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ENVIRONMENTAL SOCIAL ACTION PLAN (ESAP) REPORT

ENGINEERING CONSULTANCY SERVICES FOR THE DEVELOPMENT OF PRELIMINARY AND DETAILED ENGINEERING DESIGNS & SUPERVISION OF CIVIL WORKS FOR THE MINISTRY OF FINANCE - FEDERAL GOVERNMENT OF SOMALIA - CONTRACT NO.: MOF/SFF/SERV/08





ECOTECH LIMITED - THE ENGINEERING MANAGEMENT & DEVELOPMENT CONSULTANTS

Development of Preliminary and Detailed Engineering Designs & Supervision of Civil Works



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1. Rehabilitation of 5.5 KM Roads in Jowhar & Baidao.....



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ABBREVIATIONS

DOHSS	Directorate of Occupational Health and Safety
EA	Environmental Audit
EHS	Environment Health and Safety
EIA	Environmental Impact Assessment
ΕΜϹΑ	Environmental Management and Coordination Act, 1999
ERP	Emergency Response Plans
NEAP	National Environmental Action Plan
NEMA	National Environment Management Authority
PPE	Personal Protective Equipment

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1.0 INTRODUCTION AND BACKGROUND INFORMATION

1.1 Introduction

This Environmental Social Action Plan (ESAP) details the principles, practices and procedures to be implemented by the ECOTECH – SFF – LD – PIU to manage, remedy and mitigate potential adverse environmental effects during construction and operation of the 5.5 km in Johwar and Baidoa regions of Somalia. These principles, practices and procedures are guided by the World Bank's social and environmental policies and guidelines. Further, they meet the designation conditions, relevant regional legislation and the environmental laws.

1.2 Justification of the ESAP

The purpose of this ESAP is to describe the best and practicable environmental and social management and monitoring procedures to be implemented (by both the contractors and the supervising engineers) during the proposed project's construction and operation phases. The ESAP will ensure that appropriate environmental management practices are adhered to and implemented during the various project phases. The ESAP will further enable the contractor to construct the road while ensuring least potential adverse effect to the environment and immediate surrounding.

This ESAP therefore covers all the anticipated environmental and social impacts and proposes mitigation measures to avoid or reduce potential negative environmental and social impacts as well as processes for implementing good environmental management.

1.3 Objectives of the Environmental Social Action Plan

The overall objective of the ESAP is to assess the potential significant adverse impacts of the proposed development and articulate appropriate mitigation measures.

The specific objectives of this study include the following:

- 1. To identify and evaluate the significant environmental and social impacts of the proposed project.
- 2. To evaluate and select the best project alternative from the various options.
- 3. To propose mitigation measures for the negative environmental impacts
- 4. To incorporate Environmental Management Plans and monitoring mechanisms during implementation, operation and decommissioning phases of the project.

1.4 Scope of the Works

The study has been conducted to evaluate the potential and foreseeable negative impacts of the proposed development. The physical scope is limited to the proposed site and the immediate environment as may be

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affected by or may affect the proposed project. Any potential impacts are also evaluated as guided World Bank's social and environmental policies and guidelines and by EMCA 1999 and the Environmental (Impact Assessment and Audit) Regulations 2003. This report includes an assessment of impacts of the proposed site and its environs with reference to the following:

- 1. A review of policy, legal and institutional framework.
- 2. Description of the proposed project.
- 3. Assessment of the potential negative environmental impacts of the proposed project.
- 4. Development of mitigation measures and future monitoring plans.

1.5 Relevant Policy, Legal and Administrative Framework

1.5.1 Introduction

This ESAP has been prepared to fully comply with the World Bank's social and environmental policies and guidelines, relevant International Conventions and Treaties, and regional environmental legislations and procedures as outlined in the various Regulations by National Environment Management Authority (NEMA), in the local region.

1.5.1.1 Applicable World Bank Policies

The World Bank's environmental and social safeguard policies are a cornerstone of its support to sustainable environmental development. The objective of these policies is to prevent and mitigate undue harm to people and the environment in the development process. These policies provide guidelines for the identification, preparation, and implementation of programs and projects. The following operational policies of the World Bank are relevant for the proposed development project from an environmental and social viewpoint include but not limited to:

• Environmental Assessment

1.5.1.2 Relevant International Conventions and Treaties

The East African countries are signatory to several international conventions and treaties that would need to be adhered to in implementing this road projects and are geared towards environmental protection and conservation. Some of the conventions relevant to this study include;

- Safety and Health in Construction Recommendation, 1988
- Recruiting of Indigenous Workers Convention, 1936 (No.50)





- Contracts of Employment (Indigenous Workers) Convention, 1939 (No. 64)
- Minimum Age Convention, 1973 (No. 138) Minimum age specified: 16 years
- Migrant Workers (Supplementary Provisions) Convention, 1975 (No. 143)

1.5.1.3 Relevant National Environment Management Authority (NEMA) Environmental Laws

Locally as guided by the World Bank's social and environmental policies and guidelines, it's the mandate of NEMA through its requirements for Environmental Assessment mainly under Section 58 of the Environmental Management and Co-ordination Act, 1999 to ensure that the proposed project is environmentally sound. Some of the relevant regional NEMA laws are:

- Environmental Management and Co-ordination Act (EMCA
 - ✓ The Environmental (Impact Assessment and Audit) Regulations, 2003
 - ✓ Water Quality Regulations
 - ✓ Waste Management Regulations
 - ✓ Controlled Substances Regulations, 2007 (Legal Notice No.73 of 2007)
 - ✓ Conservation of Biodiversity
 - ✓ Draft Air Quality Regulations, 2008
 - ✓ Energy Act, 2006
 - Generation, Transmission, Distribution
- Land Acquisition Act
- The Occupational Safety and Health Act, 2007
- Public Health Act
- Factories and Other Places of Work Act (Cap, 514)
- The Water Act
- Forests Act 2005
- Physical Planning Act (Cap 286)
- Employment Act No 11 of 2007
- Labor Institutions Act No. 12 of 2007
- Building Code 1997
- Traffic Act Cap 403



2.1 Introduction

This section outlines the potential positive and negative impacts that will be associated with the proposed project. The impacts will be related to activities to be carried out during construction and operation phases of the proposed project. The impacts of the project during each of its life cycle stages (construction, operation and decommissioning) can be categorized into: impacts on the biophysical environment; health and safety impacts and socio-economic impacts.

2.2 Positive Environmental Impacts during Construction Phase

2.2.1 Improved Infrastructure.

The proposed project activities of repairing the roads will lead to improvement of transport and drainage services in the town and entire Jowhar and Baidoa regions. Further, this project will stimulate development of general infrastructure.

2.2.2 Creation of Employment Opportunities

The proposed project development will create employment to some local residents and citizens form the neighboring communities. Several employment opportunities will be created for both skilled and semi-skilled personnel during the construction phase of the project. This will be a significant impact since unemployment is currently quite high in the region and the country at large.

2.2.3 Provision of Market for Construction Materials

The proposed project will require supply of road construction materials, most of which will be sourced locally in Johwar, Mogadishu and the surrounding areas. This provides ready market for road construction material suppliers such as quarrying companies, hardware shops and individuals with such materials.

2.2.4 Increased Business Opportunities

The large number of project staff required will provide ready market for various goods and services, leading to several business opportunities for small-scale traders such as food vendors around the construction site.

2.3 Negative Environmental Impacts during Construction Phase

Most of environmental impacts identified in this Project appear to be temporary in nature and associated with the construction phase and can be easily prevented / mitigated through proper construction practices as well as by implementing mitigation measures as outlined in the environmental management plan.



Road construction materials such as hard core, ballast, cement, rough stone and sand required for construction of the proposed projects will be obtained from quarries, hardware shops and sand harvesters who extract such materials from natural resource banks such as rivers and land. Since substantial quantities of these materials will be required, the availability and sustainability of such resources at the extraction sites will be negatively affected, as they are not renewable in the short term.

Further, the sites from which the materials will be extracted may be significantly affected in several ways including landscape changes and opening of depressions on the surface leading to several human and animal health hazards.

2.3.2 Dust Emissions

During construction, the projects will generate substantial quantities of dust at the construction site and its surrounding. The sources of dust emissions will include excavation and leveling works, and to a small extent, transport vehicles delivering building materials.

2.3.3 Noise and Vibration

The road construction works, delivery of road construction materials by trucks and the use of machinery/equipment including generators, metal grinders and concrete mixers will contribute high levels of noise and vibration within the road construction site and the surrounding area. Elevated noise levels within the site can affect project workers and the residents, passers-by and other persons in within the vicinity of the project site.

2.3.4 Risks of Incidents, Accidents and Injuries to Workers

Because of the construction activities including preparatory activities /mobilization and construction of temporary facilities, site clearance, passage of traffic, base and subbase construction, road markings, metal grinding and cutting, concrete work, among others, road construction workers will be exposed to risks of accidents and injuries. Such injuries can result from accidental falls, injuries from hand tools and road construction equipment, and cuts from metals among others.

2.3.5 Solid Waste Generation

Some quantities of solid waste will be generated at the site during the road construction period. Such waste will consist of metal cuttings, rejected materials, surplus materials, surplus spoil, excavated materials, paper bags, Copyright 2017 © Ecotech Limited – The Engineering Management & Development Consultants

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empty cartons, empty paint and solvent containers, among others. Such solid waste materials can be injurious to the environment through blockage of drainage systems, choking of water bodies and negative impacts on human and animal health.

This may be accentuated by the fact that some of the waste materials contain hazardous substances such as paints, cement, adhesives and cleaning solvents, while some of the waste materials including metal cuttings and plastic containers are not biodegradable and can have long-term and cumulative effects on the environment.

2.3.6 Energy Consumption

The projects will consume fossil fuels (mainly diesel) to run transport vehicles and construction machinery. The project will also use electricity. Electricity is generated mainly through natural resources, namely, water and geothermal resources. In this regard, there will be need to use electricity sparingly since high consumption of electricity negatively impacts on these natural resources and their sustainability.

2.3.7 Water Use

The road construction activities will require large quantities of water. Water will mainly be used for concrete mixing, keeping down dust, among other purposes. Excessive water use may negatively impact on water sources and their sustainability.

2.3.8 Impacts on Cultural or Archeological Significance

While engaging the public during consultation and public participation on their views regarding the proposed road rehabilitations, the locals confirmed that there were no items of cultural or archeological significance along the road. Thus, there were no impacts on items of cultural or archeological significance.

2.4 Positive Environmental Impacts during Operation Phase

2.4.1 Provision of Efficient Transport Services

Completion of the proposed repairs of the roads will lead to provision of efficient and reliable transport services to Jowhar and Baidoa residents in to and out of the towns.

2.4.2 Increased and Affordable Region Connectivity

Proper road network plays a key role in connecting regions. Completion of these projects will thus connect Johwar and Baidoa towns and its neighboring areas easily and quickly. Further, the connection fee/transport charges will be affordable, faster and quality since the road will be in a good condition.



2.4.3 Swift Movement and delivery of Goods and Services

An efficient road network facilitates fast movement of various goods and services from one region to another. Delivery of goods for instance fresh farm produce in to the market in good time will ensure stable prices. Further, many residents will be get their goods and services in good time where as they will also be able to reach their various destinations in time.

2.4.4 Promote Business

Proper roads form an integral part in business development. Likewise, repairing of Johwar and Baidoa roads will pave way for delivery of a variety of goods and services into the market as well enable quick by people to the goods and services.

2.4.5 Employment Opportunities and Income Generation

Some people will be employed by the project as various consultants, engineers, plumbers, painters, security guards, cleaners, among others. All these people will be able to earn an income to provide for themselves, their families and other dependents.

2.4.6 Revenue to the National Government

Through payment of relevant taxes, rates and fees to the government authority, the project will contribute towards the national and local revenue earnings.

2.4.7 Improved Security

Security will be ensured around the project site through distribution of suitable security lights and presence of 24-hour security guards. This will lead to improvement in the general security in the surrounding area.

2.5 Negative Environmental Impacts during Operational Phase

2.5.1 Solid Waste Generation

Given the magnitude of the project and the number of people, motorists, cyclist, hand and animal pulled cats, livestock, the amount of solid waste to be generated is expected to be high and will increase with time. It will consist of both household and municipal waste.



Tarmacking of the road and the building of pavements will lead to increased volume and velocity of storm water or run-off flowing during rainy seasons. This will lead to increased amounts of storm water entering the drainage systems, resulting in overflow and damage to such systems in addition to increased erosion or from the surrounding areas.

2.5.3 Increased Demand for Sanitation

The number of people accessing the towns for business and other purposes will increase. This will lead to increased demand for sanitation and sewage disposal for people who will come to the town.

2.5.4 Energy Consumption

During operation of the roads, there will be use of a lot of electrical energy mainly various purposes including lighting, security and other daily municipal operations. Since electricity generation involves utilization of natural resources, excessive electricity consumption will strain the resources and negatively impact on their sustainability.

2.5.5 Exhaust Emissions

The trucks used to transport various building materials from their sources to the project site contribute to increases in emissions of CO₂, NO₂ and fine particulate along the way as a result of diesel combustion. Such emissions can lead to several environmental impacts including global warming and health impacts.

2.5.6: Risk of social conflict:

Conflicts may arise between the local community and the construction workers, which may be related to religious, cultural or ethnic differences, or based on competition for local resources. Ethnic and regional conflicts may be aggravated if workers from one group are moving into the territory of the other.

2.5.7: Increased Risk of Illicit Behavior and Crime

The influx of workers and service providers into communities may increase the rate of crimes and/or a perception of insecurity by the local community. Such illicit behavior or crimes can include:

- Theft,
- Sexual exploitation of women and girls

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- Physical assaults,
- Substance abuse,
- prostitution, and
- Human trafficking.

2.5.6: Impacts on Community Dynamics

Current and pre-existing social conflict may intensify and this depends on the number of incoming workers and their engagement with the host community.

2.5.7: Increased Burden on and Competition for Public Service Provision

The presence of construction workers and service providers may generate additional demand for the provision of public services, such as water, electricity, medical services, transport, education and social services.

2.5.8: Gender-Based Violence

Construction workers are predominantly younger males. Those who are away from home on the construction job are typically separated from their family and act outside their normal sphere of social control. This is because influx of workers (especially males) with financial resources and income triggers power imbalance. Given that in these communities women and girls are experiencing financial instability and economic stress, they are thus vulnerable and engage in exploitative behavior willingly. This can lead to inappropriate and criminal behavior, such as sexual harassment of women and girls, exploitative sexual relations, and illicit sexual relations with minors from the local community.

Power imbalances imbalance between men and women created by difference in power related to access to income does not enable women to provide consent to these activities on equal footing as the income earning men. Therefore, a large influx of male labor into new communities may also lead to increased risk of exploitation, abuse and possibly other forms of gender-based violence. Often these women and girls are pressured by families and communities to engage in transactional sex as a livelihood strategy.

2.5.9: Child Labor and School Dropout

Increased opportunities for the host community to sell goods and services to the incoming workers can lead to child labor to produce and deliver these goods and services, which in turn can lead to enhanced



2.6.1 Introduction

This section highlights the necessary mitigation measures that will be adopted to prevent or minimize significant negative environmental, health and safety impacts associated with the activities of the project during its construction, operation and decommissioning phases.

2.6.2 Mitigation of Construction Phase Impacts.

2.6.2.1 Efficient Sourcing and Use of Raw Materials

The proponent should source building materials such as sand, ballast and hard core from registered quarry and sand mining firms, whose projects have undergone satisfactory environmental impact assessment/audit and received relevant approval. This will ensure after extraction of the building materials, these quarries will rehabilitated and or restored ensuring a sound and safe environment.

To reduce the negative impacts on availability and sustainability of the materials, the proponent will only order for what will be required through accurate budgeting and estimation of actual construction requirements. This will ensure that materials are not extracted or purchased in excessive quantities. Further, the proponent will ensure that wastage, damage or loss of materials at the construction site is kept minimal.

In addition to the above measures, the proponent shall consider reuse of building materials and use of recycled building materials. This will lead to reduction in the amount of raw materials extracted from natural resources as well as reducing impacts at the extraction sites. However, it should be clearly noted that the proposed project does not intend to open any burrow pits while sourcing raw materials for use during construction phase.

2.6.2.2 Reduction of Dust Generation and Emission

Dust emission during construction will be minimized through strict enforcement of on-site speed controls as well as limiting unnecessary traffic within the project site and sprinkling water.

2.6.2.3 Minimization of Noise and Vibration

Noise and vibration will be minimized in the project site and surrounding areas through sensitization of construction truck drivers to switch off vehicle engines while offloading materials. In addition, they will be instructed to avoid gunning of vehicle engines or hooting. In addition, construction machinery shall be kept in good condition to reduce noise generation.

2.6.2.4 Reduction of risks of Incidents, Accidents and Injuries

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The proponent is committed to adherence to the occupational health and safety rules and regulations stipulated in Occupational Health and Safety Act (Cap 514). In this regard, the proponent is committed to provision of appropriate personal protective equipment, as well as ensuring a safe and healthy environment for construction workers as outlined in the EMP.

2.6.2.5 Minimization of Construction Waste

It is recommended that the road construction waste be recycled or reused to ensure that materials that would otherwise be disposed of as waste are diverted for productive uses. In this regard, the proponent will be committed to ensuring that construction materials left over at the end of construction will be used in other projects rather than being disposed of.

2.6.2.6 Reduction of Energy Consumption

The proponent shall ensure responsible electricity use at the construction site through sensitization of staff to conserve electricity by switching off electrical equipment or appliances when they are not being used. At the same time, all vehicles and other construction equipment using fuel should be switched off when not in use.

2.6.2.7 Minimization of Water Use

The proponent shall ensure that water is used efficiently at the site by sensitizing construction staff to avoid irresponsible water usage.

2.6.2.8 Minimization of Run-off and Soil Erosion

The proponent will put in place some measures aimed at minimizing soil erosion and associated sediment release from the project site during construction. These measures will include leveling the project site to reduce run-off velocity and increase infiltration of rainwater into the soil. In addition, construction vehicles will be restricted to designated areas to avoid soil compaction within the project site, while any compacted areas will be ripped to reduce run-off.

2.6.2.9: Risk of social conflict

To address risks on social conflicts may arise between the local community and the construction workers, the proponent and contractor must ensure that:

- Provision of information regarding Worker Code of Conduct in local languages. Further:
 - ✓ Information on reporting mechanism for the community should be made available.

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- ✓ Within the GRM there are specially trained staff that can manage cases of reported GBV and refer survivors to any services that may be available.
- ✓ The code of conduct should be clear on what is and is not acceptable behavior including GBV, sexual exploitation and abuse
- Provision of cultural sensitization training for workers regarding engagement with local community. The training shall:
 - ✓ Address power imbalances and social un-acceptability of violence.
 - ✓ Develop a community engagement strategy un-acceptable bahaviors.
 - Installing visible signage around the project site indicating zero tolerance to sexual exploitation and abuse and that it is punishable to engage in such.
- Consultations with and involvement of local communities in project planning and implementation;
- Awareness-raising among local community and workers.

2.6.2.10: Increased Risk of Illicit Behavior and Crime

To address risks of illicit behavior and crime resulting from influx of workers and service providers into project site the proponent and contractor shall:

- Sourcing of local workforce;
- Liaise with civil society organizations to create integrative action plans; provision of upfront information on potentially detrimental impacts on local communities
- Cooperation with local law enforcement;
- Introduction of sanctions (e.g., dismissal) for workers involved in criminal activities;
- Enforcement of laws on drug abuse and trafficking;

2.6.2.11: Impacts on Community Dynamics

To contain impacts on community dynamics the contractor and proponent shall:

- Provision of services like internet in the workers' camp to reduce the need for workers to use local community facilities
- Provision of entertainment and events for workers within camp to reduce incentives for mixing with local community.

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- Liaise with civil society organizations to create integrative action plans; provision of upfront information on potentially detrimental impacts on local communities
- Investment in community participation and engagement programs.

2.6.2.12: Increased Burden on and Competition for Public Service Provision

- Workers' camp to include wastewater disposal and septic systems;
- Identification of authorized water supply source and prohibition of use from other community sources;
- Separate service providers for community and workers' camp/construction site;
- Worker Code of Conduct on water and electricity consumption.
- Contingency plans for temporary rise in demand for utilities and public service provision
- Investment in and capacity building of local public service providers

2.6.2.13: Gender-Based Violence

In addressing issues of GBV, the proponent and contractor shall:

- Conduct mandatory and regular training for workers on required lawful conduct in host community and legal consequences for failure to comply with laws. Further:
 - ✓ In the absence of clear laws it is recommended to create a zero tolerance policy for GBV which should be integrated into the code of conduct.
 - ✓ The training should also discuss Power imbalance, consent and the code of conduct and consequences for its breach
- Commitment to cooperate with law enforcement agencies investigating perpetrators of gender-based violence. This can be achieved through:
 - ✓ Development of internal processes for dealing with alleged perpetrators of GBV.
 - Those investigated and found to be perpetrators of GBV to punished including potential dismissal.
 - ✓ All cases should be handled carefully and confidentially to avoid harmful retaliation with the survivor or other community members.
- Creation of partnership with local NGO to report workers' misconduct and complaints/reports on gender-based violence or harassment through the GRM; This can be achieved through:

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- ✓ Mapping out those working to address issues of GBV. This will ensure that victims of GBV shall receive psychosocial, health and legal/justice services that they importantly need.
- ✓ Setting up a dedicated, anonymous GRM for registering GBV-related complaints
- ✓ Have a report of all the incidents occurred so that the appropriate parties (PIU and Bank) are notified.
- ✓ Procedures can be clarified in the Workers code of conduct if needed
- ✓ Creation of partnerships with existing local organizations providing support services for survivors of violence.
- Information and awareness raising campaigns for community members. This information and awareness should target the whole community.
- Provision of information to host community about the contractor's policies and Worker Code of Conduct (where applicable)
- Increased security presence in nearby communities;
- Enforcement of laws on sexual violence.

2.6.2.14: Child Labor and School Dropout

To address child labor and school dropout the proponent and contractor shall:

- Ensuring that children and minors are not employed directly or indirectly on the project.
- Communication on hiring criteria, minimum age, and applicable laws.
- Enforcement of legislation on child labor.

2.6.3 Mitigation of Operation Phase Impacts

2.6.3.1 Ensuring Efficient Solid Waste Management

The proponent shall provide waste handling facilities such as waste bins and skips for temporarily holding municipal waste generated along the road. The bins should be placed at strategic points where road users/the public will drop their waste as it awaits collection by municipal Lorries for sound disposal. The proponent should also ensure that such is disposed of regularly and appropriately by licensed and registered waste handlers.

2.6.3.2 Management of Drainage

The proponent will ensure that there are adequate means for handling the sewage generated. It will also be important to ensure that sewage pipes are not blocked or damaged since such vices can lead to release of the

Environmental Social Action Plan Report March 2017 Development of Preliminary and Detailed Engineering Designs & Supervision of Civil Works effluent, resulting in land and water contamination. In the event this occurs, such blockages or damages should be fixed expeditiously.

2.6.3.3 Reduction of Risks of Incidents, Accidents and Injuries

The proponent should ensure to adherence to the Safety Rules and Regulations stipulated in Traffic Act. Further, proper signage would be ensured so as to avoid accidents or any other incidents that may result due to of lack of knowledge.

2.7 Determination of Significance of Impacts

The tables below show the summary of impacts anticipated during the initial site preparation, construction stage, and operation phases of the proposed project and their mitigation measures.

Significance has been determined in terms of context and intensity of an action.

Context refers to geographical scale-local, national or global.

Intensity is defined by the severity of the impact e.g. the magnitude of deviation from background conditions, the size of the area affected, the duration of the effect, violation of legal compliance and the overall likelihood of occurrence.

Pollutant generation, transport and fate can affect the air, water, soil and the biodiversity in proximity to the proposed site. Particulates and gases are typically transported by air but may deposit in surface waters or soils. Liquid pollutants (e.g. fuels & Solvents) can volatilize into the air or be transported through soils, sediments, or aquatic media, such as ground water or surface streams as analyzed below;

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TABLE 1: IMPACTS ON WATER RESOURCES

Activity	Environmental	Potential Environmental	Mitigation Measures
	Aspect	Impact	
Site excavation, grading; and offloading of construction materials at the site.	Spills of oil and other hazardous chemicals from construction equipment	 Ground water contamination through leaching Contamination of surface water through storm water run-off 	 All grounds should be cemented to prevent spilled from leaking into underground water Keep storage containers closed when not actively adding or removing material. Inspect containers on a weekly basis to be certain that they are in good condition and keep written records of the inspections Train all staff on hazard recognition, response plan implementation, safety, and clean up procedures, and
			reporting
Operation of the repaired road	Solid waste disposal Sewage disposal Waste water disposal	 Ground water contamination through leaching of the leach ate. Surface water contamination through run off 	 Use of an integrated solid waste management system i.e. through a hierarchy of options like: Source reduction; Recycling; Reuse; and Land filling. Use construction materials containing recycled content where possible and in accordance with accepted standards. Reuse packaging materials such as cartons, cement bags, empty metal and plastic containers. Dispose waste more responsibly by dumping at designated dumping sites or landfills only. Waste collection bins to be provided at designated points on site. Provide facilities for proper handling and storage of construction materials Use of durable, long-lasting materials to reduce the amount of construction waste generated over time.



Activity	Environmental	Potential Environmental	Mitigation Measures
	Aspect	Impact	
Site excavation, and	Dust	Adverse Human health	Avoid excavation works in extremely
offloading of		Impaired visibility	dry weathers.
construction			 Post signs that limit vehicles speed onto unpaved roads and over
materials			disturbed soils.
			• Cover stockpiles of sand, soil and similar materials or surround them with wind breaks.
			• Ensure strict enforcement of on-site speed limit regulations.
Site excavation, and	Noise	Adverse Human health	• The noisy construction works will be
offloading of		Legal non –compliance	planned to be during the day
construction		Nuisance to neighbors	Use best available technology
materials			• Sensitize construction vehicle drivers
			and machinery operators to switch
			off engines of vehicles or machinery
			not being used
			• Ensure that construction machinery
			is kept in good condition to reduce
			noise generation
Ditto	Emissions from	Non legal compliance	Vehicle idling time shall be
	construction	Adverse to human health	 minimized Sensitize truck drivers to avoid
	equipment such as		unnecessary racing of vehicle
	bulldozers		engines at loading/offloading points and parking areas
			 The engine size of the construction equipment shall be the minimum practical size.
			 Construction equipment operating simultaneously to be minimized through efficient management practices.
			• Construction equipment to be
			maintained properly tuned and
			maintained as per the manufacturers
			specifications



Activity	Environmental Aspect	Potential Environmental	Mitigation Measures
		Impact	
Site excavation, and offloading of construction materials	Oil, chemical and material spills	Soil contamination	 All grounds should be cemented to prevent spilled from leaking into underground water Keep storage containers closed when not actively adding or removing material. Inspect containers on a weekly basis to be certain that they are in good condition and keep written records
			of the inspections
			response plan implementation,
			safety, and clean up procedures, and
			reporting

TABLE 4: IMPACT ON LAND USE

Activity	Environmental Aspect	Potential Environm		nvironmental		Mitigation Measure	
			Ir	npac	t		
Construction of the	Non –compliance with	•	Change	of	land	use	• Ensure that the proposed new uses,
commercial	regulatory and legal		pattern				development plans and business are
development	requirements						compatible with the surrounding and
							that all the required laws and
							regulation are adhered to and
							implemented.

TABLE 5: IMPACT ON TRANSPORTATION

Activity	Environmental Aspect	Potential Environmental	Mitigation Measures
		Impact	
Supply of bulk construction materials	Overload of trucks Traffic flow	Damage to roadsSubsequent accidents	 Liaise with the Traffic police to control traffic flow Ferry construction materials during off-peak hours when traffic is low Endure trucks are not overloaded Demarcate all works which may pose danger to the public and other site workers
			Erect warning signs



3.1 Guidelines for EHS.

Each person involved in the Project has equal responsibility to strive to avoid, remedy or mitigate adverse environmental effects. There are three key groups with responsibility for environmental management of the Project. In order to effectively achieve EHS goals, the contractor and his workers will do the following:

- Commit himself to promoting and maintaining high levels of safety and health standards,
- Ensure that project activities protect the environment and natural resources,
- Employees will be expected to take personal responsibility for their safety, safety of colleagues and of the general public as it relates to the EHS management plan.

3.2 Obligations in Environment, Health and Safety.

3.2.1 The Contractor

The contractor will ensure that:

- Safe means of entry and exit exist at the proposed project site,
- Ensure adequate briefing of job at hand on the safe system of work before commencement of work,
- The EHS coordinator must be in attendance at all times throughout the duration of the project.

3.2.2 Emergency Response Plans – ERPs

Emergencies and disasters are a reality of everyday life. Most people do not know what to do if an emergency occurred while on the job. In addition, they do not know what actions to take if a co-worker was seriously injured, a fire ignited, or a structure collapsed.

Too many lives are lost and property is damaged because no one is prepared to properly react when immediate decisions and actions counted. Workers/people must therefore be sensitized and prepared on how to react and respond to such emergencies. Such swift decisions and actions come in handy mostly during operation phase since there is likelihood of occurrence of hazards.

The mitigations include the following;

• Training should be conducted on how to prevent and manage incidences. This should involve proper handling of electricity, water etc. and sensitization on various modes of escape, conduct and responsibility during such incidences.

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- All must be fully aware and mentally prepared for potential emergency. Analyze beforehand what to do
 if one of the co-workers is injured, and if that injury is life threatening. Must know how to protect
 oneself, co-workers and the company/workplace. In case of say a serious accident (i.e. chemical spill,
 serious breakages, etc.).
- Chances are, during a crisis, one will not have much time to plan the best possible action so make those decisions and preparations ahead of time. Such plans must be properly documented and made available to all.
- The proponent should initiate and develop effective ERPs to cater for various eventualities such as fire outbreaks, and other accidents/incidents that are likely to occur.
- Regular drills should constantly follow on various possible incidences. This will test the response of the involved stakeholders. Such drills will keep them alert and they will become more responsive to in the case of incidences.

In the event that other emergencies occur during the road construction, the workers shall:

- Alert other persons exposed to danger,
- Inform the EHS coordinator,
- Do a quick assessment on the nature of emergency, and
- Call for ambulance on standby.

4.0 ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN (ESMP)

4.1 Significance of ESMP

ESMP involves the protection, conservation and sustainable use of the various elements or components of the environment. The ESMP for the project provides all the details of project activities, impacts, mitigation measures, time schedules, costs, responsibilities and commitments proposed to minimize environmental and social impacts. The main activities include monitoring and evaluation and environmental audits during implementation and decommissioning phases of the project.

NOTE

This ESMP shall be incorporated into the works and supervision contracts and both the proponent, contractors and the supervising engineers are responsible for implementing the safeguards.

IMPACT

Development of Preliminary and Detailed Engineering Designs & Supervision of Civil Works Table 6: Environmental and Social Management Plan (ESMP) for Construction and Operation Phases

MANAGEMENT AND MITIGATION

	CONSTRUCTIO	N PHASE	•	
Objective: To mini	mize solid waste generation ensuring efficier	nt solid waste manager	nent	
Increased solid waste generation	 Use of an integrated solid waste management system i.e. through a hierarchy of options like: Source reduction; Recycling; Reuse; and Land filling. Use construction materials in accordance with accepted standards. Reuse packaging materials such as cartons, cement bags, empty metal and plastic containers. Dispose waste more responsibly by dumping at designated dumping sites or landfills only. Waste collection bins to be provided at designated points Provide facilities for proper handling and storage of construction materials Use of durable, long-lasting materials to reduce the amount of construction waste generated over time. 	Proponent/Contract or	Construction Phase	1300
Objective: To mini	mize impacts of dust and exhaust emissions			
Dust emission	 Avoid excavation works in extremely dry weathers. Post signs that limit vehicles speed onto unpaved roads and over disturbed soils. Cover stockpiles of sand, soil and similar materials or surround them with wind breaks. 	Proponent/Contract	Construction	800
	• Ensure strict enforcement of on-		- Huse	

RESPONSIBILITY

site speed limit regulations. Sprinkle water on access routes . when necessary to reduce dust generation by construction vehicles. Personal protective equipment to • be worn.

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COST

(USD)

TIME FRAME

Environmental Social Action Plan Report March 2017 Development of Preliminary and Detailed Engineering Designs & Supervision of Civil Works				
IMPACT	MANAGEMENT AND MITIGATION	RESPONSIBILITY	TIME FRAME	COST (USD)
Exhaust emission	 Vehicle idling time shall be minimized Sensitize truck drivers to avoid unnecessary racing of vehicle engines at loading/offloading points and parking areas. The engine size of the construction equipment shall be the minimum practical size. Construction equipment operating simultaneously to be minimized through efficient management practices. Construction equipment to be maintained properly tuned and maintained as per the manufacturers specifications. 	Contractor	Throughout Construction phase.	1000
	Objective: To minimize ris	sks of social conflict		
Social Conflict	 Provide information regarding Worker Code of Conduct in local languages Cultural sensitization and training of workers regarding engagement with local community Consult and involvement of local communities in project planning and implementation; Awareness-raising among local community and workers. 	Construction Phase	Proponent/ Contractor	4,000
	Objective: To Minimize risks of	Illicit Behavior and Cri	ne	
Illicit Behavior and Crime	 Sourcing of local workforce Liaise with civil society organizations to create integrative action plans; provision of upfront information on potentially detrimental impacts on local communities 	Construction Phase	Contractor/ Proponent	4000

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IMPACT	MANAGEMENT AND MITIGATION	RESPONSIBILITY	TIME FRAME	COST (USD)
	 Cooperation with local law enforcement; Introduction of sanctions (e.g., dismissal) for workers involved in illicit activities, including sexual exploitation and abuse and other forms of GBV Provision of substance abuse prevention and management progams by linking with existing services and programs. Enforcement of laws on drug abuse Police monitoring to prevent drugs Sensitization campaigns both for workers and local communities. 			
	Objective: Reducing Impacts o	n Community Dynamic	s	
Impacts on Community Dynamics	 Provision of services in the workers' camp to reduce the need for workers to use local community facilities (internet) Liaise with civil society organizations to create integrative action plans; provision of upfront information on potentially detrimental impacts on local communities. Investment in community participation and engagement programs. 	Construction Phase	Contractor/ Proponent	2000
	Objective: Reducing In	mpacts on GBV		<u> </u>

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ІМРАСТ	MANAGEMENT AND MITIGATION	RESPONSIBILITY	TIME FRAME	COST (USD)
IMPACT Gender Based Violence	 MANAGEMENT AND MITIGATION Provision of information regarding Worker Code of Conduct in local languages. Further: ✓ Information on reporting mechanism for the community should be made available. ✓ Within the GRM there are specially trained staff that can manage cases of reported GBV and refer survivors to any services that may be available. ✓ The code of conduct should be clear on what is and is not acceptable behavior including GBV, sexual exploitation and abuse Conduct mandatory and regular training for workers on required lawful conduct in host community and legal consequences for failure to comply with laws. Further: ✓ In the absence of clear laws it is recommended to create a zero tolerance policy for GBV which should be 	RESPONSIBILITY Construction Phase	TIME FRAME Contractor/ Proponent	COST (USD) 30,000
	 integrated into the code of conduct. ✓ The training should also discuss Power imbalance, consent and 			ú



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	the code of conduct and consequences for its		
	consequences for its		
	broach		
	breach		
	Commitment to cooperate with		
	law enforcement agencies		
	investigating perpetrators of		
	gender-based violence. This can		
	be achieved through:		
	✓ Development of internal		
	processes for dealing		
	with alleged		
	perpetrators of GBV.		
	✓ Those investigated and		
	found to be perpetrators		
	of GBV to punished		
	including potential		
	dismissal.		
	\checkmark All cases should be		
	handled carefully and		
	confidentially to avoid		
	harmful retaliation with		
	the survivor or other		
	community members.		
	Creation of partnership with local		
	NGO to report workers'		
	misconduct and		
	complaints/reports on gender-		
	based violence or harassment		
	through the GRM; This can be		
	achieved through:		
	 Mapping out those working to address issues of GBV. This will ensure that victims of GBV shall receive 		

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IMPACT	MANAGEMENT AND MITIGATION	RESPONSIBILITY	TIME FRAME	COST (USD)
IMPACT	MANAGEMENT AND MITIGATION legal/justice services that they importantly need. Setting up a dedicated, anonymous GRM for registering GBV-related complaints Have a report of all the incidents occurred so that the appropriate parties (PIU and Bank) are notified. Procedures can be clarified in the Workers code of conduct if needed	RESPONSIBILITY	TIME FRAME	COST (USD)
	 ✓ Creation of partnerships with existing local organizations providing support services for survivors of violence. 			
	 Information and awareness raising campaigns for community members. This information and awareness should target the whole community. Provision of information to host 			
	community about the contractor's policies and Worker Code of Conduct (where applicable) Increased security presence in			
	 nearby communities; Enforcement of laws on sexual violence. Objective: Minimizing Impacts of Ch 	ild Labor and School dr	opout	
Child Labor and School dropout	Ensuring that children and minors are not employed directly or	Construction Phase	Contractor/ Proponent	3000

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IMPACT	MANAGEMENT AND MITIGATION	RESPONSIBILITY	TIME FRAME	COST (USD)
Objective: To mini	 indirectly on the project. Communication on hiring criteria, minimum age, and applicable laws. Enforcement of legislation on child labor. 			
	Prescribe noise reduction			
Noise and vibration Objective: To mini	 Prescribe hoise reduction measures if appropriate e.g. restricted working hours, transport hours and noise buffering Consult with the surrounding community on the permissible noise levels and best working hours. Use best available technology Sensitize construction vehicle drivers and machinery operators to switch off engines of vehicles or machinery not being used. Ensure that construction machinery is kept in good condition to reduce noise generation. The noisy construction works will be planned to be during the day. 	Contractor	Throughout Construction phase.	1200
,	Monitor energy use during			
Increased energy consumption	 Monitor energy use during construction and set targets for reduction of energy use. Ensure planning of transportation of materials to ensure that fossil fuels (diesel, petrol) are not consumed in excessive amounts. Install energy saving fluorescent tubes and bulbs at all lighting points instead of bulbs which consume higher electric energy. Ensure electrical equipment and appliances are switched off when not being used. 	Contractor	Throughout Construction phase.	2000

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Environmental Social Action Plan Report March 2017 Development of Preliminary and Detailed Engineering Designs & Supervision of Civil Works				
IMPACT	MANAGEMENT AND MITIGATION	RESPONSIBILITY	TIME FRAME	COST (USD)
Objective: To mini	mize site extraction impacts ensuring proper	r utilization of raw mat	erials	
Demand for raw material	 Road construction materials should be extracted from registered quarry and sand mining firms Ensure that damage or loss of materials at the construction site is kept minimal through proper storage. Ensure accurate budgeting and estimation of actual construction material Source building materials from local suppliers who use environmentally friendly processes in their operations. 	Contractor	Throughout Construction phase.	1000
Objective: To Min	imize water consumption ensuring efficient v	water utilization		
Increased Water Demand	 Ensure that water is sourced from a sustainable source and from licensed water vendors. Recycling waste water and using it for other purposes Harvesting rain water during rainy seasons. 	Contractor	Throughout Construction phase.	2500
Objective: Minimi	zing incidences and accidents	•		
Increased incidences and accidents	 Registration of all workplaces by the Director, Directorate of Occupational Health and Safety (DOHSS) Provision of appropriate Personal Protective Equipment (PPE) for staff such as: Earmuffs for ear protection; Helmets for head protection; Dust masks for dust protection for all project works; Goggles with good visibility for eye protection; Overalls and dust coats to protect the skin; Safety Shoes for protection of the feet; Gloves of different types according to specific works in relation to: 	Proponent/Contract or	Throughout Construction phase.	5000

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IMPACT	MANAGEMENT AND MITIGATION	RESPONSIBILITY	TIME FRAME	COST (USD)
	 Puncture resistance; Sharps resistance; Cut resistance; Cut resistance; Flexibility; Abrasion resistance; Grip. Comply with all standards and legally required health and safety regulations as set out by the Occupational Safety and Health Act (Part XI: Section 96) as pertains to construction activities; Provide fully functional standard First Aid Kit on site. Recommendations for Employees exceeding fifty (50) [as per the Demarcate all works which may pose a employees and other site workers Erect warning signs For fire and safety the Contractor, should ensure the following: For fire and safety the Contractor, should ensure the following: Place portable fire extinguishers at suitable locations Maintaining of a Material Safety Data Sheet (MSDS) from the manufacturer for flammable gases and flammable combustible liquids Development of fire emergency procedures and pinning them up in a place where access them Training all staff on fire safety policy and procedures Allocate a fire assembly point Clearly mark all fire exits within the site 			
Objective: Minimi	zing impacts of material sourcing	1		
Impacts of Material Sourcing	 Construction contract should stipulate that the Contractor sources materials from an approved site; The tender documents should specify required standards and certification for procurement of 	Contractor	Throughout Construction phase.	

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IMPACT	MANAGEMENT AND MITIGATION	RESPONSIBILITY	TIME FRAME	COST (USD)
	 all materials and appliances; The sources of all construction materials should be from approved sources; for example, hard-stone for building should be obtained from bona fide commercial quarries; The contractor should ensure that he sources construction materials sustainably; The contractor should ensure that the storage area for materials is good so as to avoid spoils and waste. 			1200
Hazardous Waste	 Incorporate all potential contaminants in the construction environmental management plan (CEMP); Maintain vehicles and machinery routinely inspected to minimize the risk of fuel/oil leaks; All fuels, chemicals and hazardous liquids would be stored away from drainage lines, within an impervious banded area; 	Contractor	Project Life	5000
Objective: Minimi	zation of impacts on community			
Community Impacts	 Initiate good public relation between the proponent, contractor and the community Erect and maintain information boards in the position, quantity, design and dimensions of the proposed sugar factory Keep a "Complaints Register" on Site. 	Contractor	Project Life	2500
	OPERATION	PHASE		
Solid Waste Management	Refer Mitigation measures under construction phase	Proponent	Daily	2000
Energy Requirements	 Energy consumption through lighting would be kept as low as possible Incorporation of energy efficient equipment and lighting in the design; The design should utilize available natural light in the daytime to assist in the achievement of adequate lighting levels; 	Contractor	Project life	1300

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IMPACT	MANAGEMENT AND MITIGATION	RESPONSIBILITY	TIME FRAME	COST (USD)
Fire Management	 Conform with the Factories and other Places of Work (Fire Risk Reduction) Rules, 2007; Develop fire emergency procedures and pin them at strategic points Training all staff on fire safety policy and procedures; Allocating a fire assembly point; Clearly marking fire exits within the area; Ensuring safety warnings are prominently displayed, such as "No smoking", "No naked flames"; Maintain an incident/accident register 	Proponent /Contractor	Project life	4000
Visual Impacts	 Unnecessary loss or damage to vegetation would be avoided Landscape all disturbed areas after construction 	Contractor/ proponent	Project life	800
Increased incidences and accidents	 Register all workplaces by the Directorate of Occupational Health and Safety Services (DOHSS) Provide a standard and functional First Aid Kit on site. Comply with all standard and legally required health and safety regulations as set out by the Occupational Safety and Health Act (Part XI: Section 96) as pertains to construction activities; Develop a Safety Policy for the sugar factory and ensure compliance. 	Proponent/Contract or	Project life	5000
TOTAL				74,400

N.B. Estimated costs computed for only one (1) road project rehabilitation or construction.

5.0 CONCLUSION AND RECOMMENDATIONS

5.1 Conclusions

The collection, collation and analysis of data and information during this study and preparation of the project report indicate that the project is not expected to result in any significant adverse social or environmental impacts. Those social and environmental impacts that result from the project will be mitigatable as guided by the ESMP. More so, guidelines on environment, health and safety shall be useful to promote best management practices to reduce incidences and accidents, health problems and compromise to environmental integrity. In general, the activities of repairing of the roads will not in any way affect the existing land use practices in the Johwar and Baidoa towns. In any case, it will further open up the two project areas to more development opportunities and optimize business opportunities thereby improving the livelihoods and wellbeing of the local community

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Appendix 1: Photos of Baidao Road



Photo 1 & 2: Some of the blocked culverts along the Baidoa road



Photo 3 & 4: Some damaged road sections





Photo 5 & 6: Some damaged road sections



Photo 7 & 8: Quarrying activities next to the road





Photo 9 & 10: Section of drainage blocked by soil and vegetation along the road



Photo 11 & 12: Some of the road users





Photo 13 & 14: Some poorly drained sections of the road

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Appendix 2: Photos of Jowhar Road



Photo 15 & 16: Section of the damaged Jowhar road



Photo 17 & 18: Some of the damaged and blocked culverts along Jowhar road





Photo 19 & 20: Some of the damaged and blocked culverts along Johwar road



Photo 21: Maize plantations beside the road

Photo 22: Cattle using the road





Phot 24 & 25: A section of a wetland occurring along Johwar road

End of the Report-