to involve in income generating activities such as poultry, cattle fattening, etc., Provide training on life skill and marketing; Arrange ways in which the educated youth, especially in those project affected *kebeles* for employment opportunities with special affirmative action such as without requiring experience Organize the uneducated youths (with appropriate training) to be employed as service providers to the port in the loading and unloading, waste management (segregate, reuse, and recycling of waste), etc. Provide skill training to the youth to prepare them unlock employment opportunities in the Dry Port Provide livelihood restoration support and include them in the livelihood restoration activities	ESLSE, *Modjo* Dry Port, *Woreda*/City/ *Kebele* administrations	For livelihood restoration cost please refer to 10.2.2.C Training cost: 500,000.00

Identified Impacts	Enhancement/Mitigation Measures	Responsible Body	Estimated cost (ETB)
D. Meet some expectations of local communities and *woreda*/*kebele* administrations *Kolba Gode Kebele* hosting the dry port did not gain any special benefit. *Kebele* Chairperson on behalf of the residents has indicated that they are disappointed and complained about the service provisions and gained nothing in spite of hosting the dry ports. This could have its own impact and will threaten the sustainability of the port	Provide some corporate social responsibility support such as supplying potable water to needy local communities; keep up fire-fighting services to local communities and other actors; some support for the *Kolba Gode Kebele* of *Modjo* Ensure that all workers are trained in an abide by code of conduct approved by ESLSE Upgrade *Kolba Gode Kebele* offices hosting the dry port and equipped with basic facilities Upgrade and equip the existing basic infrastructures in *Kolba Gode Kebele* such as the health post, primary school, hand-dug wells, etc. Negotiate and work with the *woreda*/city and *kebele* administrations to come up with a mutually agreed development project to support community development	ESLSE, *Modjo* Dry Port, *Woreda*/*Kebele* administrations	10,000,000.00
E. There is high proliferation of drug houses such as Khat (*Catha edulis*) shops, shisha smoking houses, and prostitution that would cause the risk of high spread of HIV/AIDS in *Modjo*	Undertake continuous awareness raising and training of HIV/AIDS and avail condoms on regular bases for workers, visitors, and the larger community	ESLSE and Dry Port in collaboration with HAPCO	900,000.00 (300,000 x 3 years) Use the mini media of the dry port to raise awareness of visitors and workers Organize a one day event[8] per quarter for awareness raising for about 300 persons (250 per person)
F. Impacts on macro and micro economy	Promote coordination among the various government agencies involved in the operation of the dry port, including banks lending finances, ERCA responsible for collecting taxes and undertaking inspections, Ethiopian Railways	ESLSE will coordinate all actors along with *Modjo* Dry Port	No cost is involved

[8] Calculations are made only for three years

Identified Impacts	Enhancement/Mitigation Measures	Responsible Body	Estimated cost (ETB)
	Corporation, Ethiopian Telecommunications Corporation, Ethiopian Electric Power Agency. Establish a permanent dialogue group is imperative to ensure coordination and efficient services that would save time and resources.		
G. Increase in road accidents	Improve visibility by removing sight limiting obstacles; provision of reflective studs and painting of zebra crossings Cooperate with Police to enforce speed restriction and other necessary traffic measures inside port premises and some town sections Introduce traffic management and routing in *Modjo* town and villages and across the sites to minimize impacts	ESLSE and Dry Port in collaboration with *Modjo* Town Traffic Police	100,000.00
H. Natural and Human-made disasters (such as fire and earth quakes)	Prepare, test, and regularly review and update disaster plans for fire-fighting, flood control and earthquake resilience and relevant control standards, facilities layouts and prevention measures	EMAA, ESLSE, *Modjo* Dry Port	Part of the operation cost
Environmental Issues			
I. Relatively high emission due to increased number of vehicular traffic causing more air pollution in and around the dry ports	Maintain vehicles in accordance with manufacturers' recommendations Keep all equipment (e.g. cranes, forklifts, and trucks) in good working conditions Require vehicles to be switched off and not to idle during on- and off-loading activities Avoid congestion of trucks in and around the port through facilitating efficient services at the port	ESLSE, *Modjo* Dry Port The Dry port can recruit employees from the local communities *Modjo* Dry Port is willing to set aside 7 hectares from their new acquisitions for green area development	3,000,000.00 Tree planting along roadsides Develop the green areas

Identified Impacts	Enhancement/Mitigation Measures	Responsible Body	Estimated cost (ETB)
J. Soil and water pollution/contamination	Undertake regular cleaning of specific sites where leakage happened Maintain the collection system in accordance with the operational procedures Strengthen solid waste treatment by giving priority to solid waste reduction, relying on waste reuse Make sure that solid waste from the compound is segregated Organize unemployed youth to segregate, reuse and recycle waste, and generate income Provide training to the right staff on solid, liquid and chemical waste management including on composting techniques Put dangerous cargo at a special yard separated from the vehicular way in a fenced block to avoid any collision Undertake regular training for staff on technology use and application Evaluate on case-by-case basis whether sludge from waste treatment plant, water supply treatment plant or other discarded material (solid, liquid or gas) contains hazardous waste Undertake proper maintenance of the wastewater treatment facilities	ESLSE, *Modjo* Dry Port	5,500.000.00 Maintenance cost: 4,500,000.00 Training cost: 1,000,000.00

Identified Impacts	Enhancement/Mitigation Measures	Responsible Body	Estimated cost (ETB)
K. Energy saving and efficiency	Save energy through promoting energy saving appliances and devices and introducing energy saving systems at workplace Encourage the use of solar energy for some specific purposes like lighting and heating	ESLSE, *Modjo* Dry Port	5,000,000.00 Detailed assessment on the current and forecasted energy consumption and the potential of solar energy facilities inside the port premises. A lump sum of 5 million is allocated for the study and the introduction of the solar panels along with all appropriate equipment.
L. Water recycling and water resource management	Promote the use of water saving appliances and devices to reduce any leakage or waste of water Develop and promote the recycling technologies of industrial water and reduce the water use indicators Reduce the leakage of the water supply network	*Modjo* Dry Port	Part of operation cost
M. Noise and vibration would be a problem for residential areas during the operation phase	Instruct truck drivers to avoid noises while passing through town and residential areas Ensure that noise levels from machineries do not exceed 70 dBA during day and night-time	ESLSE and *Modjo* Dry Port	Some activities don't involve any costs
Occupational Health and Safety Issues			

Identified Impacts	Enhancement/Mitigation Measures	Responsible Body	Estimated cost (ETB)
Risks from dangerous goods might increase	Implement systems for the proper screening, acceptance, and transport of dangerous cargo based on local and international standards and regulations including the following elements: - Establish segregated and access-controlled storage areas with the means to collect or contain accidental releases; - Request Dangerous Goods Manifests for hazardous materials whether in transit, loading or unloading to and from ships, including proper shipping (technical) name, hazard class, United Nations number, and packing group; - Train staff in relevant aspects of dangerous goods management including screening and acceptance of dangerous goods at the port; and emergency response procedures specific to dangerous goods.	*Modjo* Dry Port	145,000.00 Training on dangerous goods management for 20 employees from ESLSE and the ports Fee for trainers (ETB 10000 per day for one week per year: 70,000 Trainees' costs: 250/day for seven days for 20 participants plus transportation and venue costs (additional 2000 per person): 75,000
O. Air pollution	Keep transfer equipment (e.g. cranes, forklifts, and trucks) in good working conditions Require vehicles to be switched off and not to idle during on- and off-loading activities Encourage storage planning to avoid or minimize restorage and reshuffling of cargo Maintain vehicles in accordance with manufacturers' recommendations Build hardstanding across the site Spray the site and working areas with water during windy conditions to minimize dust Cover transport vehicles Provide appropriate PPEs for workers exposed to such kinds of environment	ESLSE, *Modjo* Dry Port	No cost is involved

Identified Impacts	Enhancement/Mitigation Measures	Responsible Body	Estimated cost (ETB)
P. Noise and vibration would be a problem for Port employees during the operation phase	Ensure that noise levels from construction work do not exceed 70 dBA during day and nighttime Provide appropriate PPEs for workers exposed to potentially high noise sources Plant trees especially in the green areas and in the compound would be helpful to absorb some noise	ESLSE, *Modjo* Dry Port,	Green area inside the Port and tree plantations around the Port would serve this purpose.
Q. Poor hygiene and sanitation leading to more environmentally related diseases	Make available first aid kits in selected places all over the compound Upgrade the clinic at the *Modjo* Dry Port to accommodate the growing staff size Upgrade the toilet facilities to an acceptable level with gender-segregated rooms Set up restaurant and café that can accommodate the growing staff and visitor size and ensure delivery of good quality services	ESLSE, *Modjo* Dry Port	5,000,000.00 Upgrading the structural facility of *Modjo* Clinic should be part of the construction cost. However, equipping the clinic with necessary facilities that would serve the port internal communities and visitors requires additional money. A lump sum of ETB 5 million is allocated for this purpose and making first aid kits available all over the compound.
R. Physical hazards associated with cargo handling and use of associated machinery and vehicles	Prevent other workers from working in areas where machine is operational as much as possible Improve visibility by removing sight limiting obstacles; and provision of reflective studs to all employees and visitors	ESLSE and *Modjo* Dry Port	No cost is involved

Identified Impacts	Enhancement/Mitigation Measures	Responsible Body	Estimated cost (ETB)
S. High dust and bad smell that could affect workers and visitors' health	Upgrade pertinent areas into paved asphalt and use water during operation Provide spill kits to appropriate personnel and trainings on their use and other proper ways of leaking chemical management and use of PPEs Provide protective equipment such as masks, gloves, clothes, safety shoes, etc. to all pertinent workers and gatekeepers Enforce and monitor the use of PPEs Make sure that dry bulk materials storage and handling facilities are operating in ways that minimize or control dust emissions, via, among others, installing dust suppression mechanisms (e.g. water spray or covered storage areas); using vacuum collectors at dust-generating activities; minimizing free fall of materials; minimizing dry cargo pile heights and containing piles with perimeter walls, removing materials from the bottom of piles to minimize dust re-suspension Make sure that transport vehicles are always covered Regularly sweep cargo handling areas, truck/rail storage areas, and paved roadway surfaces	*Modjo* Dry Port	Training costs covered under 9.3.3.J Other costs should be part of the regular operation costs

Identified Impacts	Enhancement/Mitigation Measures	Responsible Body	Estimated cost (ETB)
T. Fire hazards	Make sure that each block including warehouses, office buildings, as well as specific sites around container yards, truck parking areas, cold cargo facility, etc. is equipped with standard hose reels (supplied by HDPE pipes from external pipe grid), fire detection and alarm systems, smoke detection systems, security monitoring systems, fire suppression systems, and other relevant systems Make sure that standard hydrants are available and properly working in the compound Practice fire drills at least once a year involving the whole port staff and visitors	ESLSE, *Modjo* Dry Port, other offices in the dry port, visitors	Part of the port normal and regular operation cost
Institutional Issues			
T. Institutional capacity	Reorganize the safety and security units (divisions, departments, teams) at EMAA, ESLSE, and the dry ports, to sufficiently accommodate environmental and social issues Recruit new staff members to address environmental and social issues in the dry port and monitor and/or implement the ESMP and RPF	EMAA	5,554,000.00 EMAA: One E&S senior officer: 50,000 x 12 x 3= 1,800,000 ESLSE: One E&S coordinator: 20,000x12x3= 720,000 One E&S expert: 15,000x1x12x3= 540,000 Dry port: One E&S Officer: 12,000x12x3x1= 432,000 Two E&S experts 10000x2x12x3= 480,000
Total Estimated Cost			35,249,000.00

10.3 Monitoring Plan

Parameters to be Monitored	Enhancement/Mitigation Measures	Institutional Responsibility	Monitoring Schedule & Frequency	Monitoring Indicators	Monitoring Cost, ETB
Contract management	Make sure that the contractor has prepared a Construction Environment and Social Management Plan for approval by the client that will detail the exact measures that the contractor will take to deliver the Environmental, social and health and safety performance required across the site and to deliver the measures outlined for the construction phase	Contractor to prepare the Construction Environment and Social Management Plan, ESLSE and Dry Port to monitor	Before the beginning of construction and bi-annually during construction	Copy of the Plan Copy of monitoring reports	
Legal compliance	Prepare an Environmental, Social and Health and Safety Management Plan that will set out the procedures that will be followed during operation to deliver these requirements. The plan to be approved by the senior management and its implementation to be monitored periodically (minimum annually) with update and review to ensure that the port maintains ESHS performance in line with Good International Industry Practice	ESLSE, *Modjo* Dry Port to prepare the Health and Safety Management Plan, EMAA to monitor	At the beginning of operations and annually during operations	Copy of the Plan Copy of monitoring reports	
Institutional capacity	Reorganize the safety and security units (divisions, departments, teams) at EMAA, ESLSE, and the dry ports, to sufficiently accommodate environmental and social issues Recruit new staff members to address environmental and social issues in the dry port and monitor and/or implement the ESMP and RPF	EMAA, ESLSE	Regularly until action is effected during the design and construction phases	New names of the environmental units in ESLSE and the dry ports New staff members of the units on payrolls	

Parameters to be Monitored	Enhancement/Mitigation Measures	Institutional Responsibility	Monitoring Schedule & Frequency	Monitoring Indicators	Monitoring Cost, ETB
Coordination	Promote coordination among the various government agencies involved in the operation of the dry port, including banks lending finances, ERCA responsible for collecting taxes and undertaking inspections, Ethiopian Railways Corporation, Ethiopian Telecommunications Corporation, Ethiopian Electric Power Agency, etc. Establish a permanent dialogue platform to ensure coordination and efficient services that would save time and resources.	EMAA, ESLSE	Continuous during implementation phases	Regular meeting reports and minutes	
RPF and RAP (if prepared) monitoring	Conduct monitoring of the implementation of RPF and RAP	EMAA and ESLSE or External consultant	Continuous during implementation phases	Regular meeting reports and minutes	Part of supervision cost
Livelihood Restoration (visits and interviews with the PAPs)	Conduct needs assessment of the PAPs and allocate resources to help them restore their livelihoods and benefit from project activities	EMAA andESLSE in collaboration with *Lume Woreda* Administration as needed	As long as the process takes during the construction and implementation phases	Copy of general assessment report	500,000 (100,000 per year for 5 years)
Livelihood Restoration and Employment Schemes Independent Review	Conduct an independent assessment/review of the Livelihood Restoration and Employment Creation Schemes proposed by the ETLP Project	Independent Consultant/Third Party monitoring	Mid Term of the ETLP Project	Copy of the Independent Assessment/ Review Report	300,000.00
Livelihood Restoration Plan completion audit	Proper implementation of the livelihood restoration plan will be audited	ESLSE or external consultant as needed	Immediately after the implementation of the plan	Audit reports	250,000.00

Parameters to be Monitored	Enhancement/Mitigation Measures	Institutional Responsibility	Monitoring Schedule & Frequency	Monitoring Indicators	Monitoring Cost, ETB
Special Support to Vulnerable Groups (visits and interviews with the PAPs)	Facilitate employment opportunities for vulnerable groups and unemployed youth, who have the capacity to work in the dry port either permanently or temporarily Organize the uneducated youths, and provide them with skills training Provide support to vulnerable groups particularly, youths, women headed households, and the elderly to involve in income generating activities such as poultry, cattle fattening, etc., providing training on life skills and marketing Given the current association of loaders and unloaders is going to finish its term soon, opportunity should be given preferentially to these groups and unemployed youth in the affected *kebele* These groups should be targeted for livelihood restoration and rehabilitation	EMAA, ESLSE, dry port in collaboration with *Lume Woreda* administration, and local labor and social affairs offices as needed	Regularly until action is effected during the construction and implementation phases	Number of people employed in the port from the vulnerable groups and unemployed youth Number of income generating activities created for vulnerable groups Number of skills trainings offered to unemployed youth	Part of supervision cost; and Covered under livelihood restoration support
Corporate social responsibility Supports (visits to new initiatives as a result of the support from the ports)	Provide some corporate social responsibility support such as supplying potable water to needy local communities; keeping up fire-fighting services to local communities and other actors; some support for the *Kolba Gode Kebele* of *Modjo* such as upgrading existing *Kebele* office, health post, and the school	EMAA, ESLSE, in collaboration with *Lume Woreda* Administration as needed	Regularly until action is effected during the construction and implementation phases	Corporate social responsibility support of ETB 10 million from *Modjo* Dry Port Copy of MoA with *woreda*/city/ *kebele* administrations Acknowledgement letters from local entities	Part of supervision cost

Parameters to be Monitored	Enhancement/Mitigation Measures	Institutional Responsibility	Monitoring Schedule & Frequency	Monitoring Indicators	Monitoring Cost, ETB
Employment Opportunity	Advise contractor towards giving preference towards local labor for appropriate jobs (with preference and encouragement to households with large family size and number of dependents, women depending on the suitability of the jobs). Support the construction of small business shades that will serve as shops, coffee house, cafeteria, etc., near the gate of or around the port.	EMAA, ESLSE, dry port in collaboration with local labor and social affairs office as needed	Continuous during recruitment process during the constructio n and implementa tion phases	Number and type of local labor in the work force; and number of women in the work force Number of small business shades used by targeted households	Part of supervision cost
Human-made and Natural Disasters	During Design Phase: Make sure that disaster management plans are prepared for fire-fighting, flood control and earthquake resilience and relevant control standards, facilities, layouts and prevention measures During Operation Phase: Make sure that each block including warehouses, office buildings, as well as specific sites around container yards, truck parking areas, cold cargo facility are equipped with standard hose reels (supplied by HDPE pipes from external pipe grid), fire detection and alarm systems, smoke detection systems, security monitoring systems, fire suppression systems, and other relevant systems Make available standard hydrants in the compound and make sure that they are properly working Carry out fire drills at least once a year involving the whole port staff and visitors	EMAA	As long as draft and final design are submitted	Copies of disaster management plans Availability of firefighting systems and tools in each block inside the port Reports on drills	100,000.00

Parameters to be Monitored	Enhancement/Mitigation Measures	Institutional Responsibility	Monitoring Schedule & Frequency	Monitoring Indicators	Monitoring Cost, ETB
Prevention and Control of communicable diseases such as HIV/AIDS	During Construction and Operation Phase: Award a firm (such as a local NGO) a sub-contract for activities (ranging from awareness creation to conducting voluntary counseling and testing-VCT) to prevent and control of the spread of HIV/AIDS at workplaces Allocate resource for continuous awareness raising and training on HIV/AIDS and availing condoms on regular bases for construction workers and the larger community	EMAA ESLSE, dry port, in collaboration with local health office as needed	Contractor and Supervisor on continuous basis; local authorities on intermittent basis or as required (during the construction and implementation phases)	Number of condoms distributed; Number of awareness raising events organized Number of workers receiving VCT services	Part of supervision cost
Malaria and water borne diseases	During Construction Phase: Make sure that quarry sites and borrow pits are reinstated timely (not at the end of the Project contrary to the usual practice) to an acceptable and safe slope (close to the original landscape as much as possible)	EMAA ESLSE, dry port, in collaboration with local health office as needed	Continuous during the construction phase	Number of quarry and borrow sites not reinstated; number of workers infected with malaria	Part of supervision cost
Energy Saving and Efficiency	During Operation Phase: Save energy through promoting energy saving appliances and devices and introducing energy saving systems at workplace Encourage the use of solar energy for some specific purposes like lighting and heating	EMAA, ESLSE, dry port, in collaboration with regional energy office, regional environment office as needed	Continuous during construction and implementation phase	Copy of assessment conducted on the current and forecasted energy consumption Type and number of energy saving devices and other systems installed Number of solar panels installed	Part of supervision cost

Parameters to be Monitored	Enhancement/Mitigation Measures	Institutional Responsibility	Monitoring Schedule & Frequency	Monitoring Indicators	Monitoring Cost, ETB
Water Use Efficiency (visits in the compounds to assess the gadgets, the systems, and their performance	During Operation Phase: Promote the use of water saving appliances and devices to reduce any leakage or waste of water Develop and promote the recycling technologies of industrial water and reduce the Reduce the leakage of the water supply network	EMAA, ESLSE, dry port, in collaboration with local water resources office as needed	Continuous during constructio n and implementa tion phase	Copy of assessment conducted on the current and forecasted water consumption Water recycling technologies put in place Number of reported leakages of the water supply network	

Parameters to be Monitored	Enhancement/Mitigation Measures	Institutional Responsibility	Monitoring Schedule & Frequency	Monitoring Indicators	Monitoring Cost, ETB
Noise and Vibration Control (visits and assessments to check noises and vibrations from operations)	During Design phase: Make sure that the quarry site is as far as possible from other Port facilities and residential areas Make sure that sites are left aside for tree plantation in selected parts of the compound to help absorb some noise from trucks and machinery During construction and operation phase: Instruct truck drivers to avoid noises while passing through town and residential areas Ensure that noise levels from construction work and trucks do not exceed 55 and 45dBA during day and nighttime respectively around residential areas Ensure that noise levels from construction work do not exceed 70 dBA during day and nighttime in and around the Dry Port Arrange the timing of blasting operations with the local administration, and inform the surrounding dwellers prior to undertakings Provide appropriate PPEs for workers exposed to such kinds of environment Maintain vehicles in accordance with manufacturers' standards	EMAA, ESLSE, dry port, in collaboration with local health office, regional environment office as needed	Continuous during construction and implementation phase	The final port master plan clearly indicating sites for tree plantation Noise level not exceeding the acceptable dBA Number of structures damaged Number of complaints from community on noise and vibration Area covered with trees to minimize noise pollution Number of workers complaining about noise pollution	Part of supervision costs Difficult to estimate

Parameters to be Monitored	Enhancement/Mitigation Measures	Institutional Responsibility	Monitoring Schedule & Frequency	Monitoring Indicators	Monitoring Cost, ETB
Site and Local Traffic Safety (visits in and around the compounds to check the traffic systems, and interviews with the local police to check trends in accidents and their causes)	During design phase: Undertake a Road Safety Audit (see Road Safety Audit Manual Federation of Democratic Republic of Ethiopia 2004) of the design Make sure that speed reduction/break structures like humps and important road traffic signs and pedestrian crossing inside the port premises are included in the design Show in the design routes that segregate pedestrians from vehicles During construction and operation phases: Erect proper traffic signs and warning posts using local languages inside and around port premises in collaboration with zonal and *woreda* traffic police Put in place speed reduction/calming structures like humps inside the port premises Introduce traffic management and routing in *Modjo* town and villages to minimize impacts Provide pedestrian crossing both inside the port premises Improve visibility by removing sight limiting obstacles; provision of reflective studs and painting of zebra crossings Cooperate with Traffic Police to enforce speed restriction and other necessary traffic measures inside port premises and some town sections	EMAA, ESLSE, dry port, in collaboration with local traffic police as needed	Continuous during construction and implementation phase	Number of accidents in the sites Number of persons in the not wearing any reflective studs at any given time Road traffic signs put at appropriate places Pedestrian crossings inside the port premises Number and types of traffic calming structures installed Flagmen assigned to facilitate smooth traffic flow Copy of road safety audit report	Part of supervision cost

Parameters to be Monitored	Enhancement/Mitigation Measures	Institutional Responsibility	Monitoring Schedule & Frequency	Monitoring Indicators	Monitoring Cost, ETB
	Introduce traffic management and routing in *Modjo* town and villages and across the sites to minimize impacts				

Parameters to be Monitored	Enhancement/Mitigation Measures	Institutional Responsibility	Monitoring Schedule & Frequency	Monitoring Indicators	Monitoring Cost, ETB
Waste Management (visits to check the waste management system in place, undertake regular soil and water monitoring, and check availability and functioning of an incinerator, etc.)	During Design phase: Cleaning existing waste inside the port compound Undertake an assessment on the potential quality, quantity, frequency, and sources of solid and liquid waste from the port and propose technology options and show locations for these technologies in the design Prepare a special isolated yard for dangerous cargo at a distance from the vehicular way, make fences around this block to avoid collision During Construction Phase: During demobilization, remove all waste materials generated during the construction phase including those excess materials from right of ways, construction camps, etc. Strengthen solid waste treatment by giving priority to solid waste reduction, relying on waste reuse Make solid waste collection containers sufficiently available in the compound Segregate solid waste generated inside the compound Organize unemployed youth to segregate, reuse and recycle waste, and generate income Restrict most of the earthwork to the dry season Collect used oil and lubricants from garages in sealed containers (with the oil separation process) and	EMAA, ESLSE, dry port, in collaboration with local health office, regional environment office as needed	Continuous during construction and implementation	Copy of assessment report on waste characterization The final port master plan clearly indicating isolated site for building incinerator facility, and for storage of dangerous cargo Area eroded due to earthwork operation during wet season Amount (volume) of used oil collected and removed; Amount of pollutants in local water resource and soil Presence of leakage in stores Number of waste collection containers in the compound Unemployed youth organized to	Part of supervision cost This might involve laboratory and expert costs

Parameters to be Monitored	Enhancement/Mitigation Measures	Institutional Responsibility	Monitoring Schedule & Frequency	Monitoring Indicators	Monitoring Cost, ETB
	disposed for recycling or reuse Store fuel, lubricants and oils in containers that do not leak During operation phase: Undertake regular cleaning of specific sites where leakage happened Strengthen solid waste treatment by giving priority to solid waste reduction, relying on waste reuse Make sure that fixed solid waste collection containers are sufficiently available in the compounds Make sure that solid waste from the compound is segregated Organize unemployed youth to segregate, reuse and recycle waste, and generate income Provide training to the right staff on solid, liquid and chemical waste management including on composting techniques Put dangerous cargo separately at a distance from the vehicular way in a fenced block to avoid any collision Build specialized disposal area and systems for expired food items, medical products, and chemicals. This may be a facility for incineration constructed according to WHO guidelines. Put in place a garage to accommodate cleaning and maintenance facilities Make sure that the oxidation pond has started operations and is working properly			undertake solid waste management Isolated dangerous cargo yard with fences Amount of solid waste transported to disposal sites Reports of leaks from septic tanks and latrines Copy of assessment on the nature and amount of dangerous waste that could potentially be generated in the port Training reports and number of trainees on dangerous waste management Incinerator built in the compound Availability of fixed waste containers in the compound Availability and functionality	

Parameters to be Monitored	Enhancement/Mitigation Measures	Institutional Responsibility	Monitoring Schedule & Frequency	Monitoring Indicators	Monitoring Cost, ETB
	Put in place proper wastewater treatment facilities, one for the treatment of industrial water, another for the treatment of storm water Put in place appropriate technologies, which might include specialized disposal area and systems for expired food items, medical products, and chemicals. This may be a facility for incineration and perhaps landfill spots; Put in place a central waste collection, segregation and storage facility accessible to refuse vehicles to which waste from site will be taken; hardstanding with collected and contained drainage for vehicle maintenance areas; a garage to accommodate cleaning and maintenance facilities that will incorporate container certifying unit that inspects and verifies proper cleaning and fumigation of containers and making them ready for reuse; drainage systems; incineration facility; landfill spot, etc. Strengthen solid waste treatment by giving priority to solid waste reduction, relying on waste reuse Segregate solid waste generated inside the compound Organize unemployed youth to segregate, reuse and recycle waste, and generate income Collect used oil and lubricants from garages in sealed containers (with the oil separation process) and disposed for recycling; reuse; or disposal by a licensed			of treatment facilities for industrial wastewater and stormwater Test results of effluent samples from treatment facilities and oxidation ponds	

Parameters to be Monitored	Enhancement/Mitigation Measures	Institutional Responsibility	Monitoring Schedule & Frequency	Monitoring Indicators	Monitoring Cost, ETB
	facility Store fuel, lubricants and oils in containers that do not leak, and on an impermeable surface. Prepare and put into use spill kits to clear up and contain leaks should be available on site close to the storage areas				
Poor Hygiene and Sanitation in the Port (check with the clinic and the labor union and make personal observation of facilities in the compound)	During design phase: Make sure that the design include slots for: -Upgraded toilet facilities with gender-segregated rooms at both ports -Restaurant and café that can accommodate the growing staff and visitor size and ensure delivery of services with good quality During construction and operation phases: Make available first aid kits in selected places all over the compound Upgrade the clinic at the *Modjo* Dry Port to accommodate the growing staff size Upgrade the toilet facilities to an acceptable level with gender-segregated rooms Set up restaurant and café that can accommodate the growing staff and visitor size and ensure delivery of good quality services	EMAA, ESLSE, dry port in collaboration with local health office (as needed)	Regularly during the construction and implementation phases	The master plan showing sites for clinic, restaurant, and toilet Clean toilets at the ports Clean restaurants at the ports	Part of supervision costs

Parameters to be Monitored	Enhancement/Mitigation Measures	Institutional Responsibility	Monitoring Schedule & Frequency	Monitoring Indicators	Monitoring Cost, ETB
Occupational Health and Safety: Physical Hazard (check with the safety department, the clinic and the labor union)	During Design Phase: Accommodate into the design speed reduction/calming structures like humps inside port premises and important road traffic signs, and the provision for pedestrian crossing inside the port premises Show in the design that people are separated from vehicles by making vehicle passageways one-way as much as possible, and segregated pedestrian walkways are provided Include in the design that construct the surface of port areas will be of adequate strength to support the heaviest expected loads Erect proper traffic signs and warning posts using local languages on accident prone areas During Construction Phase: Prevent other workers from working in areas where machine is operational as much as possible Put in place speed reduction/calming structures like humps inside the port premises Provide for pedestrian crossing both inside the port premises and in the cities Improve visibility inside the port has by removing sight limiting obstacles; providing reflective studs and painting of zebra crossings During Operation Phase: Prevent other workers from working in areas where machine is operational as	EMAA, ESLSE, dry port, in collaboration with local traffic police department as needed	As much as draft and final design are presented for comments Continuous during the constructio n and implementa tion phase	The final port master plan clearly indicating all these sites Separate passageways for people and vehicles Availability of one-way vehicle passageways inside the port Number and trend of accidents in the sites per year Number of persons not wearing reflective studs at any given time Road traffic signs put at appropriate places Pedestrian crossings and number and types of traffic calming structures installed	Part of supervision costs

Parameters to be Monitored	Enhancement/Mitigation Measures	Institutional Responsibility	Monitoring Schedule & Frequency	Monitoring Indicators	Monitoring Cost, ETB
	much as possible Improve visibility inside the port has by removing sight limiting obstacles; providing reflective studs and painting of zebra crossings				

Parameters to be Monitored	Enhancement/Mitigation Measures	Institutional Responsibility	Monitoring Schedule & Frequency	Monitoring Indicators	Monitoring Cost, ETB
Occupational Health and Safety: Dust (check the availability and functioning of dust suppression system, and undertake random interviews with employees)	During Design Phase: Make sure that dry bulk materials storage and handling facilities are designed to minimize or control dust emissions, via, among others, by installing dust suppression mechanisms (e.g. water spray or covered storage areas); using vacuum collectors at dust-generating activities; minimizing free fall of materials; minimizing dry cargo pile heights and containing piles with perimeter walls, removing materials from the bottom of piles to minimize dust re-suspension Indicate in the design that hard standing will be built across the site During Construction Phase: Build hard standing across the site Spray the site with water during windy conditions to minimize dust Upgrade the areas into paved asphalt and using water during construction Make sure that dry bulk materials storage and handling facilities are designed to minimize or control dust emissions, via, among others, installing dust suppression mechanisms (e.g. water spray or covered storage areas); using vacuum collectors at dust-generating activities; minimizing free fall of materials; minimizing dry cargo pile heights and containing piles with perimeter walls, removing	EMAA, ESLSE, Dry Port, in collaboration with local health departments, local labor and social affairs offices as needed	As much as draft and final design are presented for comments and continuous during the implementation phase	The final port master plan clearly indicating all these sites Type of dust suppression system installed in the dry bulk storage and processing facilities Number of transport vehicles not covered Complaints from workers	

Parameters to be Monitored	Enhancement/Mitigation Measures	Institutional Responsibility	Monitoring Schedule & Frequency	Monitoring Indicators	Monitoring Cost, ETB
	materials from the bottom of piles to minimize dust re-suspension Provide personal protective equipment (PPE) such as masks, gloves, clothes, safety shoes, etc. to all pertinent workers and gatekeepers During Operation Phase: Provide appropriate PPEs for workers exposed to such kinds of environment Instruct truck operators to avoid noises while passing through town and residential areas Plant trees especially in the green areas and in the compound would be helpful to absorb some noise Upgrade pertinent areas into paved asphalt and use water during operation Provide trainings to the pertinent staff on proper ways of leaking chemical management and use of PPEs Provide protective equipment such as masks, gloves, clothes, safety shoes, etc. to all pertinent workers and gatekeepers Enforce and monitor the use of PPEs Make sure that dry bulk materials storage and handling facilities are operating in ways that minimize or control dust emissions, via, among others, installing dust suppression mechanisms (e.g. water spray or covered storage areas); using vacuum collectors at dust-generating activities;				

Parameters to be Monitored	Enhancement/Mitigation Measures	Institutional Responsibility	Monitoring Schedule & Frequency	Monitoring Indicators	Monitoring Cost, ETB
	minimizing free fall of materials; minimizing dry cargo pile heights and containing piles with perimeter walls, removing materials from the bottom of piles to minimize dust re-suspension Make sure that transport vehicles are always covered Regularly sweep cargo handling areas, truck/rail storage areas, and paved roadway surface				

Parameters to be Monitored	Enhancement/Mitigation Measures	Institutional Responsibility	Monitoring Schedule & Frequency	Monitoring Indicators	Monitoring Cost, ETB
Occupational and Community Safety: Air Pollution (check the dangerous cargo management practices and talk with relevant employees)	During design phase: Show slots set aside on the design for planting rows of trees in some places especially the parking areas for trucks as they provide a filtering service Show on the design segregated and access-controlled storage areas for dangerous cargo During construction phase: Avoid congestion of trucks in and around the port through facilitating efficient services Introduce traffic management and routing in *Modjo* town and villages to minimize impacts Develop green area inside the port premises that would not only clean the air but also provide other ecosystem services such as windbreaker During Operation Phase: Require all trucks to be maintained in accordance with manufacturers' requirements Maintain vehicles in accordance with manufacturers' recommendations Keep all equipment (e.g. cranes, forklifts, and trucks) in good working conditions Require vehicles to be switched off and not to idle during on- and off-loading activities Strengthen solid waste treatment by giving priority to solid waste reduction, relying on waste reuse Make solid waste collection containers sufficiently available in the compound	EMAA, ESLSE, dry port, in collaboration with local health departments, local labor and social affairs offices as needed	As much as draft and final design are presented for comments and continuous during the implementation phase	The final port master plan clearly indicating all these sites Visible posters and other systems preventing unaccompanied movement of people around dangerous areas Number of people not wearing appropriate PPEs inside the Port Green areas in the port with initiatives like tree planting and composting Complaints from local government, community, and port employees Complaints from customers on efficiency issues	Costs might involve regular air pollution monitoring (expert and laboratory costs)

Parameters to be Monitored	Enhancement/Mitigation Measures	Institutional Responsibility	Monitoring Schedule & Frequency	Monitoring Indicators	Monitoring Cost, ETB
	Segregate solid waste generated inside the compound Organize unemployed youth to segregate, reuse and recycle waste, and generate income Restrict most of the earthwork to the dry season Collect used oil and lubricants from garages in sealed containers (with the oil separation process) and disposed for recycling or reuse Store fuel, lubricants and oils in containers that do not leak Prepare a special isolated yard for dangerous cargo at a distance from the vehicular way, make fences around this block to avoid collision Implement systems for the proper screening, acceptance, and transport of dangerous cargo based on local and international standards and regulations including the following elements: - Establish segregated and access-controlled storage areas with the means to collect or contain accidental releases; - Request Dangerous Goods Manifests for hazardous materials whether in transit, loading or unloading to and from ships, including proper shipping (technical) name, hazard class, United Nations number, and packing group; - Train staff in relevant aspects of dangerous goods management including screening and acceptance of dangerous goods at the port; and emergency response				

Parameters to be Monitored	Enhancement/Mitigation Measures	Institutional Responsibility	Monitoring Schedule & Frequency	Monitoring Indicators	Monitoring Cost, ETB
	rocedures specific to dangerous goods. - Amend the current collective agreement to include wide-ranging use of PPEs in the dry port and enforcing rules regarding proper use of PPEs for vulnerable staff in the port				

Parameters to be Monitored	Enhancement/Mitigation Measures	Institutional Responsibility	Monitoring Schedule & Frequency	Monitoring Indicators	Monitoring Cost, ETB
Occupational Safety and Health: Dangerous Goods Handling	During Design Phase: Show on the design segregated and access-controlled storage areas for dangerous cargo Show on the design an impermeable surface with appropriate design to collect and contain any leaks for appropriate treatment and disposal Prepare a special isolated yard for dangerous cargo at a distance from the vehicular way, make fences around this block to avoid collision During Construction and Operation Phase: Implement systems for the proper screening, acceptance, and transport of dangerous cargo based on local and international standards and regulations including the following elements: - Establish segregated and access-controlled storage areas with the means to collect or contain accidental releases; - Request Dangerous Goods Manifests for hazardous materials whether in transit, loading or unloading to and from ships, including proper shipping (technical) name, hazard class, United Nations number, and packing group; - Provide training to staff in relevant aspects of dangerous goods management including screening and acceptance of dangerous goods at the port; and emergency response procedures specific to dangerous goods.	EMAA, ESLSE, Dry Port, in collaboration with local health departments, local labor and social affairs offices as needed	Regularly during the construction and implementation phases	The final port master plan should show segregated spot for access controlled storage areas Documented requests for dangerous goods manifests Training reports on dangerous goods management	Part of supervision costs Difficult to estimate other costs

Parameters to be Monitored	Enhancement/Mitigation Measures	Institutional Responsibility	Monitoring Schedule & Frequency	Monitoring Indicators	Monitoring Cost, ETB
Careful handling of physical and cultural heritage resources	Excavation work is done carefully so as to avoid any possible damage in case of surprise finds	Contractor	EMAA in collaboration with the local cultural bureau	Monitoring report	Part of supervision cost
	Total Monitoring Cost[9]				7,086,945.00

[9] It is assumed that the EMAA would lead in supervising the ESMP in collaboration with the ESLSE environmental unit. External stakeholders will be involved as deemed necessary. As monitoring costs are difficult to estimate at this point in time, a rough estimate of 5% of the total ESMP costs are allocated for the monitoring.

10.4 Total Environmental and Social Cost

The total environmental and social cost is estimated as ETB 144,922,745.00 million (USD 6,587,397.50 million)[10], which is equivalent to 4.4% of the total Project cost.

10.4.1 Total Environmental Cost

The total environmental cost (excluding costs of those measures that are part and parcel of the design, and regular operation and supervision activities) is estimated in Table 10.1 hereunder.

Table 10-1: Estimated Total Environmental Cost

Component	Cost, ETB
Total Environmental Management + Institutional Capacity Building	106,799,000.00
Total Environmental supervision/ Monitoring (5%)	5,339,950.00
Total Environmental Cost	112,138,950.00
10% Contingency	11,213,895.00
Grand Total Environmental Cost	123,352,845.00

10.4.2 Total Social Cost

The total social cost (excluding costs of those measures that are part and parcel of the design, and regular operation and supervision activities) is estimated in Table 10.2 hereunder.

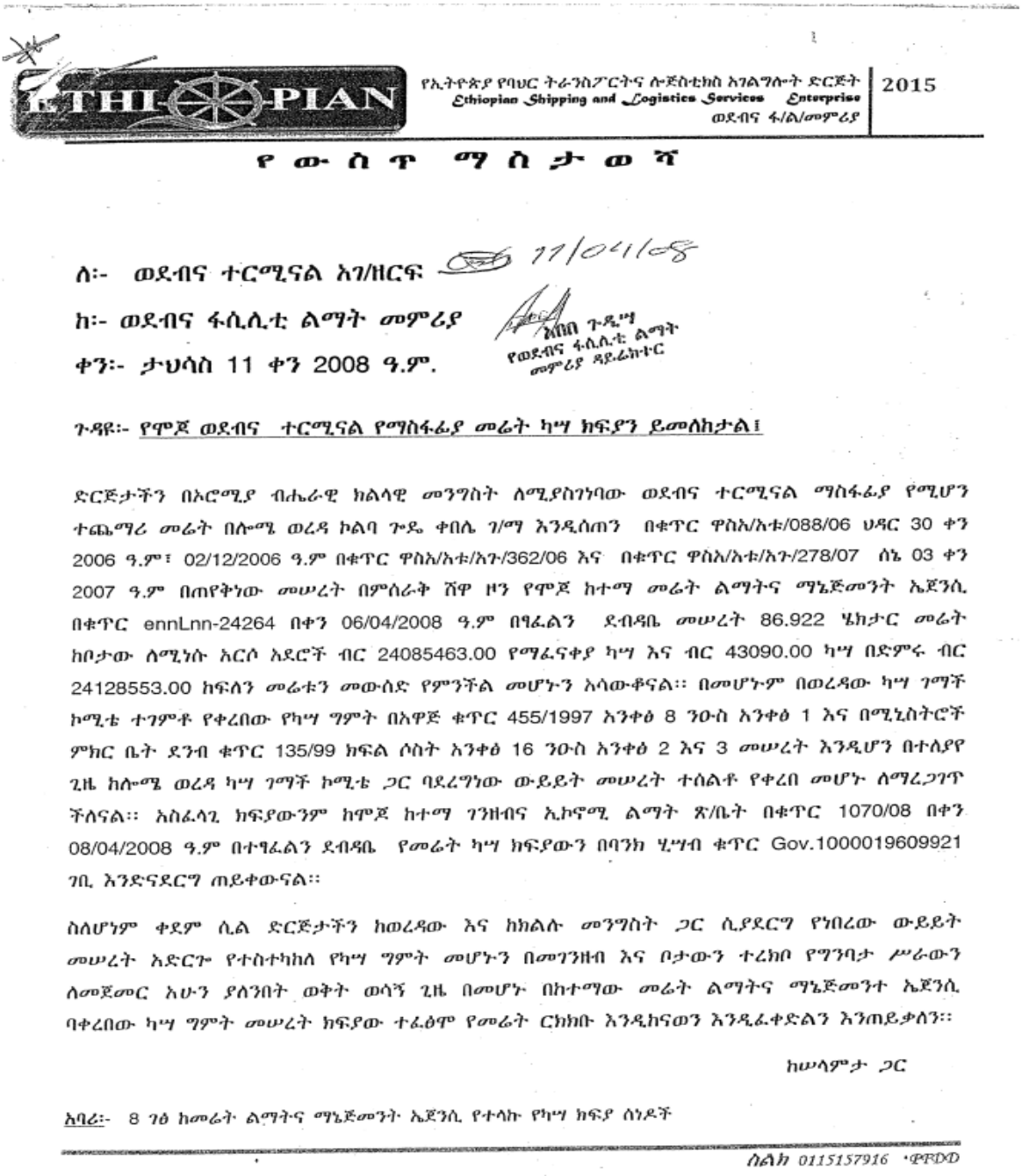
Table 10-2: Estimated Total Social Cost

Component	Cost, ETB
Total Social Management	18,390,000.00
Total Social supervision/ Monitoring (5%)	1,219,,000.00
Total Social Cost	20,518,000.00
10% Contingency	2,051,800.00
Grand Total Social Cost	22,570,800.00

[10] The exchange rate used for this conversion is: USD 1 = ETB 22

ANNEXES

Annex 1: List of Compensated PAPs in *Lume Woreda* (Expansion of *Modjo* Dry Port)



ETHIOPIAN

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Ethiopian Shipping and Logistics Services Enterprise
ወደብና ፋ/ል/መምሪያ

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ለ፡- ወደብና ተርሚናል አገ/ዘርፍ 11/04/08

ከ፡- ወደብና ፋሲሊቲ ልማት መምሪያ

ቀን፡- ታህሳስ 11 ቀን 2008 ዓ.ም.

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ጉዳዩ፡- የሞጆ ወደብና ተርሚናል የማስፋፊያ መሬት ካሣ ክፍያን ይመለከታል፤

ድርጅታችን በኦሮሚያ ብሔራዊ ክልላዊ መንግስት ለሚያስገነባው ወደብና ተርሚናል ማስፋፊያ የሚሆን ተጨማሪ መሬት በሉሜ ወረዳ ኮልባ ጉዴ ቀበሌ ገ/ማ እንዲሰጠን በቁጥር ዋስአ/አቱ/088/06 ህዳር 30 ቀን 2006 ዓ.ም፣ 02/12/2006 ዓ.ም በቁጥር ዋስአ/አቱ/አጉ/362/06 እና በቁጥር ዋስአ/አቱ/አጉ/278/07 ሰኔ 03 ቀን 2007 ዓ.ም በጠየቅነው መሠረት በምሰራቅ ሸዋ ዞን የሞጆ ከተማ መሬት ልማትና ማኔጅመንት ኤጀንሲ በቁጥር ennLnn-24264 በቀን 06/04/2008 ዓ.ም በፃፈልን ደብዳቤ መሠረት 86.922 ሄክታር መሬት ከቦታው ለሚነሱ አርሶ አደሮች ብር 24085463.00 የማፈናቀያ ካሣ እና ብር 43090.00 ካሣ በድምሩ ብር 24128553.00 ክፍለን መሬቱን መውሰድ የምንችል መሆኑን አሳውቆናል። በመሆኑም በወረዳው ካሣ ገማች ኮሚቴ ተገምቶ የቀረበው የካሣ ግምት በአዋጅ ቁጥር 455/1997 አንቀፅ 8 ንዑስ አንቀፅ 1 እና በሚኒስትሮች ምክር ቤት ደንብ ቁጥር 135/99 ክፍል ሶስት አንቀፅ 16 ንዑስ አንቀፅ 2 እና 3 መሠረት እንዲሆን በተለያየ ጊዜ ከሉሜ ወረዳ ካሣ ገማች ኮሚቴ ጋር ባደረግነው ውይይት መሠረት ተሰልቶ የቀረበ መሆኑ ለማረጋገጥ ችለናል። አስፈላጊ ክፍያውንም ከሞጆ ከተማ ገንዘብና ኢኮኖሚ ልማት ጽ/ቤት በቁጥር 1070/08 በቀን 08/04/2008 ዓ.ም በተፃፈልን ደብዳቤ የመሬት ካሣ ክፍያውን በባንክ ሂሣብ ቁጥር Gov.1000019609921 ገቢ እንድናደርግ ጠይቀውናል።

ስለሆነም ቀደም ሲል ድርጅታችን ከወረዳው እና ከክልሉ መንግስት ጋር ሲያደርግ የነበረው ውይይት መሠረት አድርጐ የተስተካከለ የካሣ ግምት መሆኑን በመገንዘብ እና ቦታውን ተረክቦ የግንባታ ሥራውን ለመጀመር አሁን ያለንበት ወቅት ወሳኝ ጊዜ በመሆኑ በከተማው መሬት ልማትና ማኔጅመንተ ኤጀንሲ ባቀረበው ካሣ ግምት መሠረት ክፍያው ተፈፅሞ የመሬት ርክክቡ እንዲከናወን እንዲፈቀድልን እንጠይቃለን።

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ስልክ 0115157916 ፋክስ

Gabatee Beenyaa Lafa Babal'ifannaa Modjo Port & Terminal' Ibsu

1) Tilmaama Beenyaa Lafa Qonnaa fi Margaa

Lk	Maqaa Abbootii Lafaa	Bal'ina Lafaa Hektaaraan	Callooma G/Galeessa Waggaa Shanii(kg)	Omishtummaa Kuntaalan	Gatii Kuntaala Tokkoo G/Galeessa Waggaa Shanii	Kaffaltii Beenyaa Waggaa Tokkoo	Kaffaltii Beenyaa Waggaa Kudhanii	Omisha
1	Waldaa Abdii Boruu	13.0790	30.68	401.26	921.88	369,917.00	3,699,169.98	
2	Dinquu Cifraa Gurmuu	4.8479	30.68	148.73	921.88	137,114.51	1,371,145.05	Midhaan
		0.0912	50.00	4.56	188.00	857.28	8,572.80	Marga
3	Lammaaa Baldaa Sanbatuu	3.3522	30.68	102.85	921.88	94,811.21	948,112.06	
4	Badhaanee Shambuu Odaa	0.2446	30.68	7.50	921.88	6,918.09	69,180.C0	
5	Girmaa Baatii Tufaa	3.9538	30.68	121.30	921.88	111,826.43	1,118,264.26	
6	Lafa Ganda Kolbaa Goodee	0.7629	30.68	23.41	921.88		-	
7	Afraasaa Kaaftee Gammachuu	0.1978	30.68	6.07	921.88	5,594.43	55,944.32	Midhaan
8	Dassuu Dinagdee	0.5044	30.68	15.47	921.88	14,266.09	142,660.86	
9	Hayiluu Wadaajoo Warjii	1.8590	30.68	57.03	921.88	52,578.61	525,786.15	
		0.2893	50.00	14.47	188.00	2,719.42	27,194.20	Marga
10	Baldaa Sanbatuu Boruu	2.9421	30.68	90.26	921.88	83,212.23	832,122.33	
11	Bafiqaaduu Dhugoo Baalchaa	1.1731	30.68	35.99	921.88	33,179.11	331,791.14	
12	Damissee Raggaasaa Badhaadhaa	1.5324	30.68	47.01	921.88	43,341.30	433,412.96	
13	Raggaasaa Badhaadha Xinnaa	6.3954	30.68	196.21	921.88	180,882.88	1,808,828.79	
14	Salamoon Bafiqaaduu Dhugoo	0.6177	30.68	18.95	921.88	17,470.58	174,705.81	
15	Nugusee Shuumii Kallachoo	0.5366	30.68	16.46	921.88	15,176.81	151,768.07	
16	Yashii Badhaadhaa Araddoo	1.5353	30.68	47.10	921.88	43,423.32	434,233.17	
17	Geetaachoo Asaffaa Jiruu	0.3954	30.68	12.13	921.88	11,183.21	111,832.08	
18	Asaffaa Wadaajoo Warjii	1.9915	30.68	61.10	921.88	56,326.15	563,261.49	
19	Shaalloo Shuraa Daggafaa	1.1215	30.68	34.41	921.88	31,719.70	317,196.97	
20	Shuraa Daggafaa Galaasoo	3.0257	30.68	92.83	921.88	85,576.72	855,767.15	
21	Alamii Daggafaa Galaasoo	2.8015	30.68	85.95	921.88	79,235.60	792,356.04	Midhaan
22	Tsaggaayee Taaddasaa Jimaa	1.3668	30.68	41.93	921.88	38,657.58	386,575.85	
23	Katamaa Cifraa Gurmuu	0.8134	30.68	24.96	921.88	23,005.62	230,056.19	
24	Alamaayyoo Lammaa Tufaa	2.8635	30.68	87.85	921.88	80,989.17	809,891.68	
25	Asheetuu Wadaajoo Warjii	5.7392	30.68	176.08	921.88	162,323.39	1,623,233.91	
26	Gazzuu Geetaahuun Wadaajoo	4.0835	30.68	125.28	921.88	115,494.77	1,154,947.67	
27	Yeneenash Urgaa Aliyyuu	1.9808	30.68	60.77	921.88	56,023.52	560,235.18	
28	Abarraa Baldaa Sanbatuu	4.4209	30.68	135.63	921.88	125,037.55	1,250,375.45	
29	Gaaddisee Margaa Bajigaa	0.8382	30.68	25.72	921.88	23,707.04	237,070.44	
30	Kabbabuush Geetaahuun Wadaajoo	0.1977	30.68	6.07	921.88	5,591.60	55,916.04	
31	Yashii Wadaajoo Warjii	0.3295	30.68	10.11	921.88	9,319.34	93,193.40	
32	Lafa Waldaa Urjii OC	0.6247	50.00	31.24	188.00	5,872.18	58,721.80	[redacted]
33	Burtukaan Wadaajoo Warjii	0.3260	30.68	10.00	921.88	9,220.35	92,203.49	
34	Lammii Wadaajoo Warjii	0.4308	30.68	13.22	921.88	12,184.44	121,844.36	
35	Baqqalaa Wadaajoo Warjii	1.5019	30.68	46.08	921.88	42,478.66	424,786.56	

	Maqaa Abbootii Lafaa	Bal'ina Lafaa Hektaaran	Calloomaa G/Gaeessa Waggaa Shanii(ku)	Omishtummaa Kuntaalan	Gatii Kuntaala Tokkoo G/Galeessa Waggaa Shanii	Kaffaltii Beenyaa Waggaa Tokkoo	Kaffaltii Beenyaa Waggaa Kudhanii	Omisha
37	Baqqalaa G/masqal Waldee	0.7644	30.68	23.45	921.88	21,619.74	216,197.38	ተፍ
38	Lataa Galataa Magraaa	0.3570	30.68	10.95	921.88	10,097.13	100,971.30	
39	Laaqoo Kabbadaa Shaambuu	0.5968	30.68	18.31	921.88	16,879.46	168,794.61	
40	NiguseeTaaddasaa Jimaa	0.4943	50.00	24.72	188.00	4,646.42	46,464.20	Midhaan
41	AlamaayyooBadaanee Shaambuu	0.8505	30.68	26.09	921.88	24,054.93	240,549.28	
42	Taaddasaa Jimaa	0.7608	30.68	23.34	921.88	21,517.92	215,179.18	
43	Muluu Laaqaa G/hiwoot	0.5534	30.68	16.98	921.88	15,651.97	156,519.66	
44	Abbabachi Faantaayee Irgaxee	1.2800	30.68	39.27	921.88	36,202.60	362,025.96	
45	Iteenash Asraat Maangashaa	0.9744	30.68	29.89	921.88	27,559.23	275,592.26	
46	Basanuu Dirree Bokkuu	0.3671	30.68	11.26	921.88	10,382.79	103,827.92	
47	Ifruu Baqqalaa Shuumii	0.7710	30.68	23.65	921.88	21,806.41	218,064.08	
	Ida'ama	**86.9219**	**1,580.60**	**2,695.73**	**42,236.60**	**2,408,543.51**	**24,085,435.08**	

2) Tilmaama Beenyaa Biqiloota Garaagaraa

	Abbaa Qabeenyaa	Gosa Biqiltuu	Sadarkaa	Baayina	Gatii Tokkoo	Gatii Walii Galaa
1	Waldaa Abdii Boruu	Baargamoo	Falaxaa G/galeessa	15	800.00	12,000.00
			Falaxaa Xiqqaa	20	500.00	10,000.00
			Dagalee Qorqoorroo	120	30.00	3,600.00
			Cafaqaa	502	15.00	7,530.00
		Turmaanturii	Cafaqaa	45	15.00	675.00
		Akeeshiyaa	G/galeessa	10	150.00	1,500.00
			Cafaqaa	30	15.00	450.00
Ida'ama						**35,755.00**
2	Lammaaa Baldaa Sanbatuu	Turmaanturii	G/galeessa	6.00	150.00	900.00
			Cafaqaa	31.00	15.00	465.00
Ida'ama						**1,365.00**
3	Badhaanee Shambuu Odaa	Turmaanturii	G/galeessa	4.00	150.00	600.00
			Cafaqaa	10.00	15.00	150.00
Ida'ama						**750.00**
4	Dinquu Cifraa Gurmuu	Baargamoo	Falaxaa Xiqqaa	1.00	500.00	500.00
			Cafaqaa	23.00	15.00	345.00
		Shuwaashuwee	Cafaqaa	10.00	15.00	150.00
Ida'ama						**995.00**
	Asheetuu Wadaajoo Warjii	Geeshoo	Xiqqaa	50.00	50.00	**2,500.00**
5	Gazzuu Geetaahuun Wadaajoo	Turmaanturii	G/galeessa	10.00	150.00	1,500.00
			Cafaqaa	15.00	15.00	225.00
Ida'ama						**1,725.00**
Ida'ama Beenyaa Biqiltuu						**43,090.00**

Tilmaama Beenyaa Waliigala(1+2)	24,128,525.08

Annex 2: List of participants during the public consultation at *Kolba Gode Kebele*

Annex 4: Attendance Sheet for Persons Consulted for the Mission– RPF and SIA

Region: [illegible]
Zone: [illegible]
Woreda: [illegible]
Kebele: [illegible]

Date: ______

S/N	Name of Participants	Sex	Age	Representation/ Organization	Position	Cell Phone	Sign
1	Ato Lakew Kebede	M	55			[illegible]	
2	Hailu Woldajo	M	58			[illegible]	
3	Merdasa Bekele	M	30			[illegible]	
4	Kenadu Dagne	M	53			[illegible]	
5	[illegible] Tadese	M	36			[illegible]	
6	Abera Tadese	M	28			[illegible]	
7	Workiye Tufa	F	29			[illegible]	
8	Mergia Derese	M	26			[illegible]	
9	Asega Woldye	M	28			[illegible]	
10	Kebu Tadese	M	38			[illegible]	
11	Tilahun Keru	M	32			[illegible]	
12	Shala Shura	M	28			[illegible]	
13	Alegere Bekele	M	30			[illegible]	

6

Annex 3: Chance Find Procedure for physical and cultural resources

These procedures were developed in accordance with the World Bank Guidelines - OP 4.11 of June 2006. These procedures will be included as standard provisions in construction contracts to ensure the protection of cultural heritage. A clause for "Protection of Physical and Cultural Resources" will be added to all bidding documents for the works contract, which explains the steps to follow whenever new resources of physical, cultural or archaeological importance are encountered during construction.

Protection of Physical and Cultural resources

1) Excavation in sites of known physical/Cultural/Archaeological interest should be avoided. Where this is unavoidable, prior discussions must be held with the local Cultural Office or other relevant government office. Where historical remains, antiquity or any other object of cultural or archaeological importance are unexpectedly discovered during construction in an area not previously known for its archaeological interest, the following procedures should be applied:

- Stop construction activities.
- Delineate the discovered site area.
- Secure the site to prevent any damage or loss of removable objects. In case of removable antiquities or sensitive remains, a night guard should be present until the responsible authority takes over.
- Notify the Dry Port, which, in turn should notify the and the local cultural office authorities within less than 24 hours.
- Responsible authorities would be in charge of protecting and preserving the site before deciding on the proper procedures to be carried out.
- An evaluation of the finding will be performed by the responsible government body. The significance and importance of the findings will be assessed according to various criteria relevant to cultural heritage including aesthetic, historic, scientific or research, social and economic values.
- Decision on how to handle the finding will be reached based on the above assessment and could include changes in the project layout (in case of finding an irrevocable remain of cultural or archaeological importance), conservation, preservation, restoration or salvage.

- Implementation of the authority decision concerning the management of the finding.
- Construction work could resume only when permission is given from the responsible government office after the decision concerning the safeguard of the heritage is fully executed.

2) In case of delay incurred in direct relation to important findings not stipulated in the contract (and affecting the overall schedule of works), the contractor may apply for an extension of time. However the contractor will not be entitled for any kind of compensation or claim other than what is directly related to the execution of the archaeological findings works and protections.

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