**Construction of New Schools Buildings for Mtoni Kidatu Primary School, Kianga Secondary School, Jang'ombe Secondary School and Mikunguni Secondary School in Mjini and Magharibi "A" Districts in Mjini Magharibi Region, Unguja Island, Zanzibar**

# ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN

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# EXECUTIVE SUMMARY

**PROJECT DESCRIPTION**

The Revolutionary Government of Zanzibar (RGoZ) through the Ministry of Education and Vocational Training (MoEVT) has received a credit from the World Bank (WB) towards the cost of the Zanzibar Improving Quality of Basic Education (ZIQUE) Project. The Project aims to improve learning outcomes and support student progression through the learning cycle by addressing some of the most critical challenges to achieving quality basic education (primary and lower secondary) in Zanzibar. The ZIQUE project has four components including: (i) supporting the effective roll-out of the new curriculum in basic education; (ii) strengthening teacher effectiveness; (iii) supporting conducive learning environments; and (iv) systems strengthening and project management.

Component three (i.e. supporting conducive learning environments) involves, among other things, the construction of new school buildings for the four schools on Unguja Island including Mtoni Kidatu Primary School, Kianga Secondary School, Jang'ombe Secondary School and Mikunguni Secondary School. The schools belong to the Revolutionary Government of Zanzibar, operating under MoEVT. At the moment, the schools embrace various building structures, facilities and services including classrooms, offices, water facilities (mainly groundwater boreholes), electricity supply services and sanitary and waste management systems. However, the existing building structures and facilities are very old, dilapidated and inadequate to meet the current demand qualitatively and quantitatively. These deficiencies not only threaten the welfare of the beneficiary community in terms of health, safety and security but also jeopardise the quality of education service delivery.

It is against the above narrated status quo that MoEVT has planned to construct new and modern building structures to meet the current demand qualitatively and quantitatively. The scope under the current intervention is as follows:

a) The new building structure at Mtoni Kidatu primary school will be a three-storey building structure (plus basement) with a total gross area of 4245.1m$^2$. Key features include 42 classrooms for students, staff offices, 2 stores, 3 laboratory rooms, 1 computer room, 1 library room and 1 multipurpose hall;
b) The new building structure at Kianga secondary school will be a three-storey building with a total gross area of 6134.19m$^2$. Key features include 38 classrooms for students, staff offices, 2 stores, 3 laboratory rooms, 1 computer room, 1 library room and 1 multipurpose hall;
c) The new building structure at Jang'ombe secondary school will be a three-storey building with a total gross area of 6134.19m$^2$. Key features include 38 classrooms for students, 3 staff offices, 2 stores, 3 laboratory rooms, 1 computer room, 1 library room and 1 multipurpose hall; and
d) The new building structure at Mikunguni secondary school is a two-storey building structure with a total gross area of 5574.18m$^2$. Key features include 15 classrooms for students, 8 workshops, staff offices, 6 stores, 2 laboratory rooms, 1 computer room and 1 library room.

The construction of the proposed schools building structures is expected to result in positive and negative environmental and socio–economic impacts emanating from both planned and accidental events. As such, in order to ensure that the proposed intervention is done in an environmentally and socially acceptable manner, MoEVT has prepared this Environmental and Social Management Plan (ESMP) in compliance with Zanzibar requirements as well as World Bank (the financier) guidelines.

**PROJECT LOCATION**

Administratively, the project sites are located as follows:

a) Mtoni Kidatu Primary School is located in the Shehia of Mtoni, Magharibi A District, Mjini Magharibi region, Unguja Island of Zanzibar.
b) Kianga Secondary School is located in the Shehia of Kianga, Magharibi A District, Mjini Magharibi region, Unguja Island of Zanzibar.
c) Jang'ombe Secondary School is located in the Shehia of Jang'ombe, Mjini District, Mjini Magharibi region, Unguja Island of Zanzibar.
d) Mikunguni Secondary School (TSS) is located in the Shehia of Sebleni, Mjini District, Mjini Magharibi region, Unguja Island of Zanzibar.

**METHODOLOGY**

The preparation of the ESMP considered the E&S management issues stipulated in the Project's Environmental and Social Management Framework (ESMF), Labour Management Plan (LMP) as well as the Stakeholders Management Plan (SEP) for ZIQUE project. The ESMP was prepared through undertaking environmental and social screening to determine risks and impacts associated with the project; undertaking literature review which was central in ascertaining environmental and social baseline conditions of the project area including review of policy, legal and institutional framework; impact assessment by superimposing project infrastructures onto the existing bio-physical and socio-economic environment of the project sites; identifying and proposing mitigation and enhancement measures that aim at eliminating or minimising the potential negative impacts and promote positive ones as well as validation of mitigation, enhancement, and monitoring measures through stakeholders' engagement.

**POLICY, LEGISLATIVE AND ADMINISTRATIVE FRAMEWORK**

The policy, legislative and administrative frameworks form the basis for the preparation of this ESMP. Since the proposed project is being implemented in Zanzibar; relevant Zanzibar policies, legislation, regulations and by-laws were reviewed to assess their relevance to the project as elaborated in Chapter 3. The national frameworks were complemented by the international treaties and agreements, in particular, the World Bank Environmental and Social Standards (ESS) and the World Bank Group Environmental, Health and Safety Guidelines. Discussions with and review of relevant environmental and social management authorities at all levels on their roles and mandates in project implementation were scrutinised in the context of Environmental and Social (E&S) safeguards as documented in Chapter 3.

**EXISTING BASELINE ENVIRONMENT**

As elaborated above, the four schools referred to in this document are located on Unguja Island in Zanzibar. The island is 85 kilometres long (north-south) and 30 kilometres wide (east-west) at its widest, with an overall area of about 1,666 square kilometres. The geology consists of sedimentary rocks, primarily limestone and sandstone formed through the accumulation and compaction of marine sediments deposited during different periods in Earth's history. The premises of the schools where new building structures will be constructed have elevations ranging between 7m and 34m above sea level whereby the landscape experiences a gentle slope towards site-specific lowland areas. In addition, according to the general geological distribution map of Zanzibar, the project sites encompass Miocene sediments dominated by sandy clay, clayey sand and marl.

Unguja Island has warm to hot temperatures year-round. Average temperatures range from 25°C to 30°C. The hottest months are December to February, with temperatures occasionally exceeding 35°C. The island has two main seasons: a wet season and a dry season. The wet season typically occurs from March to May, with the heaviest rainfall in April. Another, shorter wet season occurs from November to December. The dry season spans from June to October. The island receives an average

annual rainfall of around 1,000 to 2,000 millimetres. Groundwater is the primary source of water on Unguja Island as evidenced by the presence of groundwater boreholes at all targeted schools.

The vegetation at the school is characterised by secondary vegetation which is in the form of agricultural crops, fruit trees and shade trees. Neither plant nor fauna of local or global conservation concern was recorded at all 4 schools.

**DESCRIPTION OF ENVIRONMENTAL AND SOCIAL IMPACTS AND RISKS**

The E&S assessment which has been done in the course of preparing this ESMP has identified and assessed potential environmental and social impacts of the proposed project in all phases of its implementation as well described in Chapter 6. A total of 18 impacts (including 7 environmental impacts and 11 socio-economic impacts of which 15 impacts are negative and 3 are positive) have been identified. Environmental impacts and risks identified include:

- Degradation of sources and depletion of resources at points for extraction of construction materials (including water, soils, sand, aggregates and stones);
- Impairment of air quality and contribution to localised climate change;
- Disturbance and loss of vegetation cover. This impact is associated with site clearance and early works and is limited to the construction of workers' camp, materials storage and processing yard.
- Disturbance and degradation of land leading to soil erosion;
- Disturbanceof fauna species and their habitats due to noise and vibration thereby affecting small mammals, birds, reptiles and invertebrates in the locality.
- Impairment of water and land quality due to improper management of waste where it is estimated that about 12,000$m^3$ of overburden materials, 156 kg/day of solid waste and 27.52$m^3$/day of liquid waste will be generated during the peak of mobilisation and construction phases;

Social impacts and risks will include:

- Disruption of existing social infrastructures and utility services;
- Increase in traffic movements and possible road accidents;
- Conflicts over project-induced immigration and competition for access to jobs;
- Interference with cultural traditions and erosion of cultural heritage;
- Occurrence of GBV and SEA/SH during the construction phase
- Occupational health and safety risks to the construction crew and MoEVT staff during both construction as well as O&M phases; and
- Community health, safety and security risks during both construction and O&M phases.

Identified positive impacts include.

- Creation of jobs and employment opportunities during the construction phase whereby about 240 people will be engaged directly in the project as the labour force;
- Stimulation of local businesses, markets and the economy due to the rising demand for consumables and services in the project area during the construction phase;
- Improved teaching and learning environment and quality of education.

Appropriate measures have been proposed to enhance impacts which are positive to the environment and the communities. Mitigation measures have been proposed to avoid, minimise adverse (negative) impacts, or compensate for those negative impacts that cannot be mitigated by the project for the purpose of maximizing benefits of the proposed project. It has already been shown that implementation of some of the mitigation measures will require collaboration of other stakeholders at different levels of project implementation.

**CONCLUSION AND RECOMMENDATIONS**

Almost all potential impacts associated with the construction of the proposed school building structures on Unguja Island are of a nature and extent that can be reduced, limited and/or eliminated by the application of appropriate mitigation measures described in Chapter 6. The project therefore is considered to be environmentally and socially viable. It is hereby recommended that MoEVT and all other stakeholders should provide all required resources in good time to facilitate implementation of the proposed management plans to better safeguard the integrity of the environment and social setup. Furthermore, it is recommended that the ESMP is disseminated to all relevant stakeholders including contractor(s) for follow-up in all phases of proposed project implementation. Adequate budget should be allocated to facilitate the implementation of the mitigation measures to avoid project impacts on the environment and community and enhance project benefits. Training for all stakeholders on E&S issues is also key for achieving the objectives of this ESMP.

## ABBREVIATIONS AND ACRONYMS

| | |
|---|---|
| AEQSRB | Architects, Engineers and Quantity Surveyors Registration Board |
| AIDS | Acquired Immune Deficiency Syndrome |
| BOQ | Bill of Quantities |
| CE | Consulting Engineer |
| C-ESMP | Contractor Environmental and Social Impact Assessment |
| CO | Carbon Monoxide |
| $CO_2$ | Carbon Oxide |
| CoC | Code of Conduct |
| CSOs | Civil Society Organizations |
| dBA | Decibels |
| DOSH | Directorate of Occupational Health and Safety |
| E&S | Environment and Social |
| ESS | Environmental and Social Standards |
| EHS | Environment, Health and Safety |
| EHSG | Environment, Health and Safety Guidelines |
| EIA | Environmental Impact Assessment |
| EPRP | Emergency Prepareaddness and Response Plan |
| ESCP | Environmental and Social Commitment Plan |
| ESHS | Environment, Safety, Health and Security |
| ESIA | Environmental and Social Impact Assessment |
| ESMF | Environmental and Social Management Framework |
| ESMoP | Environmental and Social Monitoring Plan |
| GBV | Gender Based Violence |
| GPS | Global Positioning System |
| GRM | Grievance Redress Mechanism |
| HIV | Human Immunodeficiency Virus |
| ILO | International Labour Organization |
| km | Kilometer |
| LGAs | Local Government Authorities |
| LMP | Labour Management Procedures |
| MoEVT | Ministry of Education and Vocational Training |
| $NO_2$ | Nitrogen Dioxide |
| O&M | Operation and Maintenance |
| OSH | Occupational Safety and Heal |
| PIU | Project Implementation Unit |
| PPEs | Personal Protective Equipment |
| RGoZ | Revolutionary Government of Zanzibar |
| SEA | Sexual Exploitation and Abuse |
| SEP | Stakeholders Engagement Plan |
| SH | Sexual Harassment |
| $SO_2$ | Sulphur Oxide |
| STDs | Sexually Transmitted Diseases |
| STIs | Sexually Transmitted Diseases |
| TDS | Total Dissolved Solids |
| ToR | Terms of Reference |
| TZS | Tanzania Shillings |
| USD | United States Dollar |
| UTM | Universal Transverse Mercator |
| WB | World Bank |

| | |
|---|---|
| WMP | Waste Management Plan |
| ZAWA | Zanzibar Water Authority |
| ZBS | Zanzibar Bureau of Standards |
| ZCRB | Zanzibar Contractors Registration Board |
| ZECO | Zanzibar Electricity Corporation |
| ZEMA | Zanzibar Environmental Management Authority |
| ZEP | Zanzibar Environmental Policy |
| ZIQUE | Zanzibar Improving Quality of Basic Education |
| ZNS | Zanzibar Standards |

# 1. INTRODUCTION

## 1.1. General Background

The Government of the United Republic of Tanzania represented by the Revolutionary Government of Zanzibar (RGoZ) through the Ministry of Education and Vocational Training (MoEVT) has received a credit from the International Development Association (IDA) towards the cost of the Zanzibar Improving Quality of Basic Education (ZIQUE) Project. The initiative seeks to strengthen teaching and learning in basic education by supporting the roll-out of the new competency-based curriculum by focusing on high-quality teaching and learning materials; improving the learning environment; and providing regular targeted and effective support to teachers. The project aims to improve learning outcomes and support student progression through the learning cycle. It also intends to address some of the most critical challenges to achieving quality basic education (primary and lower secondary) in Zanzibar.

The proposed ZIQUE project builds on the achievements and lessons learnt during the implementation of the Zanzibar Improving Student Prospects (ZISP). The project has four components to be implemented within six years from 2023/24 to the 2028/2029 financial year. The four main components of the project include: (i) Supporting the effective roll-out of the new curriculum in basic education (US$12 million); (ii) Strengthening teacher effectiveness (US$15 million); (iii) Supporting conducive learning environments (US$15 million); and (iv) Systems strengthening and project management (US$8 million). Component three (i.e. supporting conducive learning environments) involves, among other things, the construction of new school buildings for the four schools on Unguja Island including Mtoni Kidatu Primary School, Kianga Secondary School, Jang'ombe Secondary School and Mikunguni Secondary School. The schools belong to the Revolutionary Government of Zanzibar, operating under MoEVT.

The proposed construction work is basically of a nature of civil and building structures involving planning, construction as well as operation and maintenance (O&M) undertakings. In compliance with Zanzibar policies, laws and regulations, MoEVT collaborated with the Zanzibar Environment Authority (ZEMA) to undertake a preliminary E&S assessment between September and October 2024 in view of determining the scope of impact assessment. According to the screening results, all four (4) schools fall under the low and moderate risk categories which have been directly cleared by ZEMA. However, in order to comply with the World Bank Environmental and Social Framework, Environmental and Social Management Plans (ESMPs) are required to guide the proposed development activities and ensure that the undertakings are implemented in an environmentally and socially sound and sustainable way.

It is against this background that MoEVT has prepared this Environmental and Social Management Plan (ESMP) for the proposed undertakings in Unguja Island of Zanzibar. The ESMP outlines:

1. General Background of the Project
2. Project Background and Description
3. Policy, Legislative and Administrative Framework
4. Environmental and Socio-Economic Baseline
5. Environmental and Social Impacts, Risks and Mitigation Measures
6. Environmental and Social Monitoring Plan
7. Institutional Arrangements for Implementation of the ESMP.
8. Summary and Conclusion

The preparation of this ESMP took place between July and September 2025.

### 1.2. Objectives of the ESMP

This ESMP is an important tool for managing and monitoring the E&S impacts associated with the construction of the proposed Mtoni Kidatu, Kianga, Jang'ombe and Mikunguni schools on Unguja Island. The ESMP depicts how the organisational capacity and resources will be utilised to implement the mitigation measures proposed. As such, the MoEVT team in collaboration with the beneficiaries (the schools) will implement the project in accordance with this ESMP. Specific objectives of this ESMP are:

i. To identify potential E&S impacts associated with the project;
ii. To develop mitigation/enhancement measures to minimise E&S risks and impacts;
iii. To define implementation arrangements and organisational structure of the ESMP;
iv. To identify the parameters to be monitored and the respective tools that are used in monitoring and reporting.

### 1.3. Methodology of Preparing ESMP

The preparation of the ESMP considered the E&S management issues stipulated in the Project's Environmental and Social Management Framework (ESMF), Labour Management Plan (LMP) as well as the Stakeholders Management Plan (SEP) for ZIQUE project. The ESMP was prepared through undertaking the following activities:

a) Undertaking environmental and social screening to determine risks and impacts associated with the project which was conducted through using:
   (i) Screening Checklists for environmental and social issues.
   (ii) Environmental and Social Safeguards Criteria for selecting project-specific areas; and
   (iii) Terms of Reference for the preparation of the ESMP.
b) Undertaking a literature review which was central in ascertaining the environmental and social baseline conditions of the project area.
c) Review of Policy, Legal, Institutional Framework: Relevant Zanzibar policies, legislation, regulations and by-laws were reviewed to assess their relevance to the project as elaborated in Chapter 3. The national frameworks were complemented by the international treaties and agreements, in particular, the WB Environmental and Social Standards (ESS) and the World Bank Group Environmental, Health and Safety Guidelines. Discussions with and review of relevant environmental and social management authorities at all levels on their roles and mandates in project implementation were scrutinised in the context of Environmental and Social (E&S) safeguards.
d) Impact Assessment: Impact assessments were determined by superimposing project infrastructures onto the existing bio-physical and socio-economic environment of the project sites. This involved analysis of data for identification, prediction and evaluation of foreseeable impacts, both beneficial and adverse, using checklists, simple matrices and expert judgement; and reference to standards and guidelines. The impact assessment includes three principal components or steps: the identification of impacts, the evaluation of significance, and suggestion of mitigation measures and preparation of E&S Sub-plans, Environmental and Social Monitoring Plans and consolidation of the findings in the ESMP.
e) Mitigation Measures and Management Controls: Identifying and proposing mitigation and enhancement measures that aim at eliminating or minimising the potential negative impacts and promoting positive ones was accomplished using expert judgement and best practices from similar undertakings elsewhere. It involved:
f) Validation of mitigation, enhancement, and monitoring measures through stakeholders' engagement; and
g) Finalization of the ESMP.

# 2. PROJECT BACKGROUND AND DESCRIPTION

## 2.1. The Project Proponent and Rationale

### 2.1.1. Project Proponent

The Proponent (Implementing Agency) of this proposed project is the Ministry of Education and Vocational Training (MoEVT). The MoEVT is one of the ministries under the Revolutionary Government of Zanzibar (RGoZ) with responsibilities for providing education in Zanzibar except higher education, which remains a Union matter. The MoEVT provides the right to education to Zanzibar children in learning institutions including schools, colleges, learning centres (including Vocational Training Centres) where children and young people are studying. Under this undertaking, MoEVT is responsible for coordination and management of this ESMP, construction supervision as well as operation and maintenance of the proposed project.

### 2.1.2. Project Beneficiary

As narrated above, there are four beneficiaries under this initiative: these are:

a) Mtoni Kidatu Primary School (government school)
b) Kianga Secondary School (government school)
c) Jang'ombe Secondary School (government school); and
d) Mikunguni Secondary School (government school).

## 2.2. Project Location and Accessibility

The proposed project will be implemented in Unguja Island, which forms part of the Zanzibar Archipelago. Administratively, the project sites are located in Mjini and Magharibi "A" districts in Mjini Magharibi region in Unguja Island. Specific locations for the schools (in terms of Shehia and the central UTM Geographical coordinates) are presented in Table 1 below whereas Figure 1 and Figure 3 present the maps and Google Earth satellite image of the sites.

Table 1: UTM Geographical coordinates (Zone 37 M) that define the project sites

| Name of School | Location | Coordinate (UTM, Zone 37M) |
|---|---|---|
| Mtoni Kidatu Primary School, | Shehia of Mtoni, Magharibi A District, Mjini Magharibi region, Unguja Island of Zanzibar, | 525780.52 m E, 9321839.67 m S. |
| Kianga Secondary School. | Shehia of Kianga, Magharibi A District, Mjini Magharibi region, Unguja Island of Zanzibar. | 528326.39 m E 9321755.09 m S |
| Jang'ombe Secondary School | Shehia of Jang'ombe, Mjini District, Mjini Magharibi region, Unguja Island of Zanzibar. | 522893.38 m E, 9317373.22 m S |
| Mikunguni Secondary School | Shehia of Sebleni, Mjini District, Mjini Magharibi region, Unguja Island of Zanzibar. | 523370.38 m E, 9318993.51 m S |

## 2.3. Project Rationale and Component

### 2.3.1 Project Rationale

The proposed project is about the construction of new school buildings for Mtoni Kidatu primary school as well as Kianga, Jang'ombe and Mikunguni secondary schools located in Unguja Island of Zanzibar. Basically, the aforementioned schools exist thereby embracing a number of building structures, facilities and services including classrooms, offices, water sources (mainly groundwater boreholes) and supply facilities, electricity supply services and sanitary and waste management systems. However, the existing building structures and facilities are very old, dilapidated and inadequate to meet the current demand qualitatively and quantitatively. These deficiencies not only

threaten the welfare of the beneficiary community in terms of health, safety and security but also jeopardise the quality of education service delivery. It is against this status quo that MoEVT has planned to construct new and modern building structures to meet the current demand qualitatively and quantitatively.

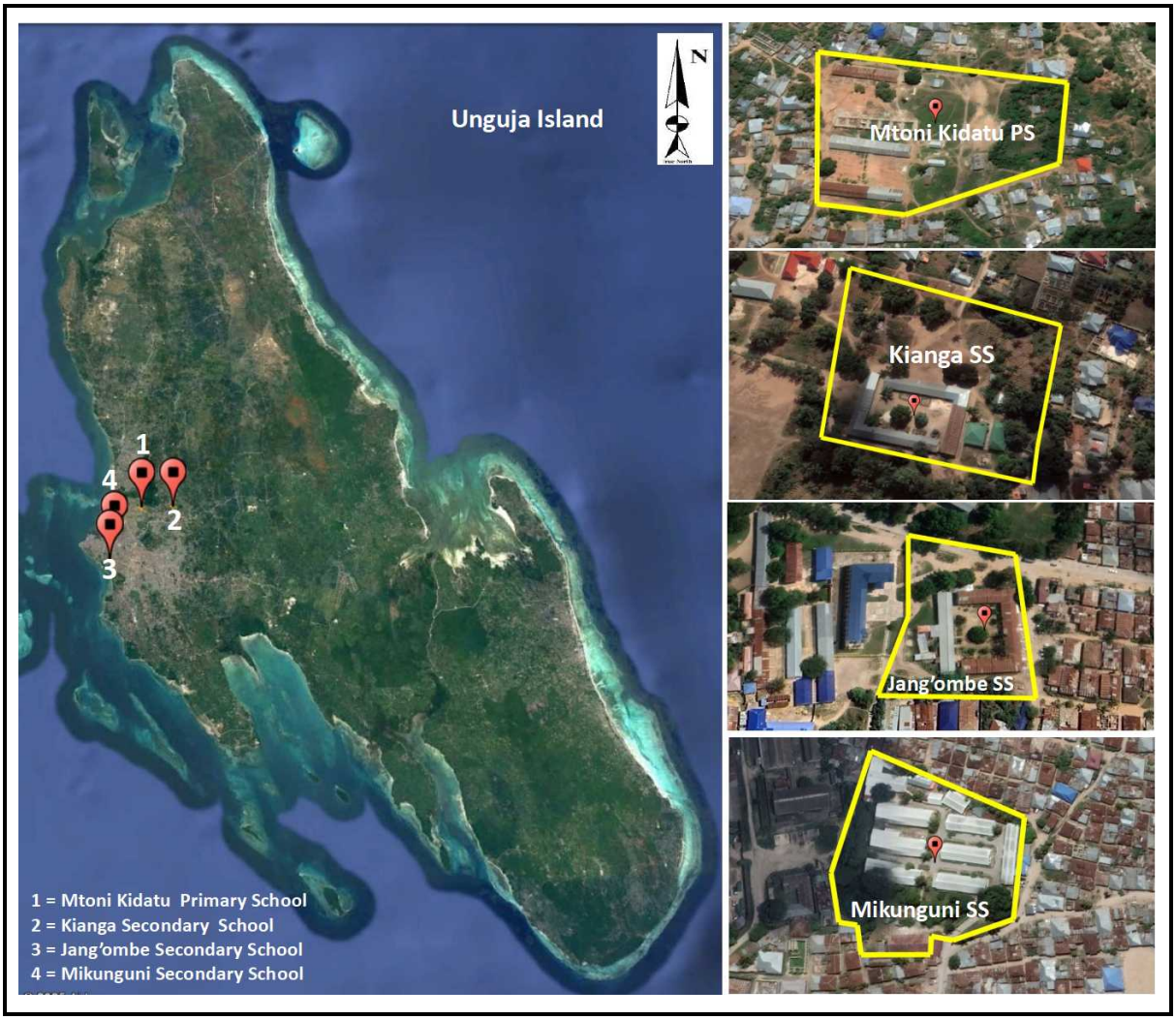



Figure 1: Location of schools to be constructed in Unguja

### 2.3.2 Project Components

The proposed new school buildings for Mtoni Kidatu primary school as well as Kianga, Jang'ombe and Mikunguni secondary schools will have the following key features:

a) The new school building at Mtoni Kidatu primary school is a three-storey building structure (plus basement) with a total gross area of 4245.1m$^2$. The building encompasses 42 classrooms for students, 3 office rooms for the school management (including toilets), 4 office rooms for the teachers, 1 counselling office, 1 examination office with strong room, 2 stores, 3 laboratory rooms (experimental hall, preparation room and store), 1 computer room, 1 library room (reading hall and book store, 1 multipurpose hall, 1 pantry, staff toilets (2 per floor), students' toilets (8 per floor), less able room (2 per floor) and 1 prayer room (refer Figure 2 to Figure 8 below).

b) New school building at Kianga secondary school will be a three-storey building structure with a total gross area of 6134.19m$^2$. The building encompasses 38 classrooms for students, 3 office

rooms for the school management (including toilets), 4 office rooms for the teachers, 1 counselling office, 1 examination room, 2 stores, 3 laboratory rooms (experimental hall, preparation room and lab office), 1 computer room, 1 library room (reading hall and book store), 1 multipurpose hall, 1 pantry, staff toilets (2 per floor), students' toilets (10 per floor), cleaners' room and store (1 per floor), and 1 server room and power backup room (refer Figure 2 to Figure 8 below).

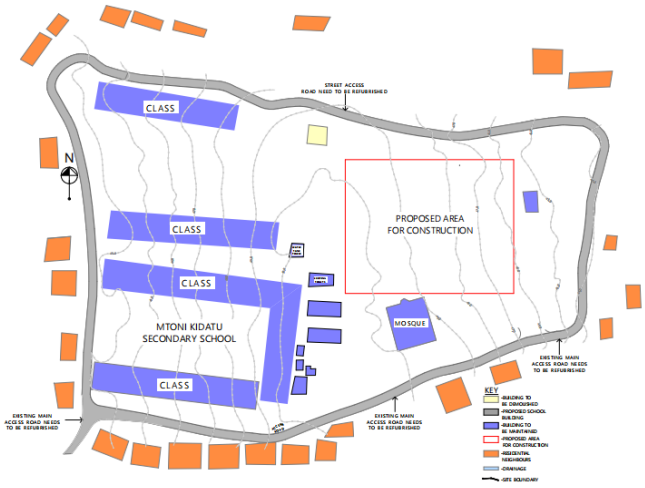
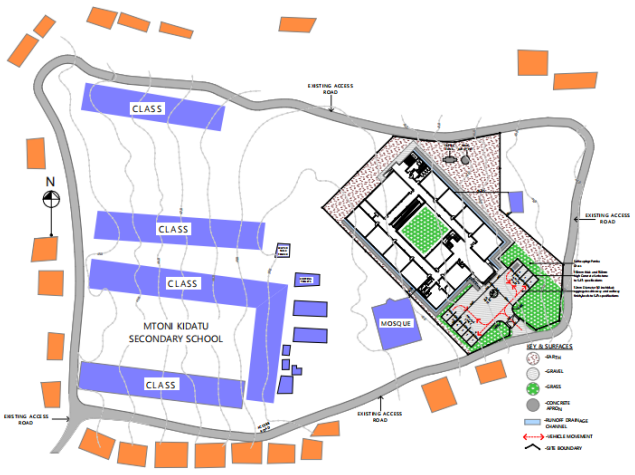
c) New school building at Jang'ombe secondary school will be a three-storey building structure with a total gross area of 6134.19m$^2$. The building encompasses 38 classrooms for students, 3 office rooms for the school management (including toilets), 4 office rooms for the teachers, 1 counselling office, 1 examination room, 2 stores, 3 laboratory rooms (experimental hall, preparation room and lab office), 1 computer room, 1 library room (reading hall and book store), 1 multipurpose hall, 1 pantry, staff toilets (2 per floor), students' toilets (10 per floor), cleaners' room and store (1 per floor), and 1 server room and power backup room (refer Figure 2 to Figure 8 below).

d) New school building at Mikunguni secondary school is a two-storey building structure (plus semi basement) with a total gross area of 5574.18m$^2$. The building encompasses 15 classrooms for students, 8 workshops, 3 office rooms for the school management (including toilets), 4 office rooms for the teachers, 1 counselling office, 1 examination office with strong room, 6 stores, 2 laboratory rooms (experimental hall, preparation room and store), 1 computer room, 1 library room (reading hall and book store), 1 power room (server and offices), 1 pantry, 4 staff toilets, 8 students' toilets and 8 less able toilets (refer Figure 2 to Figure 8 below).

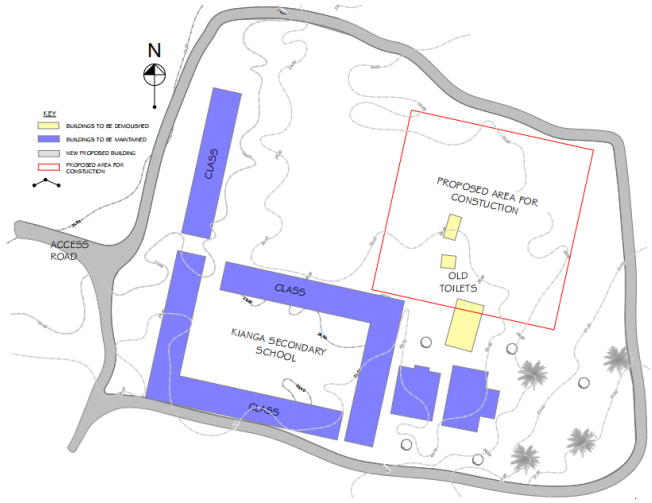
| | |
|---|---|
| Mtoni Kadatu Primary School - Existing<br>  | Mtoni Kidatu Primay School - Proposed<br>  |
| Kianga Secondary School - Existing | Kianga Secondary School - Proposed<br>  |

| | |
|---|---|
| Jang'ombe Secondary School - Existing | Jang'ombe Secondary School - Proposed  |
| Mikunguni Secondary School - Existing | Mikunguni Secondary School - Proposed  |

Figure 2: Existing buildings against the proposed new buildings for the atrgeted schools

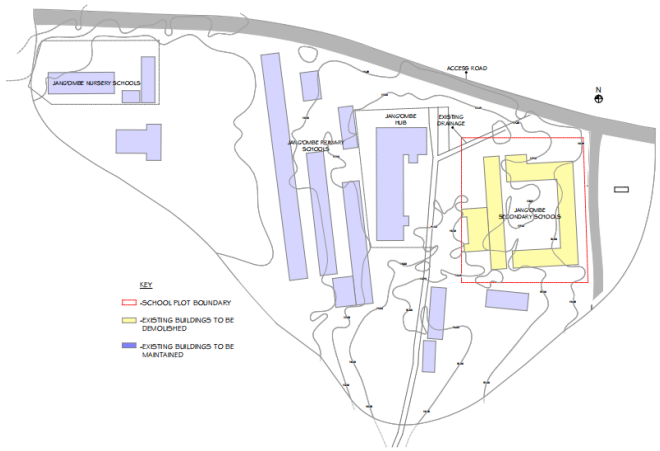
| Existing Site Plan - Mtoni Kidatu Primary School | Proposed Site Plan - Mtoni Kidatu Primary School |
|---|---|
|   |   |

Existing Site Plan - Kianga Secondary School



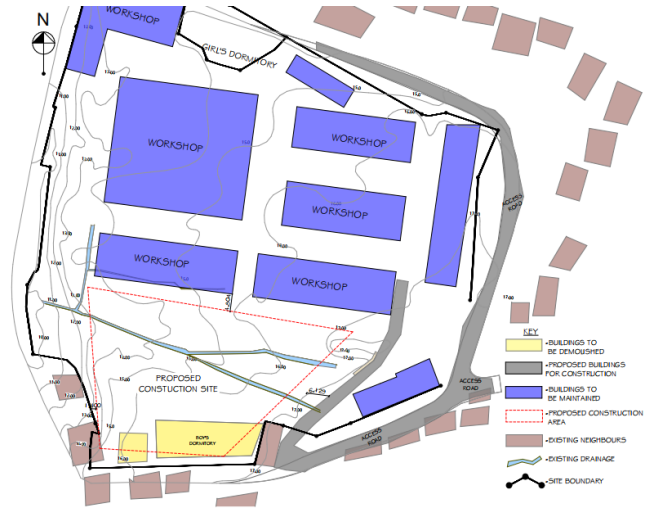

Proposed Site Plan - Kianga Secondary School


Existing Site Plan - Jang'ombe Secondary School




Proposed Site Plan - Jang'ombe Secondary School


Existing Site Plan - Mikunguni Seconary School




Proposed Site Plan - Mikunguni Secondary School


Figure 3: Existing site plans against proposed site plans for the targeted schools

## 2.4 Project Activities

Implementation of the proposed project will follow a conventional project cycle of scheduling, procedures and practices. It will involve four (4) main phases: Planning and Design; Mobilization and Construction; Operation and Maintenance; and Decommissioning Phases. Each phase is characterised by its activities as elaborated in subsections herein under:

### 2.4.1 Planning and Design Phase

The Planning and Design phase for the proposed project is the one which is taking place at the moment. Activities of this phase include feasibility studies at the project sites in Unguja, preliminary and detailed design work, preparation of drawings and the Bill of Quantities (BOQ), preparation of architectural and engineering drawings as well as preparation of cost estimates for the construction of the new school buildngs. The phase also involves the preparation of ESMPs for the same.

### 2.4.2 Mobilisation and Construction Phase

This phase entails the preparatory, construction and installation activities and will facilitate all requirements to make the built/ rehabilitated infrastructures operational. Specific activities of this phase shall include but are not limited to the following tasks:

a) Procurement of contractors, service providers and suppliers of various goods and services for project development;
b) Mobilisation of the workforce (skilled, semi-skilled & unskilled) for execution of project activities including works and services;
c) Mobilisation, transportation and delivery of construction machinery, working tools and equipment to the sites for the take-off of development activities;
d) Mobilisation, transportation and delivery of input materials for the take-off of development and construction works. This shall include gravel, sand, steel, timber, cement, reinforcement bars, casting of pre-cast materials such as concrete, etc.
e) Earthworks including removal of topsoils, excavation, cutting/filling, trimming and stockpiling of cut materials and compaction works.
f) Civil works involving concrete, blocks, stone and steel works for construction of the base foundation of civil structures for the proposed infrastructures.
g) Installation works i.e. electromechanical, electrical, electronics and associated fittings, etc.
h) Supervision for construction and installation works.

Details of some key aspects of the mobilisation and construction phases are hereby elaborated in the sections below.

**i. Materials inputs**

The project will require various standard construction materials including cement, gravel, aggregates, sand, steel rods, water, etc. for the construction of the proposed building. Some materials will be obtained locally in Unguja and Dar es Salaam in Tanzania mainland. Table 2 below presents a preliminary list of required input materials.

Table 2: Materials requirement for construction works

| Materials | Source |
|---|---|
| Sand and soil for filling | Authorized sources in Unguja (i.e. Kibuteni, Donge, Bumbwini, etc.) |
| Hard core materials (Natural stones & gravels) | Authorized sources in Unguja including Kibuteni, Tunguu, Matemwe, Donge, Nganani, etc. |
| Concrete and formwork | Insitu or authorised suppliers and service providers in Unguja / DSM |
| Water for construction works | Onsite borehole at the schools and ZAWA water supply services. It is estimated that 34.4$m^3$ of water will be required per day during the peak of the construction period (14.4$m^3$ per day for the construction |

| Materials | Source |
|---|---|
| | crew and 20m$^3$ per day for construction purposes) |
| Steel reinforcing bar and timber | Registered suppliers and service providers in Unguja / DSM |
| Solid concrete blocks and pavings | Registered suppliers and service providers in Unguja / DSM |
| Diesel powered generators | Registered suppliers and service providers in Unguja / DSM |
| Skilled and unskilled labourers | From project Shehia, as well as other areas of Unguja |
| Electrical materials and accessories | Licensed national suppliers and service providers |
| Electrical cables and fittings | Licensed national suppliers and service providers |
| Electronic materials and accessories | Licensed national suppliers and service providers |
| Plumbing, firefighting and associated fittings. | Licensed national suppliers and service providers |
| Doors and windows and associated accessories and fittings | Licensed national suppliers and service providers |
| Sanitary wares and associated accessories and fittings | Licensed national suppliers and service providers |
| Finishing and furnishing materials | Licensed national suppliers and service providers |
| Fuel, grease and oils | Licensed national suppliers and service providers |
| Capital investment | World Bank financing |

**ii. Equipment and Machinery Requirements**

The project will employ various types of construction equipment and machinery. Table 3 provides a preliminary list of machinery, equipment and vehicles that will be required for development activities during the construction phase.

Table 3: Equipment requirement for mobilization and construction works

| S/N | Type | Rationale |
|---|---|---|
| **Typical Construction Equipment and Machinery** | | |
| 1 | Loaders | Material movement |
| 2 | Tandem Axle Dump Truck | Material movement |
| 3 | RT, erection and unloading Cranes | Construction support at higher heights |
| 4 | Fork Lift | Material delivery and construction support |
| 5 | Boom truck | Material delivery and construction support |
| 6 | Light Plants | Construction support for night-time activities, security |
| 8 | Generator | Construction support, power of site operations |
| 9 | Power Washer | Construction equipment and site vehicle cleaning |
| 10 | Skid Steer | Construction support |
| **Transport Facilities** | | |
| 11 | Pick-up Trucks | Construction support, monitoring, and crew transportation |
| 12 | Supervision vehicles | Transportation of crew to work locations across the project site |

**iii. Human Resources during Mobilization and Construction Works**

Construction works will require a number of people, skilled and unskilled. It is estimated that about 240 people will be required for the construction of school buildings, which include about 40 skilled, 80 semi-skilled and 120 unskilled personnel at peak construction time. This period will last for 12 months. Constructionactivities will be carried out by a qualified contractor registered with the Zanzibar Contractors Registration Board (ZCRB).

**iv. Transportation**

Transportation of construction materials to the site will be done by trucks through the road network that exists in the project area, which connects the project site with other places on

Unguja Island. It is anticipated that most of the construction equipment will be the property of Contractor. Construction crew will be transported to the site by means of Contractor's safe vehicles (i.e. not into truck dumps box).

**v. Contractor's Temporary Camp and Materials Storage Yard**

The temporary camp (where necessary) will be located within the boundaries of the project areas (school premises) in all schools to be constructed. The camp and store will include offices, living rooms for some workers (where necessary), and a first aid room. The camps are planned to have all necessary services including water supply, electrical power supply, sanitation services, security, etc.

On the other hand, materials that are sensitive to weather, such as cement and chemicals, will be stored in an on-site store. Other materials such as aggregates; gravel will be stockpiled at the site. Construction equipment's will also be stored within the site when not in use. Maintenance and repair of vehicles/trucks will be done in the existing garages in Unguja town. Filling of fuel for some equipment such as compactors and generators will be done on site, whereas for vehicles and trucks it will be done outside the project area at existing fuel filling stations in Unguja.

**vi. Utility**

In terms of water supply, the project will use the existing water sources (i.e. groundwater boreholes). It is estimated that about 34.4$m^3$/day of water will be required to cater for the water requirements for the construction works and the construction crew. In terms of electric power services, the project will use the existing ZECO electric power supply services which are already in place and in case of emergencies there will be standby power generators to cater for the purpose.

**vii. Security services**

During the construction phase, licensed security companies with trained personnel will be engaged to provide security for the construction equipment and materials and the project site in general. The security personnel will be recruited from the local and regional workforce.

**viii. Local supplies and services**

Food supplies and medical facilities will be from the local licensed suppliers and service providers in Unguja Island. However, the contractor will provide room for local food vendors and ensure availability of first aid medical services at the workplace.

**ix. Construction supervision**

Construction supervision of civil works shall be done by Engineers registered by the Architects, Engineers and Quantity Surveyors Registration Board (AEQSRB) of Zanzibar. The supervision will be done in collaboration with the technical staff based at MoEVT. This will ensure smooth running of the project and adherence to the environmental and social safeguard standards.

### 2.4.3 Operation and Maintenance Phase

This phase will begin after construction works have been completed and the renovated structures commissioned to school management. MoEVT will be responsible for overall management of all operational and maintenance activities thereby supervising schools' management.

i. **Management and Operation Activities:** management and operation activities at the proposed building will be conducted by the MoEVT staff through its internal management mechanisms. The MoEVT will also be responsible for the implementation of environmental and social management and monitoring plans during O&M phase.

ii. **Monitoring and Maintenance:** monitoring and maintenance of the proposed project will be carried out by MoEVT, which will allocate financial resources for the maintenance and repair of the school's buildings and facilities. Maintenance services will include but are not limited to the upkeep of the building including planned, preventive or corrective maintenance, repairs including the repair of building walls and floors, repairs and maintenance of electrical gadgets and equipment, repairs of leaking water pipes, painting and replacement of worn-out materials among others.

iii. **Utilities Required:** utility services particularly water and electricity will be required. Groundwater source (through boreholes) and ZAWA water supply services are already in use at the schools. Electricity power is also available accessed through ZECO electric power distribution infrastructure and services.

### 2.3.4 Decommissioning Phase

Operation of new building structures at Mtoni Kidatu primary school as well as Kianga, Jang'ombe and Mikunguni secondary schools may come to an end when natural disasters wash away the structures or when the government decides to change the land use for one reason or another. In those circumstances MoEVT may decide to decommission the proposed building structures. As such, the main objectives of the decommissioning phase are to ensure public health, safety and security. It will involve dismantling of structures and reclamation of the sites.

## 2.5 Waste Generation and Management

### 2.5.1 Waste Generation

Major wastes expected from the project development and operation activities waste streams will include overburden and demolition wastes, solid, liquid and hazardous wastes. Most critical wastes are expected during construction activities as elaborated below.

**a) Demolition materials**

Demolition wastes, on the other hand, shall be generated as a result of the demolition of building structures that exist at the schools. The waste shall be generated during the mobilisation period and shall include concrete wastes (remnants of concrete, blocks and bricks); recyclable and reusable materials (i.e. containers, timber, cables, steel, plastic and glass materials); as well as non-recyclable and non-reusable materials including corrugated iron sheets, cables, glass, sanitary wares and accessories, etc.

**b) Overburden materials**

Overburden materials shall emanate from earthworks including site clearance and excavation of foundations which for this project shall be limited to the construction of the contractor's camp, materials storage yard if necessary.

**c) General solid waste**

Shall comprise biodegradable and non-biodegradable solid waste including garbage (as a result of preparation and serving of food), rubbish (which includes paper, cardboard, wood, tree leaves and branches, tyres, bottles, metals, plastic materials, drums, containers, packaging materials and yard trimmings) and maintenance waste (cardboard, bottles, drums, packaging materials, etc.). Solid wastes will be generated in almost all phases of project implementation though will differ in terms of quantity and composition.

**d) Liquid waste**

Shall be dominated by sewage from onsite sanitary facilities used by the workers during the mobilisation and construction phases as well as operation and maintenance phases. Liquid wastes also include stormwater runoff as a result of rain over the project area.

**e) Hazardous waste**

This includes waste oils (i.e. fuels, oils and lubricants) and chemicals which are used/stored for accomplishing miscellaneous activities including construction activities (such as paints, cleaning solvents, etc.) and vehicles/equipment/machinery repair and maintenance. The category also includes chemicals used in teaching laboratories (including expired chemicals), materials from first aid and clinic services within the campus, sanitary pads from students' hostels, electronic waste (e-waste) and electrical waste (i.e. computers, printers, photocopiers, electrical cables and fittings, etc.).

### 2.5.2 Waste Management

Table 4 below outlines planned measures to cater for the safe management of waste which will be generated during project implementation in the project area:

Table 4: Waste generation and management

| Type of waste | Sources | Estimated amount |
|---|---|---|
| Demolition waste and overburden materials | Site clearance and excavation of foundation for the construction of contractor's camp, materials storage yard, etc. | 12,000$m^3$ |
| [1]Biodegradable domestic waste (food, paper, etc.) and non- biodegradable / hazardous (plastic, battery, etc.). | Construction crew undertakings (including food preparations, sanitary, etc.) | 156 kg/day during mobilisation and construction |
| [2]Black water (excreta) and grey water/cleaners. | Toilets and associated sanitary facilities during mobilisation and construction phase as well as O&M phase | 27.52 $m^3$/day during construction phase |
| Fuel, oils, lubricants and other sorts of hazardous waste including E-waste | Construction materials and equipment; maintenance workshops; and fuelling points (vehicles). E-waste will be generated from used electrical appliances and ICT gadgets such as computers, printers | - |
| Storm water runoff | Rainfall during mobilization and construction phase as well as O&M phase | - |

*[1]Estimated to generate 0.65kg of solid waste per capita per day from 240 construction crew during construction phase*

*[2]Estimated to be 80% of the water consumed (60L) per capita per day from construction activities in accordance with the Design, Construction Supervision, Operation and Maintenance (DCOM) Manual Fourth Edition, Volume I Design of Water Supply Projects of March 2009 provided by the Ministry of Water of the URT*

# 3. POLICY, LEGISLATIVE AND INSTITUTIONAL FRAMEWORK

## 3.1. Introduction

The policy, legislative and administrative frameworks form the basis for preparation Environmental and Social Management Plan (ESMP). A policy framework provides broad guidelines on areas of focus in undertaking environmental management activities in the sector. It is required to provide broad guidelines on areas of focus in undertaking environmental and social management activities in the particular sector. A legal and regulatory framework is essential for providing a mandate, allocating specific responsibility and accountability to key actors and stakeholders, and also prescribes and enforces specific operating environmental procedures and standards. Finally, an institutional framework is required to ensure compliance with laws and regulations; and to monitor, review and adapt policies, plans and regulations in the light of experience.

The construction of school building structures in Unguja Island falls within the jurisdiction of Zanzibar under the finance of the World Bank through the ZIQUE project. As such, it must comply with applicable Zanzibar policies, laws, regulations and standards (with emphasis on the Zanzibar Environmental Management Act of 2015 and the Environmental Impact Assessment (Procedures) Regulations, 2019) as well as with the WB Environmental and Social Standards and the WB Group Environmental, Health and Safety Guidelines.

This chapter reviews the Zanzibar policies, laws and the institutional framework and the WB guidelines which govern the environmental and social issues related to the project.

## 3.2. Policy Framework

### 3.2.1. Zanzibar Environmental Policy, 2013

The overall objective of the Zanzibar Environmental Policy (ZEP, 2013) is to pave the way for the protection, conservation, restoration and management of Zanzibar's environmental resources, in order not to impair the capacity to sustain development and maintain the rich environmental endowment for the present and future generations.

- MoEVT shall observe the provisions of this Policy by protecting the environment and natural ecosystems from pollution, degradation and physical destruction throughout the project implementation cycle.

### 3.2.2. Zanzibar Education Policy, 2006

Among others, one of the overall goals of education includes the promotion and enabling of a rational use, management and conservation of the environment.

- By preparing this ESMP for the construction of school buildings, MoEVT has observed one of the overall goals of this Policy, particularly the conservation of the environment. Also, MoEVT will continue to observe other requirements of this policy in order to ensure that environmental and social issues are given due consideration during all phases of project implementation.

### 3.2.3. National Water Policy, 2004

The policy recognises that the ground water is the primary source of water in Unguja and Pemba. The survival of this precious ground reserve will therefore depend upon the balancing of the rate of extraction for human use and the rainfall recharge.

- The proposed project will consume water (through onsite boreholes at the schools) and generate wastewater during both mobilization and construction as well as operation and maintenance phases. MoEVT will adhere to the provisions of the National Water Policy by conserving and protecting the resources throughout the project implementation cycle, including prohibiting the discharge of untreated waste to the environment prior to treatment.

### 3.2.4. Zanzibar Occupational Safety and Health Policy, 2017

The occupational safety and health policy for Zanzibar is set to strengthen legal and institutional arrangements for effective coordination and management of occupational safety and health (OSH); establish appropriate funding mechanisms for occupational safety and health activities; increase access and quality to occupational health services to cover the country's workforce; build the capacity of workers on occupational safety and health issues in both public and private sectors; promote a culture of prevention among employers, workers and the community at large; strengthen OSH data management and information systems for evidence-based planning; and strengthen coordination, monitoring and evaluation mechanisms.

- Proposed project will create hazardous workplaces in all phases of its implementation. MoEVT and the contractor to be engaged shall observe the provisions of this Policy during the implementation of all phases of the proposed project. The project will provide general direction to guide the occupational safety and health for stakeholders to adopt a management system that is effective in reducing the incidence of work-related injury and disease.

### 3.2.5. HIV/AIDS Policy, 2006

The policy outlines that the large group of people in the Islands, especially youth, are at high risk of being affected by HIV/AIDS. The group has been identified as the main productive force, especially in the agriculture, trade and service sectors. Consequently, if measures are not taken to reduce new infections, the country will experience decreasing production rates, and thus increasing poverty levels which lead to increased vulnerability to many hazards such as hunger and disease outbreaks.

- Influx of people in search of jobs in the construction industry in Unguja especially during the construction phase, is likely to accelerate the spread of diseases including HIV/AIDS if appropriate measures are not put in place. The MoEVT and contractors to be engaged shall work in line with the provisions of this policy to address HIV/AIDS pandemic in the context of project implementation in collaboration with other relevant stakeholders at local and national levels during all phases.

### 3.2.6. Child Protection and Development Policy, 2001

The policy considers children as part of the most vulnerable individuals during the implementation of development projects. They are the ones who are affected by diseases, deaths, child labour, disability, ignorance, neglect, food insecurity and the like. The child protection policy has articulated various protective and development strategies that will cater for hazardous natures.

- The proposed project will generate business opportunities and employment during the mobilisation and construction phases. Also, the project will create a hazardous environment during the construction phase. The MoEVT and contractor will have the obligation to ensure that as much as possible they observe the directives of this policy in view of protecting children and their welfare during the project implementation cycle. Further, the project contractor shall not use child labour and the MoEVT shall monitor it throughout the project site.

### 3.2.7. The Employment Policy (RGoZ, 2008)

The policy also acknowledges the role of the construction sector as an important source of employment for the community, especially women and youths.

- Implementation of the project will create employment opportunities (for about 240 people) in the form of skilled, semi-skilled and unskilled labour. In adherence to the national employment policy, MoEVT will ensure that local people in Unguja Island (including women, youth and people with disabilities) are prioritised in the employment opportunities and relevant labour laws are adhered to throughout the project implementation cycle.

### 3.2.8. Zanzibar Local Government Policy (2012)

This policy outlines the local government structure and emphasises engagement of Local Government Authorities (LGAs) including Shehia in the implementation of development projects. The policy directs that information on development projects should be adequately disseminated to local communities or those who will be affected directly and indirectly.

- The proposed project will be implemented in the Shehia of Kianga, Mtoni, Jang'ombe and Sebleni in Mjini and Magharibi "A" districts in the Mjini Magharibi region in Unguja Island, Zanzibar. MoEVT will abide by the requirements of the policy by involving leaders at LGA level including Regional and District Commissioners' offices, other relevant government offices at regional and district level, Sheha and other relevant institutions at Shehia level.

### 3.2.9. Zanzibar Gender Policy (2016)

The policy emphasises gender equality and aims at establishing strategies on poverty eradication through ensuring both women and men get equal access to existing resources for their development. It values the role played by women in bringing about development in society.

- The proposed project will generate business opportunities and employment opportunities mainly during mobilization and construction phases. The MoEVT will have the obligation to ensure that as much as possible both men and women are given equal opportunities during recruitment of construction workers. MoEVT will continue to mainstream relevant gender aspects into project planning, design, implementation and monitoring in adherence to this Policy.

### 3.2.10. Zanzibar National Land Policy (2018)

The National Land Policy provides a guide on the proper and sustainable use of Zanzibar's land for present and future needs, both on land, including coastal areas, and across all islets.

- The land on which the proposed construction works will take place belongs to MoEVT. As such, MoEVT has prepared this ESMP in order to ensure that land resources are protected from pollution, degradation, and physical destruction, among others, throughout the project implementation cycle.

## 3.3. Legal Framework

### 3.3.1. The Environmental Management Act No. 3 of 2015

Under this Act, the Zanzibar Environmental Management Authority (ZEMA) is mandated to undertake enforcement, compliance, review and monitoring of environmental and social impact assessments. The ZEMA has a role in providing general supervision and coordinating over all matters relating to the environment in Zanzibar.

- According to ZEMA screening decision, the construction of the proposed schools falls under activities which have insignificant environmental and social impacts. Yet, this ESMP has been prepared to address the possible/ minimal E&S impacts and risks associated with the construction works.

### 3.3.2. Zanzibar Water Act (2006)

The Act includes provisions on regulating, controlling, managing and protecting all catchment areas; promoting the conservation and proper use of water resources; managing production and distribution of water on a sustainable basis; specifying standards of water quality, effluent and water equipment; and advising the Government in the formulation of policies related to the development and conservation of water.

- The proposed project is estimated to consume 34.4$m^3$ / day of water during the construction phase and consequently generate 27.52$m^3$/day of wastewater during the same phase. MoEVT shall put in place and implement appropriate measures to conserve and protect water resources from any form of degradation and contamination including prohibiting the discharge of untreated waste to water bodies prior to treatment.

### 3.3.3. The Zanzibar Local Government Authority Act of 2014

The Act specifies the establishment of the Local Government Authority structures with their jurisdictional areas, powers and functions in order to promote self-governance and enhance the participation of people and communities in maintaining law and order; and promote democratic, transparent and accountability in a local government.

- The MoEVT will comply with all requirements within the jurisdiction of the LGA (i.e. Shehia of Kianga, Mtoni, Jang'ombe and Sebleni in Mjini and Magharibi "A" districts in Mjini Magharibi region in Unguja Island, Zanzibar) in terms of necessary public works and permits, environmental clearance, prevention of public and private nuisance, and other activities that require certification and permits, etc.

### 3.3.4. The Zanzibar Occupational Safety and Health Act No. 8 of 2005

The Zanzibar Occupational Safety and Health Act No. 8, 2005 establishes basic principles of safety and health in Zanzibar. It stipulates clearly the duties and responsibilities of key stakeholders in occupational safety and health. The Act establishes occupational safety and health management systems such as safety and health committees at national and enterprise level.

- Construction of the proposed school buildings on Unguja Island can lead to occupational health and safety risks if appropriate measures are not put in place. The MoEVT will adhere to this Act by ensuring/providing a safe working environment during the construction and operation phases of project implementation.

### 3.3.5. The Zanzibar Workers" Compensation (Amendment) Act No. 5 of 2005

The aim of the Workers Compensation (Amendment) Act, 2005 is to provide compensation to workmen for injuries or diseases suffered during their employment. The Act is principal legislation that guides all compensation claims of employees who are injured or affected by work-related hazards in the private and public sectors in Zanzibar.

- The construction of the proposed school buildings on Unguja Island will engage 240 construction workers especially during mobilisation and construction phases. The project proponent has noted the provisions of the Workers' Compensation Act. Therefore, the MoEVT and Contractor to be engaged shall observe and implement all relevant required provisions of this Act.

### 3.3.6. The Labor Relations Act No. 1 of 2005

This Act regulates labour relations and dispute resolution between employers and employees and matters related thereto. The Act deals with the fundamental rights of employees and employers at the workplace and rights towards collective bargaining and agreements. The Act is applicable to all employees and employers in Zanzibar. It clearly states, "No organisation/party

(employer/contractor) shall discriminate in its constitution or through its actions against any person on the grounds of race, colour, national extraction, social origin, religion, political opinion, sex, marital status, family responsibilities, age or disability, or impose any condition, restriction or obligation which is discriminatory."

- As notified above, it is estimated that this project will engage 240 people as construction workers during the mobilisation and construction phases. The MoEVT will ensure that project activities (including the undertakings of consultants, contractors, suppliers and service providers) are in compliance with the provisions of this Act.

### 3.3.7. The Fire Brigade and Rescue Act No. 7 of 1999

The Act states, among others, that (c) any removal from a building of any fire service installation provided in accordance with the plans certified by the commissioner for the purposes of providing the building rules. Section (d) states that the presence in any building of any fire service installation or equipment provided in the building in accordance with the plan referred to in paragraph (c) of this interpretation, which from lack of proper maintenance or for other reasons is not in efficient working order.

- This Act requires the project implementers to install firefighting equipment and the necessary gadgets at all hotspot areas including the provision of guidance on how to escape fire, fight it, and inform the fire brigade according to the guidelines. The Act also emphasises the need to ensure fire-fighting equipment is in place with the appropriate conditions all the time. During project implementation, MoEVT shall mobilise all resources required to comply with this Act.

### 3.3.8. Zanzibar Standards Act of 2011

The Zanzibar Standards Act established the Zanzibar Bureau of Standards (ZBS) and vests in it functions and powers to establish, publish, promote, amend or modify a standard for the quality, quantities and units of measure used. Among the compulsory standards to be established is to protect the environment (section 16 (c)).

- MoEVT shall take into consideration the provisions of this Act and incorporate them in the E&S management and monitoring plans and implement them.

## 3.4. The World Bank Environmental and Social Standards

The Environmental and Social Standards (ESS) of the World Bank (WB) set out the requirements for Borrowers relating to the identification and assessment of environmental and social risks and impacts associated with projects supported by the Bank through Investment Project Financing. The Bank believes that the application of these standards, by focusing on the identification and management of environmental and social risks, will support Borrowers in their goal to reduce poverty and increase prosperity in a sustainable manner for the benefit of the environment and their citizens. The standards will: (a) support Borrowers in achieving good international practice relating to environmental and social sustainability; (b) assist Borrowers in fulfilling their national and international environmental and social obligations; (c) enhance nondiscrimination, transparency, participation, accountability and governance; and (d) enhance the sustainable development outcomes of projects through ongoing stakeholder engagement.

There are ten (10) Environmental and Social Standards (ESS) which address environmental and social issues within the Bank's supported development projects. Given the nature of activities of this proposed project, seven (7) ESSs are applicable which include ESS1, ESS2, ESS3, ESS4, ESS6, ESS8 and ESS10) as elaborated below.

ESS1: Assessment and Management of Environmental and Social Risks and Impacts:

- Screening and assessment of environmental and social risks and impacts to determine level and magnitude of risks and impacts.
- Prepared this ESMP for mitigating identified risks and impacts; monitoring effectiveness of proposed mitigation measures as well as enhancing project benefits.

ESS3: Resource Efficiency and Pollution Prevention and Management

- Promote the sustainable use of resources, including energy, water and raw materials.
- Avoid or minimise adverse impacts on human health and the environment caused by pollution from project activities.
- Avoid or minimise project-related emissions of short and long-lived climate pollutants.
- Avoid or minimise generation of hazardous and non-hazardous waste.
- Requires technically and financially feasible measures to improve efficient consumption of energy, water and raw materials.

ESS2: Labour and Working Conditions

- Provision of Valid Employment Contracts to workers for both direct and indirect teams.
- Creation of Grievance Redress Mechanism for workers.
- Provide PPE and welfare facilities to workers.
- Training on HIV/Aids to project workers of direct and indirect teams.

ESS4: Community Health and Safety

- Sensitisation of the community about the project and associated health risks and impacts; and
- Training on HIV/Aids to project workers of direct and indirect teams.
- Assessing risks of GBV, Sexual Harassment (SH) and Sexual Exploitation and Abuse (SEA) and employing mitigation measures

ESS5: Land Acquisition, Restriction on Land Use and Involuntary Resettlement

- Sensitisation of the community about the project and land requirements for access roads, community facilities such as schools, health facilities, markets, cemeteries, recreational and open areas; and
- Land donation requirements and procedures as stipulated in the Resettlement Policy Framework (RPF);

ESS6: Biodiversity Conservation and Sustainable Management of Living Natural Resources

- Protect and conserve biodiversity and habitats.
- Apply the mitigation hierarchy and the precautionary approach in the design and implementation of projects that could have an impact on biodiversity.
- To promote the sustainable management of living natural resources.

ESS10: Stakeholders Engagement and Information Disclosure

- Sensitization of the community about the project
- Formulation and operationalisation of Grievance Redress Mechanism (GRM)
- Preparation and implementation of Stakeholders Engagement Plan (SEP).

# 4. ENVIRONMENTAL AND SOCIO-ECONOMIC BASELINE CONDITIONS

## 4.1. Introduction

This chapter provides a description of relevant environmental and socio-economic characteristics of the core project site (i.e. Kianga and Mtoni Kidatu primary schools as well as Jang'ombe and Mikunguni secondary schools in the Shehia of Kianga, Mtoni, Jang'ombe and Sebleni in Mjini and Magharibi "A" districts in Mjini Magharibi region in Unguja Island, Zanzibar). The level of detail in the various sections depends on the interactions between the project activities and the particular environmental or socio-economic aspects.

## 4.2. Site Conditions

As highlighted in previous sections, the construction of school buildings will take place in the premises of the existing schools in Unguja Island. The general layout of the schools where construction activities will take place includes old building structures, mainly classrooms and teachers' offices. Other features are utility services including groundwater boreholes and ZAWA infrastructure, water storage tanks and distribution systems, wastewater management systems in the form of septic tanks and soak pits and ZECO electric power distribution system. The ancillary services that exist include access roads (paved and unpaved), football playground and some trees and crops, gardens and idle land.

Because the schools are located in the urban area, the schools are bordered by various urban infrastructures including residential households, other public and private institutions (like schools, office buildings, religious buildings, etc.), social infrastructures including roads (tarmacked and community access roads) and electrical distribution lines.

## 4.3. Physical Conditions

### 4.3.1. Topography

Unguja Island is 85 kilometres long (north-south) and 30 kilometres wide (east-west) at its widest, with an overall area of about 1,666 square kilometres. It is characterised by small ridges along its central north-south axis, formed as the result of sediment deposition by the south-north flowing deltaic streams (before break up), producing several corridors, predominantly the north-south ridges.

- The premises of the schools where new building structures will be constructed have elevations ranging between 7m and 34m above sea level whereby the landscape experiences a gentle slope towards site-specific lowland areas.

### 4.3.2. Soil and Geology

Unguja has a diverse geology shaped by various geological processes over millions of years. The geology consists of sedimentary rocks, primarily limestone and sandstone formed through the accumulation and compaction of marine sediments deposited during different periods in Earth's history. The limestone formations on Unguja are particularly notable and have played a significant role in shaping the island's landscape. They were formed from the remains of marine organisms such as corals and shells, which accumulated on the sea floor and were later uplifted to form the island. The presence of limestone has resulted in the formation of stunning coastal features, including coral reefs, sea cliffs, and white sandy beaches.

- According to the general geological distribution map of Zanzibar, the project sites encompass Miocene sediments dominated by sandy clay, clayey sand and marl.

### 4.4. Hydrology Conditions

#### 4.4.1. Surface Water

Unguja has small seasonal streams flowing from elevated lands or ridges through creeks to the sea or the coral areas. Most streams occur within sandy soils, which have variable infiltration rates and runoff potential. Recharge distribution varies with soil, land use and amount of rainfall.

- At the project sites, there is no fresh surface water body: neither adjacent to the project site nor in the general area of influence.

#### 4.4.2. Groundwater

Groundwater is the primary source of water in Unguja Island. According to the Zanzibar hydrological map, the project area is categorised as a coastal groundwater resource zone. In this zone, groundwater is contained in poor transmissivity country rock, in sands and in coral rags. Over development of this resource is likely to cause freshwater depletion and saltwater invasion.

- At the project sites, groundwater potential is evidenced by the presence of groundwater boreholes which are the main source of water for all uses at the schools including domestic, sanitary, general cleaning and washing, cooking, gardening, etc.

### 4.5. Atmospheric Conditions

Unguja Island has warm to hot temperatures year-round. Average temperatures range from 25°C to 30°C. The hottest months are December to February, with temperatures occasionally exceeding 35°C. The island has two main seasons: a wet season and a dry season. The wet season typically occurs from March to May, with the heaviest rainfall in April. Another, shorter wet season occurs from November to December. The dry season spans from June to October. The island receives an average annual rainfall of around 1,000 to 2,000 millimetres. The Island has high humidity levels throughout the year, ranging from 70% to 80% on average. The Island is influenced by monsoonal winds: northeast monsoon (Kaskazi) blows from December to March bringing cooler and drier air and southwest monsoon (Kusi) prevails from June to October, bringing warmer and more humid conditions. Unguja benefits from refreshing sea breezes due to its coastal location. The breezes help moderate temperatures and provide some relief from the heat and humidity.

- Field observations during E&S assessment entail that the project areas resemble typical urban settings found in Zanzibar and Tanzania at large. The potential point source emitters are vehicles and motorcycles on the public roads and in the existing community roads, local and commercial milling machines and generators in use. Thus, issues related to air quality are expected to be of a localised nature.

### 4.6. Biological Conditions

#### a) Vegetation Type

The project site is a modified ecosystem characterised by secondary vegetation which has been substantially affected by human activities. The vegetation is in the form of agricultural crops, fruit trees and shade trees as elaborated in the subsections below:

i. Examples of agricultural crops observed at the schools are *musa cultivars* (banana), *manihot esculenta* (cassava), *cocos nucifera* (coconut), *dioscorea alata* (yams) and some vegetables.
ii. Examples of fruit trees observed at the schools include *annona cherimola* (topetope), *annona muricata* (stafeli), *artocarpus heterophyllus* (fenesi), *citrus limonia* (limao), *citrus aurantifolia* (mdimu), *citrus aurantium* (chungwa), *mangifera indica* (mwembe), *psidium guajava* (pera), *syzygium cumini* (zambarau), *persea americana* (parachichi), *syzygium samarangense* (tofaa) and *averrhoa bilimbi* (mbilimbi).

iii. Examples of shed trees observed at the schools include *acacia mangium* (Mkesia), *senna siamea* (johoro), *casuarina equisetifolia* (mvinje), *azadirachta indica* (mwarobaini), *terminalia catappa* (mkungu) and *cupressus goveniana* (Mkrismas).

Generally, the project sites appear to have been affected by clearance in favour of urban development in the form of economic and social service infrastructures including settlements, office buildings, roads, water and electricity supply infrastructures, drainage systems, amenities / gardening, mosques, etc. Yet, no plant of local or global conservation concern was recorded in the project sites.

**b) Fauna Habitats**

The main fauna habitats found in the project area are the vegetation in the form of crops, fruit and shed trees as elaborated in section 4.6(a). These habitats are the main determinants for the distribution of various fauna species in the project area. Besides, sighting of animal signs in the project area and its proximity suggests that the project site has low habitat diversity for wildlife mainly because of the prevailing human disturbance in favour of urban development.

The categories of animal taxa which are represented in the project area are mammals (small mammals), avifauna (birds and bats), reptiles and invertebrates. However, due to high interactions of the project area with anthropogenic activities (i.e. socio-economic infrastructures and services) the animal populations are very few and dominated by visiting fauna which migrate in search of food and shelter considering the fact that the project area harbours some crops, fruits and trees.

a) Examples of small mammals reported include cricetomys squirrels (Chindi) and rodents.
b) Examples of birds recorded in the project areas include Corvoidea bird species (Kunguru), Sacred Ibis (*Threskiornis aethiopicus*), Blue-cheeked Bee-eater (*Merops persicus*), Indian House Crow (Corvus splendens), Ring-necked Dove (*Streptopelia capicola*), Black-backed Puffback (*Dryoscopus cubla*) and Dark-capped Bulbul (*Pycnonotus barbatus*).
c) Examples of reptiles observed in the project sites are monitor lizard (Varanus niloticus) and geckos distributed in around the project areas.
d) Examples of invertebrates sighted in the project sites include grasshoppers, spiders, scorpions, mosquitoes, millipedes, ants, termites and butterflies.

No fauna of priority conservation concern was recorded in the project site and area.

### 4.7. Existing EHS issues in the construction industry

The main environmental, social, health and safety issues and challenges in the project area, as observed/ informed by local people during E&S assessment, are highlighted below:

**(1) Environmental pollution:** located amidst the urban setup, the target schools experience cumulative environmental pollution from multiple sources including building and road constructions as well as movements of vehicles and motorcycles. The typical cumulative impacts include impairment of air/ atmospheric quality and water/ soil quality, noise pollution as well as ground vibrations.

**(2) Vegetation clearance**: vegetation in the project area is impacted by the booming of anthropogenic socio-economic activities mainly related to construction of settlements, economic as well as social infrastructures including public and private institutional and commercial buildings. Vegetation clearance not only affects biodiversity but also influences localised climatic variations and changes.

**(3) Healthy and safety risks:** the interactions between people and the existing urban setup and undertakings with multiple sources of health and safety hazards from ongoing construction

projects and vehicular and motorcycle movements make the project site more susceptible to health and safety hazards for the people living and working within and around the project site.

**(4) Exposure to diseases:** this will emanate from the interactions among the construction crew and locals and the environment. During the EIA fieldwork, it was noted that common diseases in the project area include cholera, malaria, TB, skin diseases, pneumonia, and other waterborne diseases. HIV/AIDS is also a challenge to be considered by the proposed project.

# 5. ENVIRONMENTAL AND SOCIAL IMPACTS, RISKS AND MITIGATION MEASURES

## 5.1. Identification of Impacts

An environmental impact is a change (positive or negative) to the environment due to human activities. In this assessment, potential impacts were identified using a standard matrix approach which examines the effects of key project activities on the physical environment (e.g. air quality, water quality, soil quality, etc.) and on the human socio-economic environment, of the primary (core) project area, secondary areas and the general area of influence of the proposed project.

Impacts identification has been based on cause-effect interactions between the projects' activities and the existing relevant baseline (valued) receptors - physical, chemical, biological, built or human. It extends through the entire project cycle from planning and design; mobilisation and construction; as well as operation and maintenance; and decommissioning stages of the project. Construction activities and levels of building works are anticipated to affect all types of natural features and extend the impact area to include project-related offsite locations.

## 5.2. Identification of Mitigation Measures

Mitigation strategies for the identified negative impacts based on scientific principles, best practices from similar experiences elsewhere and expert judgement. The process adopted the guidance provided in the WB ESF by considering the following hierarchy:

- **Step 1:** Anticipation and Avoidance: which considered feasible alternatives (including location, technology, and or alignment) while observing the technical and financial factors.
- **Step 2:** Minimization: Where avoidance is not possible, specific actions to minimise or reduce adverse environmental and social risks and impacts that are likely to arise throughout the project life cycle were considered.
- **Step 3:** Mitigation: To manage the residual risks and adverse impacts (after the avoidance and minimisation steps), mitigation measures were identified while observing the requirements of ESS 1-6, 8 &10 and complying with relevant national laws and regulations.
- **Step 4:** Offset or Compensation: Where avoidance, minimisation, or mitigation were not adequate to manage significant adverse risks and impacts, compensation/ offset for residual risks and impacts were considered. These measures do not necessarily eliminate identified adverse risks and impacts, but they seek to offset them with comparable positive ones.

## 5.3. Evaluation of Environmental and Social Impacts

The impacts associated with mobilisation and construction activities are evaluated herein. The impacts have been disaggregated into environmental and socioeconomic impacts.

### 5.3.1. Evaluation of Environmental Impacts

**Impact 1: Degradation and depletion of construction resources at points of extraction**

Construction materials (including water, soils, sand, aggregates and stones) will be required for construction works. These materials to the maximum extent will be obtained from local suppliers extracted from borrow pits/ sites (such as Ubago, Tunguu, Matemwe, etc) most of which are authorised at local level. There are also a number of unregistered sources on people's properties. The sources are open to all contractors/ users, not well-managed and associated with land degradation manifested by disorderly vegetation clearance and eroded soils. If the decision is made by the Proponent / Contractors/ service providers to use the local sources, then the construction of the proposed project is expected to contribute to this dire situation, leading to further cumulative effects of resource depletion and/ or degradation at points of source.

**Impact 2: Disturbance and loss of vegetation cover**

During the construction period, loss of vegetation is associated with site clearance and early works and is limited to the construction of workers' camp, materials storage and processing yard and the new schools to be constructed. The vegetation will be affected in terms of: (i) reduced vegetation cover, (ii) reduced grassland cover; (iii) the general decline in number of plant species within the project site. The type of vegetation which is expected to be disturbed/ lost includes grassland, trees and a few crops that exist. However, considering the scope and location of the project site, the impact is short-term and of low significance.

**Impact 3: Impairment of air quality and contribution to localised climate change**

During construction activities, generation of fumes as exhaust from fuel-powered transportation and construction equipment, machinery and vehicle engines will cause deterioration of ambient air quality. Dust emissions from various sources (i.e. land clearance, progressive transportation of construction materials in uncovered trucks, stockpiling and off-loading materials at the site, and vehicles running on loose earth roads in the project area) will also degrade local air quality. Besides, considering the scope of construction activities at the project sites, the extent of impairment of local air quality will be low because of the quantities of pollutants that will be emitted, the duration of mobilisation and construction works and prevailing (likely turbulent) atmospheric conditions.

**Impact 4: Disturbance and degradation of land leading to soil erosion**

During the mobilisation and construction phase, vegetation clearance, trenching and excavation for foundations is limited to the construction of workers' camp, materials storage and processing yard and the new buildings to be constructed. These activities will also involve drilling / digging pits, trampling, grading, trimming and compaction of land surfaces. These activities, if not planned carefully, might cause land disturbances and associated soil erosion.

**Impact 5: Impairment of water and land quality due to improper management of wastes**

During the construction period, planned or accidental discharges will involve various types and quantities of materials and wastes including (i) discharge of eroded soils from disturbed areas caused by earth moving works and disposed spoils; (ii) domestic solid waste and sanitary waste and littering by the construction crew; (iii) spillage / leakages of fuel, oil and lubricants from equipment and vehicle repairs and re-fuelling; and (iv) storm water loaded with wastes, oils, sediments etc. The undertakings during the construction phase are estimated to produce 12,000$m^3$ of demolition and overburden materials, 156kg of solid waste and 27.52$m^3$ of liquid waste per day. Improper handling / discharge of these waste materials will pollute existing land and natural areas, including groundwater resources which are critical for community water supply. Discharges of materials and waste directly into surrounding land will impair qualities of the receiving medium, including water resources thereby altering the physical, chemical and bacteriological characteristics.

### 5.3.2. Evaluation of Social Impacts

**Impact 6: Disruption and damage of social infrastructure services**

Construction works will take place within the school premises where some social infrastructure and services are in place. Activities and services likely to be affected are:

a) Trees, crops and agricultural farming activities within the school boundaries.
b) Utility infrastructures including water supply, electricity supply, wastewater systems, etc.
c) Access roads within the schools.

Mobilization and construction activities within the school premises are likely to disrupt the above-mentioned activities and infrastructure. The driving factors include mobilization and delivery of resources, site clearance, excavation work, movement of vehicles, and use of equipment and machines.

**Impact 7: Creation of job and employment opportunities**
Construction of the proposed four schools will create direct and indirect employment opportunities for the people within the locality as well as from other places as far as Unguja Island. Direct employment will be in the form of unskilled (excavations, consignments, cleaning, etc.), semi-skilled (driving, masonry work, equipment and machinery operations) and skilled (engineers, accountants, administrators, etc.) personnel. Indirect employment will include people who will be providing various services such as provision of water, food and fuel to the contractor during the mobilisation and construction phases. It is expected that about 240 people will be engaged/employed to undertake the various project tasks during peak times.

Creation of employment opportunities will bring both economic and social benefits. Socially the young and energetic otherwise poor people will be engaged in productive employment rather than remaining idle, as well as improving the relations between them and their dependants.

**Impact 8: Stimulation of local business, markets and economy**
Construction materials such as cement, reinforcement bars, asphalt and chemicals will be sourced, where possible, from Zanzibarian suppliers from Unguja Island. Purchase of resources for construction and operation, i.e. water, fuel, food and beverages, miscellaneous domestic and office products and consumables, auxiliary equipment will result in a positive impact on the local market and local suppliers should benefit from increased sales during project implementation. Other benefits that accrue from the development include induced development in other sectors, particularly trade and business. Increase in government revenues – in Zanzibar - from tax/levy collection for the various services and consumables can also be expected. The number of local suppliers in Unguja Island who will potentially provide services to the project will be improved compared to now.

**Impact 9: Increase in traffic movements and possible road accidents**
Increase in traffic movement during mobilization and construction phase is linked with transportation of construction materials (sand, fill materials, aggregates, stones, water, etc.), working tools and equipment as well as the project crew to and from the project sites. These resources will be transported by means of light and heavy-duty vehicles which increase traffic movements along existing roads, community access roads and materials stock routes in Unguja Island which might be associated with road accidents and fatalities. Other accident black spot areas are populated centres and where school pupils cross the roads.

**Impact 10: Conflicts over use of local resources**
The project might put up temporary camp(s) for some workers and a yard for storage and processing of construction materials. Yet, the camp and materials storage and processing yard might be a potential source of social problems and conflicts as a result of the use of resources (such as water, construction materials, etc.) and social interactions of local people. Conflicts between the two groups of people may result due to sharing of social services, like water supply, electricity, economic infrastructures like access roads, etc. Service differences between fully furnished camp and a poorly living community within the project area might also aggravate some complaints from local people demanding either for improved social services from their government.

**Impact 11: Conflicts over project induced immigration and competition for access to jobs**
As notified earlier, the labour hired by the contractor will involve skilled, semi-skilled and unskilled workers, in the latter case involving a relatively large contingent of 240 workers. The contractor who wins a job tends to move to the site of the work with his own staff already trained and familiar with the technical and organisational specificities of the work. Most of the time, labour recruitment is limited to local hiring of unskilled labour, and if there are no procedures to guarantee the hiring of local labour, there may be competition for the jobs offered by the project (especially unskilled ones),

which may be won by immigrants looking for work and outsiders and other types of opportunists, to the detriment of the local population. The age pyramid shows a significant population, mainly young people, who have a high expectation of access to employment and the level of income that this provides.

Locally hired workers will have a higher status than other members of the community due to the prestige of having a job and earning a monthly income. Failure to prioritise residents of the project neighbourhood and settlements in favour of outsiders may result in residents in the project area on Unguja Island perceiving themselves as being discriminated against by others who may misappropriate the jobs that should be theirs, leading to social conflict. There is also the question that the priority given to recruiting women for jobs may not be correctly understood by both the local leadership and the men, who may feel marginalised and afraid, creating conditions for the generation of conflicts within households and communities.

**Impact 12: Occurrence of GBV and SEA/SH**

Construction of the four schools on Unguja Island requires a workforce, goods and associated services, which are rarely fully provided locally. The workforce may be brought in from outside the project area, which can increase the risks of Gender Based Violence (GBV), Sexual Exploitation and Abuse (SEA) and Sexual Harassment (SH) to workers and local communities. While GBV represents all harmful acts perpetrated against a person's will and that are based on socially ascribed (gender) differences between men and women, SEA is referred to as the actual or threatened physical intrusion of a sexual nature whether by force or under unequal or coercive conditions as well as any actual or attempted abuse of a position of vulnerability, differential power or trust for sexual purposes respectively. SH, on the other hand, represents sexual advances, requests for sexual favours or any other behaviour of a sexual nature that might reasonably be perceived as offensive or humiliating to another when such conduct interferes with work, is made a condition of employment, or creates a hostile work environment.

Taking into consideration the gender balance, women are increasingly taking on roles in construction projects, which may lead to their greater economic empowerment and participation in decision-making roles. However, women taking on traditionally male-dominated roles may initially experience some tension and occasionally violence from their spouses and or male colleagues. The project can have impacts at two major levels: (a) in the workplace (among the project implementers, e.g. male and female construction workers); and (b) between implementers and the local community (e.g. male construction workers and local women and children).

This project can have unintended negative consequences due to the influx of temporary immigrants into the community, or due to the power imbalance between local workers and the rest of the community (e.g. having more purchasing power). GBV issues generally related to this type of project include: (a) domestic violence - situations where men beat their wives because of perceived relationships with workers; (b) sexual exploitation and abuse; (c) sexual harassment in the workplace; and (d) consequent spread of sexually transmitted diseases including HIV/AIDS.

**Impact 13: Occupational health and safety risks**

The risks may include physical hazards (such as open pits/holes, excavations, confined spaces, falling objects, trips/slips, noise), chemicals as well as biological hazards. These are associated with the handling of equipment and machinery and manual work at active construction sites and sanitation and hygiene-related issues at workers' camps. Table 5 provides below the principal sources of risks to the project crew during the construction phase.

Table 5: Sources of risks to workers during construction phase

| | |
|---|---|
| **Physical hazards**<br>• Extremes of natural events<br>• Misuse/ handling of equipment, tools<br>• Inadequacies in workplace procedures<br>• Fire/explosions<br>• Noise emissions<br>• Holes/pits in the vicinity area<br>• Dangerous animals | **Chemical hazards**<br>• Emissions of gaseous/ odorous substances<br>• Released hazardous materials, chemicals and wastes.<br><br>**Biological hazards**<br>• Exposure to disease pathogens<br>• Transmission of communicable diseases |

The sub-sections below provide further elaborations for main risks.

**a) Misuse/ handling of equipment, tools**

This refers to project operations involving equipment and tools which, through mishandling or other accidental events, could be a source of injuries and related hazards to personnel, especially the construction crew. Examples of standard workplace operations, assorted machines and power tools and their associated hazards plus OH&S effects on personnel are summarised in Table 6 below.

**b) Inadequacies in workplace procedures**

Issues such as fatigue (due to understaffing and long working hours), ego, negligence at work, incorrect job allocation or low morale are sources of accidents at the workplace.

**c) Fire/ explosions**

Fire may cause injuries and related health hazards to workers and equipment damage during construction activities.

Table 6: Summary of operations and associated potential OH&S effects

| Operation and/or hazard | Potential direct OH&S effects |
|---|---|
| Lifting operations | Dropped/ falling objects |
| Mobile operations | Strike against a person |
| Vehicle accidents | Struck against person or object |
| Sharp edged/pointed objects | Cuts |
| Electricity | Electric shock or electrocution |
| Hot objects | Burns and fire risks |
| Working at height | Fall from height |
| Working outdoors | Heat stress, sunburn |
| Manual handling | Sprains and strains |
| Use of hand tools (e.g. grinders, welders, etc.) | Lacerations, eye injury, electrocution etc. |

**d) Release of hazardous materials and chemicals**

Hazardous substances if released on the land or air may cause harm to receptors on site or in the near vicinity. Specific classes of hazardous substances include toxic fumes, noxious gases, odorous materials, dust and hazardous wastes. The main OH&S effects of hazardous substances (handling and storage) are chemical inhalation and/or chemical contact with a person both leading to asphyxiation, injuries and in worse cases loss of life. Fumes, gases and odours are primary causes of disturbances to people.

Air emissions from routine operations may contain odours and hazardous fumes. Noxious emissions may lead to deterioration of the local air quality and potentially present workers' health risks depending on the quality and quantity of emissions. In general, using modern machinery in

excellent condition, amounts of pollutants generated in the exhausts such as nitrogen dioxides ($NO_2$), carbon monoxide (CO), sulphur dioxide ($SO_2$) and particulate matter (PM), will not result in the introduction of noticeable amounts and subsequent change in air quality.

**e) Noise emissions**

During the construction phase, noise is expected from onsite fuel-powered equipment and machines including excavators, graders, construction cranes, trucks and vehicles.

**14: Community health, safety and security risks**

Public health, safety and security refer to the safety of all people working, living in, close to or transient to project sites. For the school's construction works and associated infrastructure and support facilities, this refers to the public in the Shehia of Kianga, Mtoni, Jang'ombe and Sebleni who will be affected by the project and nearby communities in Unguja Island. Specific sources of public health, safety and security hazards and risks related to the construction activities include:

a) Air emissions, dust and odours;
b) Contamination of local water resources by eroded soils and waste;
c) Social disruption resulting from newcomer and local community interactions;
d) Transport hazards: vehicles causing accidents, congested traffic, material spillage;
e) Creation of water bodies (pits) as breeding habitats for agents/vectors of water-borne diseases (malaria, etc.).
f) Increased crime and other anti-social behaviour perpetrated by persons linked to illicit activities.

### 5.4. Management of the Environmental and Social Impacts

Table 7 is an Impacts and Mitigation Matrix for the project. It details the proposed impacts, mitigation measures, responsible party, timeframe, and costs that will be overseen and managed by the MoEVT project implementation team. Approximately **USD 88,000** has been estimated for the mitigation and enhancement interventions during the construction phase. It should be noted that the cost estimates are indicative because the Consultant used informed judgement to establish them. In that regard, the actual costs should be worked out during the implementation period. It is anticipated that the developer will allocate funds for implementing mitigation and enhancement measures.

Table 7: E&S Management Plan for Construction of New School Buildings in Unguja Island

| Phase | Impact | Mitigation / Enhancement Measure | Target Level / Standard | Responsibility | Cost Estimate in USD |
|---|---|---|---|---|---|
| **Environmental Impacts** | | | | | |
| Mobilization and Construction Phase | Impact 1: Degradation and depletion of construction resources at points of extraction | • Engage registered and licensed suppliers whose activities have undergone satisfactory environmental assessment/audit and received ZEMA/DoEM/LGA approval;<br>• Source construction materials (i.e. sand, gravel and natural stones) only from authorised and/or registered burrow and quarry sites in Unguja;<br>• Order only what will be required through accurate budgeting and estimation of actual construction requirements (i.e. according to Bill of Quantities)<br>• Ensure that wastage, damage or loss (through run-off and wind) of materials at the construction site is kept minimal by covering materials, providing appropriate storage and optimum use.<br>• Ensure that disturbed sites are restored to original state (where applicable).<br>• Make use of best practice management techniques during loading, transporting, unloading, stockpiling of raw materials as well as earth works. | Procurement guidelines of the RGoZ | Contractors MoEVT | Part of contractors BOQ and MoEVT operational expenses. |
| | Impact 2: Disturbance and loss of vegetation cover | • Avoid indiscriminate clearance and damage of vegetation for any use of vegetation resources.<br>• Only the necessary removal and cutting of trees to give space for the project infrastructure should be undertaken – Contractor to ensure that required permits to cut trees are in place.<br>• Compensate for the lost indigenous trees by planting 100 trees in each school and rehabilitating disturbed areas after construction activities.<br>• Where feasible, maintain existing access tracks to be used for vehicles, equipment and machinery and only where necessary temporary access tracks should be developed. | As minimum as possible | Contractor(s) MoEVT | 8,000 for purchasing, planting and taking care of vegetation to compensate for loss in disturbed areas. |

| Phase | Impact | Mitigation / Enhancement Measure | Target Level / Standard | Responsibility | Cost Estimate in USD |
|---|---|---|---|---|---|
| | Impact 3: Impairment of air quality and contribution to localised climate change | • Train drivers to minimize fuel use (e.g. prevention of over-revving, shut off engines when vehicles are not in use, etc.);<br>• Do not overload vehicles and cover loads that can generate dust;<br>• Limit the speed of vehicles / lorries (max 40 km/h), especially on un-tarmacked surfaces;<br>• Make use of efficient and well-serviced construction equipment (i.e. excavators, graders, crane, concrete mixer, compactor and vehicles);<br>• Provide for regular servicing of engines to ensure/maintain efficiency;<br>• Avoid burning of cleared vegetation and other waste on site;<br>• Periodically review machines and equipment to make sure they are in good working condition; avoid burning household waste;<br>• Avoid doing construction works on days with strong winds;<br>• Monitor for dust and emissions at selected points in the project area. | ZBS (ZNS 20: 2021) Air Quality Standards and IFC guidelines | MoEVT Consultants Contractor(s) | Part of contractor's operation costs.<br><br>Costs for training are covered in Chapter 8 and costs for monitoring of dust and emissions are covered in Chapter 7. |
| | Impact 4: Disturbance and degradation of land leading to soil erosion | • Avoid unnecessary removal of the soil / vegetation cover;<br>• Limit clearance and excavation activities within the core project area;<br>• Whenever possible development activities should be implemented when the agents of erosion (i.e. rain and wind) are not active;<br>• Make use of best practice management techniques during handling of materials;<br>• Rehabilitate all dug holes and pits to the original intact state soon after construction works;<br>• Provide for good drainage, appropriate gradients and restoration through re-grassing of cleared areas after construction works;<br>• Land restoration / rehabilitation must be done immediately at the end of construction works. | ZBS (ZNS 385: 2021 - Soil quality) Standards and IFC Guidelines<br><br>No soil erosion tendencies;<br><br>No pits or holes are left open;<br><br>No loose soils. | MoEVT Consultant Contractor | USD 16,000 being the cost for the establishment of the drainage system at the sites<br><br>USD 4,000 being labour charges for site rehabilitation after construction. |
| | Impact 5: Impairment of water and land quality due to improper management of wastes | • Implement integrated principles of waste management aiming to prevent, minimise, and control waste discharges.<br>• Minimize excavations works during construction;<br>• Maximize the use of non-hazardous construction materials;<br>• Provide for proper storage of potential polluting materials (e.g. fuels, hydrocarbons, oils, lubricants)<br>• Provide for proper solid waste containment facilities and ensure proper use.<br>• Ensure proper collection and disposal of solid waste at approved / official | ZBS (ZNS 383: 2021 - Solid Waste Management); ZBS (ZNS 14:2022 - Municipal and industrial wastewaters); ZBS (ZNS 385: 2021 - Soil quality) Standards and IFC Guidelines | MoEVT Contractor | USD 20,000 for toilets and onsite wastewater treatment facilities<br><br>USD 16,000 for waste collection points and storage bins<br><br>The rest are managerial measures |

| Phase | Impact | Mitigation / Enhancement Measure | Target Level / Standard | Responsibility | Cost Estimate in USD |
|---|---|---|---|---|---|
| | | sites<br>• Treat contaminated land occurring during construction by direct removal and safe disposal.<br>• Waste oils, hydrocarbons and chemicals managed in accordance with Materials Safety Data Sheets.<br>• Provide periodical awareness, education and training to key / relevant personnel on key aspects of waste management. | | | which will be addressed through operational costs. |
| **Socio-economic Impacts** | | | | | |
| Mobilization and Construction Phase | Impact 6: Disruption and damage of social infrastructure services | • Prior to project commencement, notice shall be given to the schools' community informing them about project activities and implementation schedule.<br>• To the maximum extent possible, make use of existing access roads and pathways instead of creating new roads<br>• MoEVT to collaborate with the contractor to identify locations for the construction camp, materials storage yard, thereby avoiding and minimising E&S impacts.<br>• Avoid relocation/ disruption of the social infrastructure and services including water, electricity, wastewater systems, etc.<br>• Make use of Best Practice Management Techniques during the construction phase.<br>• Provide alternatives for the resources that will be affected.<br>• The Contractor will be responsible for any disturbance outside the approved site and will pay associated compensations.<br>• Avoid placement of temporary and support facilities (camp, etc.) on the area which has land-related conflict | No or as minimum as possible. | Consultant<br>MoEVT<br>Contractor | The measures are more of administrative and managerial intervention |
| | Impact 7: Creation of job and employment opportunities | • Maximizing procurement of supplies from local markets in Unguja Island, e.g. food, drinks, water, construction materials, consumables, etc;<br>• Publication of local employment opportunities by engaging local leaders, i.e. shehia leaders.<br>• Observe the national and international labour (ILO) standards.<br>• Allocate jobs fairly among local people (women and men) by working with local leaders – gender inclusion to be considered with equal chance.<br>• Give employment priority to the local communities with relevant skills | The Labour Relations Act No. 1 of 2005 and The Zanzibar Workers" Compensation (Amendment) Act No. 5, 2005. | Contractor(s)<br><br>MoEVT (in collaboration with relevant LGA officers in Unguja Island) | Cost for awareness and training of local leaders is covered in Chapter 8.<br><br>The rest are administrative and managerial measures. |

| Phase | Impact | Mitigation / Enhancement Measure | Target Level / Standard | Responsibility | Cost Estimate in USD |
|---|---|---|---|---|---|
| | | based on gender.<br>• Provide awareness to locals on potential business and employment opportunities.<br>• The contractor must sign an employment contract with each/ all workers.<br>• All relevant national and international labour laws, regulations and standards will be observed including:<br>➢ Freedom of association.<br>➢ Non-discrimination.<br>➢ No child (-18) or forced labour.<br>➢ The provision of suitable working conditions.<br>➢ Access to a grievance mechanism (Appendix 1).<br>➢ Health and safety training including HIV/AIDS prevention.<br>➢ Wages to be paid in full and on time, to meet legal minima requirements.<br>➢ Recording of hours worked and wages paid.<br>➢ Working hours to be controlled and overtime to be separately paid.<br>➢ All relevant social security regimes to be applied.<br>➢ Signing of the Code of Conduct, prevention of GBV and sexual harassment to be signed by each worker.<br>➢ Creation of Grievance Handling Committees for workers. | | | |
| | Impact 8: Stimulation of local business, markets and economy | • Engage local registered and licensed firms for extraction and supply of construction materials.<br>• Source construction materials from authorised/registered borrow and quarry sites in Unguja;<br>• Order materials only in quantities that will be required through accurate budgeting and estimation (BOQs) of actual construction requirements. | As maximum as possible | Contractors<br>Consultants<br>MoEVT | The costs for these measures will be covered in contractors' BoQ |
| | Impact 9: Increase in traffic movements and possible road accidents | <u>Preparation and Implement Temporary Traffic Management Plan (TTMP)</u><br>• The contractor to develop and implement TTMP as part of the project and site-specific Contractors' Environmental and Social Management Plan (C-ESMP)<br><br><u>Regulatory procedures.</u><br>• Observe the standards provisions for connection of the access road to | No or minimum interruption.<br><br>No or minimum traffic accident. | Contractors<br><br>MoEVT (in collaboration with relevant LGA officers in Unguja Island) | USD 6,000 being costs for safety signs and symbols in relation to traffic management.<br><br>Costs for capacity building are covered in Chapter 8. |

| Phase | Impact | Mitigation / Enhancement Measure | Target Level / Standard | Responsibility | Cost Estimate in USD |
|---|---|---|---|---|---|
| | | the highway as provided by the Zanzibar laws and standards.<br>• Provide for appropriate ducts, tremies or any other closed conduits.<br>• Provide for adequate clearance from both sides of the main and access roads.<br><br><u>Safety measures on access roads.</u><br>• Establish speed restraining humps, signs and symbols at all potential black spots on the access roads.<br>• Provide awareness and education to drivers and the general public.<br>• Establish appropriate and understandable signage.<br>• Liaise with ZANROADS and the Traffic Police to inform the construction schedules and measures to ensure the minimum disruption of such infrastructure.<br>• Ensure that transport vehicles are in good condition.<br>• Speed should not exceed 80 km/h | | | The rest are administrative and managerial interventions. |
| | Impact 10: Conflicts over use of local resources | • Furnish the construction site (for the construction crew) with all the necessary social services (i.e. water, electricity, etc.) to minimise interactions of the project workers with the local people in the vicinity of the project site;<br>• Source construction materials (i.e. sand, gravel and natural stones) only from authorised and/or registered burrow and quarry sites in Unguja;<br>• Ensure that disturbed sites are restored to original state (where applicable).<br>• Establish a process to detect and protect its infrastructures from security hazards;<br>• Employ security services from local providers to cater for 24 hours surveillance of the proposed projects' properties and infrastructures;<br>• Establish a system to manage local expectations thereby involving proactive, transparent, and consistent communication about project scope, timelines, and boundaries, using tools like stakeholder databases, regular feedback loops, and clear documentation to align what's promised with what's delivered, fostering trust and preventing misunderstandings by setting realistic goals and adjusting narratives as needed;<br>• Avoid placement of temporary and support facilities (camp, etc.) on the | Zero or as minimum as possible | Contractors<br><br>MoEVT (in collaboration with relevant LGA officers in Unguja Island) | The costs for these measures will be covered in contractors' BoQ |

| Phase | Impact | Mitigation / Enhancement Measure | Target Level / Standard | Responsibility | Cost Estimate in USD |
|---|---|---|---|---|---|
| | | area which has land-related conflict | | | |
| | Impact 11: Conflicts over project induced immigration and competition for access to jobs | • Implement a Labour Management Plan (LMP) already developed for the ZIQUE project which, among others, shall give priority to local and district labour in accessing the jobs.<br>• The contractor, whenever possible with the participation of the MoEVT, shall promote meetings with LGA (preferably district authorities) and local leaders to inform about the recruitment procedures and seek their support and participation in the project implementation;<br>• The Proponent must schedule regular meetings with LGA and local leaders to review issues concerning the relationship between construction workers and the local community;<br>• Organize periodic talks with all workers to make them aware of respect for the local community, its culture and habits, in order to avoid conflicts. | Zero or as minimum as possible | Contractor<br><br>MoEVT (in collaboration with relevant LGA officers in Unguja Island) | Costs for these measures will be covered in Contractors' BoQ and project operational costs. |
| | Impact 12: Occurrence of GBV, SEA / SH during construction phase | • The Contractor shall develop and implement a Code of Conduct (CoC) for project personnel (as part of C-ESMP), GBV and SEA and SH clauses to be included in the CoC;<br>• CoC to be explained and signed by each worker;<br>• Map GBV service providers in all areas of project implementation;<br>• Establish SEA/SH pathways by identifying localised referral protocols to be integrated into the project Grievance Mechanism (Appendix 1);<br>• Set up the Grievance Mechanism as the response and management protocol to SEA/SH and GBV cases;<br>• Clearly define the SEA/SH requirements and expectations in bid documents and contracts;<br>• Develop and implement risk mitigation measures prior to construction;<br>• Develop and implement a training plan for all categories of project personnel and workers; | Zero or as minimum as possible | Contractors<br><br>MoEVT (in collaboration with relevant LGA officers in Unguja Island) | Cost for capacity building of officers and experts are covered in Chapter 8. |
| | Impact 13: Occupational health and safety risks.<br><br>Impact 14: | <u>Apply standards for operations, equipment and human resources.</u><br>• The Contractor shall prepare and implement an Occupational Health and Safety Plan (OHSP) which is separate from CESMP;<br>• Observe standards for operations and equipment handling;<br>• Observe standards operation procedures for human resource management: engage competent workers & supervisors on site all times. | The Zanzibar Occupational Safety and Health Act No. 8 of 2005;<br><br>The Labor Relations | Contractors Consultants<br><br>MoEVT (in collaboration with relevant | USD 8,000 being costs for registration of workplaces and plants and obtaining relevant permits from DOSH |

| Phase | Impact | Mitigation / Enhancement Measure | Target Level / Standard | Responsibility | Cost Estimate in USD |
|---|---|---|---|---|---|
| | Community health, safety and security risks | <u>Provision and use of proper personal protective equipment (PPE), working conditions and facilities.</u><br>• Provide appropriate PPEs for free and enforce their use; provide for proper working conditions: undercover or shaded work areas, accessible water;<br>• Provide for proper signage: warning signs with appropriate text (in Swahili) and graphics;<br>• Provide adequate storage, secure equipment, fall prevention systems and demarcate any hazardous areas.<br><br><u>Institute code of practice at the workplace.</u><br>• Fence the campsite and materials storage yard.<br>• Develop and implement health and safety procedures and guidelines;<br>• Develop and implement the ER Equipment and Procedures;<br>• Comply with relevant national and International Performance Standards on health and safety requirements for the construction site as directed by DOSH.<br><br><u>Observe the Fundamental Universal Accessibility Components for the Built.</u><br>• Ensure that access routes, facilities and features are provided around building entrances, including parking and circulation routes between buildings;<br>• Provide for independent and accessible entry;<br>• Provide features within a building that that provide independent and accessible movement through it;<br>• Ensure that rooms, spaces and toilets to be used in an independent and<br>• accessible way within the building;<br>• Provide features that assist in the orientation, wayfinding, information and communication within the built; and<br>• Provide for efficient and safe evacuation for all from the building in emergency situations.<br><br><u>Provide adequate water and sanitation services.</u><br>• Make a proper assessment of water needs.<br>• Provide for adequate water storage capacity. | Act No. 1 of 2005<br><br>The Zanzibar Workers" Compensation (Amendment) Act No. 5, 2005. | LGA officers in Unguja Island) DOSH | USD 5,000 being costs for first aid kits and PPEs<br><br>USD 5,000 being costs for safety signs and symbols |

| Phase | Impact | Mitigation / Enhancement Measure | Target Level / Standard | Responsibility | Cost Estimate in USD |
|---|---|---|---|---|---|
| | | • Establish water saving measures including an Education, Information, and Communication (EIC) package with "DOs and DON'Ts".<br>• Provide appropriate sanitary facilities (i.e. toilets, baths and laundry) – According to DOSH, one toilet can serve a maximum of 20 workers. Men's and women's toilets to be separated.<br><br><u>Life and Fire Safety.</u><br>• Identify risks and implement measures needed to limit rapid fire and smoke development;<br>• Identify and implement design measures that facilitate a safe evacuation by residents and/or occupants in case of fire or other emergencies;<br>• Design and install fire detection and alarm systems including communication and public address systems to detect a fire and alert:<br>• Encompass compartmentation in the design to involve all measures to prevent or slow the spread of fire and smoke;<br>• Design and install fire suppression and control measures which include all automatic and manual fire protection installations, such as automatic sprinkler systems, manual portable extinguishers. and fire hose reels.<br>• Conduct appropriate training for personnel;<br>• Establish a first aid facility at the site (note that 1 first aid box can serve a maximum of 20 workers);<br>• Carry Risk Assessment prior to activity commencement<br>• Implement Emergence Preparedness and Response Plan (EPRP) for the project sites (refer Appendix 2); and<br>• The EPRP should take into consideration treatment and ER capabilities of local medical service providers and hospitals;<br>• Establish a system for reporting fire-related risks.<br><br><u>Preventive measures to curb transmission of communicable diseases and HIV/AIDS:</u><br>• Cooperate with and support local CSOs, public health offices in undertaking awareness/ education programmes for workers;<br>• Establish workers' health protection procedures and implement HIV and malaria awareness and prevention campaigns. | | | |

| Phase | Impact | Mitigation / Enhancement Measure | Target Level / Standard | Responsibility | Cost Estimate in USD |
|---|---|---|---|---|---|
| | | Preventive measures to curb infection/ exposure to disease vectors<br>• Provide vector protection to workers;<br>• Provide medical personnel to test workers for potential infections and provide treatment to those infected;<br>• Monitor and maintain records of infections;<br>• Establish clinics and first aid facilities and services at the site (note that 1 First Aid Box can serve 20 maximum workers).<br><br>Measures to Mitigate Community Health and Safety Risks<br>• The project, through the Contractor, shall prepare and implement health, safety and security plan with measures and action to manage specific risks and impacts to the community arising from project activities; the plan to be reviewed and approved by the supervision engineer and MoEVT;<br>• Contractors will develop and implement traffic management plan as part of the CESMP to address the impacts on local communities of moving construction equipment and the transport of workers to the site; the plan to be reviewed and approved by the supervision engineer and MoEVT;<br>• In coordination with the authorities responsible for road traffic control and regulation, properly signpost the stretches of road that will be used by vehicles;<br>• Keep construction site fenced to prevent strangers from entering the site and maintain a guard service during the whole period of the work;<br>• Adequate signage of speed limits in areas of machine movement will be provided;<br>• Fencing and signposting should be reinforced in the areas where the project interact with the public / community and other places where pedestrians can circulate;<br>• No excavation should be left open at night or on days when work is stopped (weekends or public holidays) without adequate signposting and protection;<br>• Observe and implement measures identified for the occupational workers to protect the public / community as well. | | | |

# 6. ENVIRONMENTAL AND SOCIAL MONITORING PLAN

## 6.1. Introduction

Environmental and Social Monitoring Plan (ESMoP) is an objective, periodic, reliable, and continuing process of observation and assessment of environmental and social changes. It is intended to ensure implementation of mitigation measures is done in accordance with regulations and standards. It is therefore based on monitoring indicators, which will have to be compared with targets to gauge the effectiveness of the mitigation plans.

This ESMP establishes benchmarks which will be used to assess the level of compliance with this ESMP. Monitoring will be continuous and will be periodically reviewed to determine the effectiveness of implementing different mitigation measures. Therefore, the monitoring plan specifies the institutional arrangement for the execution of the ESMP. In particular, it clarifies the type of monitoring; who will carry out the monitoring and what other inputs such as training are necessary. The objectives of the Environmental and Social Monitoring Plan are:

- To monitor the effectiveness and implementation of the ESMP during project implementation phases;
- To confirm compliance with environmental, social and safety legislation/regulations during certification as well as safeguard tools and instruments in place;
- To control the risks and ecological/social impacts;
- To ensure best practice management as a commitment to continuous improvement in environmental and social performance;
- To provide environmental information to community/stakeholders;
- To provide early warning signals on potential environmental degradation for appropriate actions to be taken so as to prevent or minimise environmental consequences.

## 6.2. Environmental and Social Monitor and its Responsibilities

The objectives of the Environmental Monitoring Program (ESMoP) are (i) to ensure proper development and implementation of the environmental management plan and other mitigation measures; (ii) assess the performance of environmental controls and mitigation measures; and (iii) ensure that the project proprietor, contractors and service providers correct any mitigation measures that are not functioning acceptably. In general, monitoring is the responsibility of the project proponent (MoEVT), Zanzibar Environment Management Authority (ZEMA), the responsible sector ministries, and other relevant regulatory agencies.

Internal monitoring will be conducted by MoEVT and schools' management, an independent Environmental Monitor (EM) to be engaged by MoEVT, and the Contractor's safeguard team. The MoEVT through its Project Implementation Unit (PIU) that will be established will be responsible for implementing the ESMoP, supervising and monitoring all components of the plan and maintaining detailed records of monitoring outcomes. The independent EM with qualified ES&H experts will be on site during the construction and installation phases of the project for monitoring and reporting on ESHS aspects. The EM will be responsible for regular monitoring of the implementation of ESIA, ESMP, site-specific contractor's environmental and social management plan (CESMP), and site-specific contractor's health and safety management plan (CHSMP) by the Contractor. Also, the EM will be responsible for ensuring that reporting of the implementation of the measures is completed in accordance with the requirements. The EM will make observations on the effectiveness of mitigation and enhancement measures. If the monitors believe that there is a potential for

unacceptable impacts, they may require changes in the operating procedures or additional mitigation measures. The EM will have the authority to stop work until required changes have been implemented. The specific responsibilities of the EM monitors include but are not limited to:

a) To meet quarterly with the project developer, contractor and service providers to discuss work requirements, compliance issues and other environmental and social matters;
b) To inspect other aspects of the work area and equipment in relation to land degradation, waste management, water pollution, air pollution, biodiversity management as well as workers' and community health, safety and security in compliance with management plans;
c) To monitor environmental parameters for comparison with available standards and guidelines.
d) To assess the performance of environmental controls and proposed mitigation measures;
e) To provide regular reports on a monthly basis on the status of the Contractor's compliance with the ESMP, CESMP, and CHSMP.

The contractor to be engaged for the construction of the proposed project shall be required to establish E&S safeguard team consisting of qualified E&S safeguard professionals (environmental, social and health and safety experts). The team shall be responsible for monitoring the implementation of ESHS aspects from any construction activities carried out by workers or subcontractors and report to MoEVT through CE.

On the other hand, external monitoring will be conducted by implementing bodies including an independent External Consultant and ZEMA. External monitoring or auditing entails reviewing the ongoing monitoring process and verifying it is effective in achieving the desired outcome. The Annual E&S performance audit (ESPA) will be conducted. The main objective of the ESPA is to assess the level of compliance of the project with the applicable ESHS requirements. An audit must be an independent and objective review, thus a qualified independent External Consultant will be engaged to conduct the ESPA.

The Environmental Management Act No. 3 of 2015 defines roles for monitoring. The ZEMA enforces compliance with environmental permits issued prior to any development initiative. It monitors adherence to the implementation of the Environmental and Social Management Plans (ESMP). ZEMA will monitor project activities and applicable ESHS requirements in collaboration with responsible sector ministries and other relevant regulatory agencies including DOSH and LGAs.

### 6.3. Overview of the ESMoP for the Proposed Project

The ESMoPs for the construction of the four schools on Unguja Island are described in Table 8 herein under. The total estimated cost for implementation of ESMoP is **USD 21,000**. It should be noted that the cost estimates are indicative because the Consultant used informed judgement to establish them. In that regard, the actual costs should be worked out during the implementation period. It is anticipated that the developer will allocate funds for implementing mitigation and enhancement measures.

Table 8: E&S Monitoring Plan for Construction of New School Buildings in Unguja Island

| Phase | Impact | Monitoring Parameter | Monitoring Frequency | Monitoring Area | Measurement Unit | [3]Standard / Norm/ Specifications | Responsibility | Cost Estimate (USD) |
|---|---|---|---|---|---|---|---|---|
| **Environmental Impacts** | | | | | | | | |
| Mobilization and Construction Phase | Impact 1: Degradation and depletion of construction resources at points of extraction | Source and amount of materials extracted vs materials required as per BOQ (fill materials, sand, aggregates and stones) | Monthly | Procurement records and progress reports | None | None | • MoEVT<br>• Supervision Consultants | To be covered under MoEVT and consultant operational budgets |
| | Impact 2: Disturbance and loss of vegetation cover | Vegetation clearance and trees cut<br><br>Coverage of the affected land | Monthly | Core project area | Types and number of cut trees<br><br>Size of cleared land or disturbed habitats | As minimum as possible | • MoEVT in collaboration with ZEMA and relevant LGA officers in Unguja Island<br>• Supervision Consultant | USD 1,000 being facilitation costs for the relevant LGA staff |
| | Impact 3: Impairment of air quality and contribution to localised climate change | CO, $NO_2$, $SO_2$, $PM_{2.5}$, $PM_{10}$ and Smoke | Monthly | Core project site<br><br>Materials transportation routes | Concentrations<br><br>Complaints from affected community groups | ZBS (ZNS 20: 2021) Air Quality Standards and IFC guidelines<br>• CO≤5m/$m^3$<br>• $NO_2$≤0.1m/$m^3$<br>• $SO_2$≤0.5m/$m^3$<br>• $PM_{2.5}$≤0.075m/$m^3$<br>• $PM_{10}$≤0.15m/$m^3$ | • MoEVT in collaboration with ZEMA and relevant LGAS officers in Unguja Island<br>• Supervision Consultant | USD 8,000 being costs for instrumental measurement and monitoring of pollutant gases |
| | Impact 4: Disturbance and degradation of land leading to soil erosion | Pit holes and soil erosion tendencies | Monthly | Materials extraction and construction sites | $m^2$ | As minimum as possible | • MoEVT PIU<br>• Supervision Consultant | USD 1,000 being facilitation costs for relevant LGA staff |
| | Impact 5: Impairment of water and land quality due to improper management of wastes | Waste handling practices (collection, storage, transportation, treatment and disposal means), water and soil quality | Monthly | Construction site and surrounding areas<br><br>Water sources | None | ZBS (ZNS 383: 2021 - Solid Waste Management); ZBS (ZNS 14:2022 - Municipal and | • MoEVT PIU in collaboration with ZEMA, ZAWA and relevant LGA officers in Unguja | USD 4,000 being costs for sampling, laboratory analysis and monitoring of existing water |

[3] *Note: In case of conflict between ZBS standards and IFC guidelines, the more stringent provisions should be adopted*

| Phase | Impact | Monitoring Parameter | Monitoring Frequency | Monitoring Area | Measurement Unit | [3]Standard / Norm/ Specifications | Responsibility | Cost Estimate (USD) |
|---|---|---|---|---|---|---|---|---|
| | | | | within or in the immediate vicinity of the project site | | industrial wastewaters); ZBS (ZNS 385: 2021 - Soil quality) Standards and IFC Guidelines | Island<br>• Supervision Consultant | quality. |
| **Socio-economic Impacts** | | | | | | | | |
| Mobilisation and construction phase | Impact 6: Disruption and damage of social infrastructure services | Conditions of social infrastructure and services<br><br>Record of grievances from affected persons / infrastructures | Monthly | Monthly progress reports | NA | As minimum as possible | • MoEVT and Supervision Consultant | Part of MoEVT operational budgets |
| | Impact 7: Creation of job and employment opportunities | Number of people employed by the project | Monthly | Progress reports | Number of people | As many as possible | • MoEVT in collaboration with relevant LGA officers<br>• Supervision Consultant | USD 1,000 being costs for facilitating relevant LGA staff |
| | Impact 8: Stimulation of local business, markets and economy | Number and types of local business entities engaged by the project | Monthly | Progress reports | Number and types | As maximum as possible | • MoEVT in collaboration with relevant LGA officers<br>• Supervision Consultant | Part of MoEVT and Consultant operation costs |
| | Impact 9: Increase in traffic movements and possible road accidents | Tendencies of injuries and accidents | Monthly | Progress reports | Records / Numbers / Complaints | Zero or as minimum as possible<br><br>Zanzibar HSE standards | • MoEVT in collaboration with relevant LGA and DOSH officers in Unguja Island<br>• Supervision Consultant | USD 1,500 being costs for facilitating and engaging relevant LGA and DOSH staff including local leaders |
| | Impact 10: Conflicts over use of local resources | Emerging grievances (type and number) | Monthly | Progress reports | NA | Zero or as minimum as possible | • MoEVT in collaboration with relevant LGA officers | USD 1,000 being costs for facilitating and engaging relevant |

| Phase | Impact | Monitoring Parameter | Monitoring Frequency | Monitoring Area | Measurement Unit | [3]Standard / Norm/ Specifications | Responsibility | Cost Estimate (USD) |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | • Supervision Consultant | LGA staff including local leaders |
| | Impact 11: Conflicts over project induced immigration and competition for access to jobs | Emerging grievances (type and number) | Monthly | Progress reports | NA | Zero or as minimum as possible in compliance with Zanzibar Labour Laws and WB requirements as outlined in the ESS | • MoEVT in collaboration with relevant LGA officers on Unguja Island<br>• Supervision Consultant | USD 1,000 being costs for facilitating and engaging relevant LGA staff including local leaders |
| | Impact 12: Occurrence of GBV and SEA/SH during construction phase | Emerging issues, concerns, incidences and grievances of GBV nature (type and number) | Monthly | Progress reports | NA | Zero or as minimum as possible | • MoEVT in collaboration with relevant LGA officers<br>• Ministry responsible for Gender<br>• Supervision Consultant | USD 1,000 being costs for facilitating and engaging relevant LGA staff including local leaders |
| | Impact 13: Occupational health and safety risks<br><br>Impact 14: Community health, safety and security risks | Emerging issues, concerns, incidences and grievances of health, safety and security nature (type and number) to the project workers and the general public<br><br>Incidencies and grievances related to traffic and road safety, community security, as well as the eruption of water-related, communicable, and non-communicable diseases. | Monthly | Monthly progress reports | NA | Zero or as minimum as possible<br><br>Zanzibar HSE standards | • MoEVT in collaboration with relevant LGA officers<br>• DOSH<br>• Supervision Consultant | USD 1,500 being costs for facilitating and engaging relevant LGA staff including local leaders |

# 7. INSTITUTIONAL ARRANGEMENTS FOR IMPLEMENTATION OF ESMP

## 7.1. Introduction

This part of the document describes the organisational structure for ESHS safeguard issues and outlines the responsibilities of a number of key personnel who have significant contributions to have this ESMP successfully implemented.

## 7.2. Key Players in Implementation of the ESMP

### 7.2.1. Ministry of Education and Vocational Training (MoEVT)

The Ministry of Education and Vocational Training (MoEVT) is one of the ministries under the Revolutionary Government of Zanzibar (RGoZ) with responsibilities for policy-making, planning, reporting, evaluation and overall coordination of education development in Zanzibar. In implementation of the proposed project, MoEVT will have the following roles and responsibilities:

- Oversight and overall coordination of the project to ensure achievement of the project development objectives;
- Management of procurement of goods and services in accordance with national and World Bank Procurement Regulations;
- Management of financial resources in accordance with applicable rules and guidelines and maintain accurate project accounts;
- Establishment of a monitoring and evaluation framework, monitoring and evaluating project activities as required for reporting, and preparing M&E reports;
- Coordination of E&S safeguards activities to ensure compliance with national and the World Bank's Environmental and Social Framework;
- Review and updating of E&S safeguard instruments including C-ESMP; and
- Provision of technical support, including capacity development support for effective implementation of the project.

### 7.2.2. Mtoni Kidatu, Kianga, Jang'ombe and Mikunguni Schools Management

In this project, Kianga and Mtoni Kidatu primary schools as well as Jang'ombe and Mikunguni secondary schools are beneficiaries who anticipate the construction of new school buildings for their operations. As such, in implementation of this project the school managements will collaborate with MoEVT to execute the following responsibilities:

- Management of project activities during planning and design phases, as well as mobilization and construction phases of project implementation
- Coordination of stakeholders and project development activities
- Supervision and monitoring of the work done by consultants and contractors during planning, design, mobilization and construction phases
- Implementation of the ESMP during O&M phase

### 7.2.3. Zanzibar Environmental Management Authority (ZEMA)

ZEMA is the Environmental Regulator. It oversees enforcement, compliance, review and monitoring of environmental impact assessments, among other functions. ZEMA will monitor the project during the construction and operational phases to ensure that mitigation measures documented in the ESIA and the ESMP are implemented fully. It will be responsible for

enforcement, compliance, review and monitoring of the ESIA parameters during construction and operation phases. It will prepare and submit bi-annual reports on the implementation of the provisions set out in the Environment Management Act No 3 of 2015. It will ensure that relevant staff at LGA level are trained well and equipped to conduct monitoring. It will also review monitoring reports generated as part of the project implementation phase. Likewise, based on the monitoring activities it will issue directives to ensure full compliance with the stipulated mitigation measures, and address any issues that emerge.

Both ZEMA and the Department of Environment Zanzibar may engage independent experts to assist them evaluate the monitoring and any associated reports. They will play an advisory role in the project offering valuable advice on key project issues and matters related to local communities in project areas.

### 7.2.4. Consulting Engineer(s)

The MoEVT will engage a Consulting Engineer (CE) to cater for design and supervise project construction and ensure all environmental and social requirements are met on behalf of the Employer and Proponents. The Consulting Engineer will strengthen environment, safety, and social capacity of the Project Implementation Units through training, technical advice, and ensure implementation of all environmental and social mitigation as indicated in the ESIA report. The CE will conduct routine inspections and audits of the Contractor's activities. The CE will be the liaison between the Contractor, WB and MoEVT in relation to contract implementation and the implementation of all mitigation measures in the ESMP. In addition, the CE together with MoEVT and WB will review the detailed site-specific contractor ESMPs. The consultant should deploy a qualified team of safeguard experts including environmental safeguards, social safeguards and health and safety experts who will support the proponent to coordinate and supervise the E&S aspects implemented by the contractor for a particular sub-project.

The CE will be responsible for monitoring, reviewing and verifying compliance with the ESMP by the construction contractor including review and updating C-ESMP. In addition, the CE will be responsible for ensuring the Contractor implements mitigation measures stated in the ESMP. The CE will evaluate any detailed site-specific contractor ESMP and recommend to MoEVT on its implementation, either as prepared or with recommended changes. The CE will monitor the implementation of the detailed site-specific contractor ESMP. The CE will also ensure compliance with construction activities as per the contractual agreement. Specific duties of the CE in this regard include the following:

- Checking Construction Contractor's equipment compliance with the contract specifications and environmental standards;
- Issuing or refusing the final Environmental Compliance Certificate (post construction audit) to the Construction Contractor;
- Providing input to internal review of the ESMP or detailed site-specific contractor ESMP;
- Stopping works in case of an emergency or if significant environmental impact is imminent; and
- Maintaining records of any issues and corrective actions taken.

The CE ensures the contractor has all plans, procedures, approvals, and documentation in place to ensure ESMP and detailed site-specific contractor ESMP compliance prior to commencement of any construction work. Additionally, the CE duties include the following:

- Supervising preparation and maintenance of the ESMP and detailed site-specific contractor ESMP;
- Monitoring and verifying that environmental impacts are kept to a minimum;
- Reporting on the environmental and social issues;
- Recommending the issuing of penalties for contraventions of the ESMP and detailed site-specific contractor ESMP;
- Completing post-construction audit;
- Preparing the background information for the quarterly ESMP report;
- Participate, upon request by the proponent, in meetings with interested / affected parties.

### 7.2.5. Contractor(s)

The Contractor will prepare an ESMP (C-ESMP) during mobilization and before construction activity. Guided by the Consulting Engineer (CE) the contractor will implement construction activities. Based on the proposed construction method, the contractor will develop a detailed site-specific contractor ESMP, which will be submitted to the CE for approval. The ESMP ought to be accepted by MoEVT and the WB. The approval is a prerequisite for commencing construction. Generally, the contractor will consider the ESIA mitigation measures, the developed ESMP and the approved detailed site-specific contractor ESMP. The Contractor will engage a full-time Environmental Management Expert, Sociologist as well as the Health and Safety Expert who will coordinate and provide expertise in all aspects of E&S safeguards of the project including implementation of this ESMP. While the Environmental Expert will coordinate, conduct regular inspections of the construction activities and provide day-to-day advice to the Contractor on environmental aspects, the Sociologist will manage and monitor the social aspects of the project including community relations and grievance management. The Health and Safety Expert will manage and monitor occupational as well as community health, safety and security aspects of the project including preparation of relevant plans and capacity building programme. The specific duties and responsibilities of the E&S safeguard team include but are not limited to:

- Monitor the implementation of environmental mitigation measures by the contractor and construction staff against contractual obligations;
- Detect any non-conformance and approve corrective action (with advice from CE if necessary);
- Identify circumstances requiring management decisions to evaluate variance or compliance issues;
- Liaise with CE to assist in field interpretation of environmental requirements, provide advice regarding corrective actions and resolving non-compliance situations, and issue specific formal instructions to the CC workforce;
- Liaise with CC manager to communicate requirements, obtain first-hand view of special problems to communicate any implementation difficulties to the CE for problem solving. This is critical in situations where adjustments will conflict with compliance;
- Regularly, maintain records of issues and corrective actions taken and communicate to the CE through monthly reports;
- Develop the Health and Safety Plan;
- Assist in the HIV/AIDS/other STDs and GBV awareness programme;
- Liaise with Local Communities;
- Ensure that employees attend all training programmes, and maintain a register/record of such training;

- Conduct daily toolbox talks with each team at site;
- Preparation of accident reports;
- Preparation of monthly and quarterly reports related to environmental, social, health and safety matters.

Apart from Contractor E&S safeguard team, each sub-contractor to be engaged by the main contractor will ensure to include Health and Safety & Environment (HSE) Officer to ensure safe working at his/her specific site location.

The Contractor is responsible for undertaking the construction of the project component strictly in accordance with the Contract Specifications and Conditions and in accordance with the requirements of the ESMP and any subsequent detailed site-specific contractor ESMPs developed. The Contractor must ensure that all mitigation measures described in the ESMP, and any additional mitigation proposed in the detailed site-specific contractor's ESMPs are implemented fully. The Contractor must ensure that any monitoring identified as the Contractor's responsibility must be fully implemented and the results of such monitoring or any report(s) generated are submitted to the relevant authorities (ZEMA, MoEVT and WB). When environmental or social issues arise during the construction period, the Contractor shall propose measures to overcome these and shall comply with any additional requirements imposed by the relevant authorities. The Contractor will also be responsible for preparing the Contractor Progress Report which will be endorsed by the CE and submitted to the MoEVT on a monthly basis. Table 9 below presents the minimum sub-plans to be included in the Contractor' ESMP and Contractor's Occupational Health and Safety Plan (OHSP).

Table 9: List of sub-plans to be included in the CESMP and COHSP

| **Aspect** | | **Sub-plan** |
|---|---|---|
| CESMP | Environmental Safeguard Plans | • Waste Management Plan;<br>• Air and Noise Management Plan;<br>• Hazardous Materials Management Plan including management of materials containing Polychlorinated Biphenyls (PCBs);<br>• Environmental Mitigation and Monitoring Plan; |
| | Social Safeguard Plans | • Labour Force Management Plan;<br>• Sexual Harassment and Sexual Exploitation & Abuse Management Plan;<br>• Construction Stakeholder Engagement Plan (CSEP), including an accessible, culturally appropriate and transparent grievance mechanism;<br>• Code of Conduct (CoC) for the workforce. |
| COHSP | Health and Safety | • Occupational Health and Safety Management Plan;<br>• Community Health and Safety Management Plan<br>• Traffic and Road Safety Management Plan;<br>• Review and update the Emergency Preparedness and Response Plan already provided in Appendix 2;<br>• Review and update the Code of Conduct for the workforce as provided in Appendix 4. |

### 7.2.6. Other Stakeholders

In addition to the project implementation stakeholders highlighted above, the following institutions/organisationshave a role to play in the implementation of the ESMP for the construction of the four schools in Unguja:

i. The Directorate of Occupational Health and Safety (DOSH) is responsible for overseeing occupational health and safety issues in Zanzibar. This is operating through the President's Office (Labour, Economic Affairs and Investments) and its respective entities at district level, and its involvement and participation will aim at ensuring that the project does not cause any health and safety issues during its implementation, i.e. construction as well as O&M phase.
ii. Ministry of Empowerment, Social Welfare, Youth and Children is responsible for the welfare of people in Zanzibar. The ministry will observe GBVs, child labour and the welfare of people working in the project and communities at Shehia and school levels.
iii. Ministry of Finance and Planning: responsible for managing government revenue, expenditure and finance, and provides advice to the government on financial and economic affairs in support of the Government's economic and social objectives.
iv. Regional and District Commissioners' Offices: These include Mjini and Magharibi "A" Districts in Mjini Magharibi region in Unguja Island. These are responsible for coordinating all development activities in their respective areas. They will also participate in resolving any disputes and grievances that may arise from implementing the project in their areas.
v. Local leaders (Sheha of Shehia of Mtoni, Kianga, Jang'ombe and Sebleni and their committees): They oversee the interests of affected persons in the Shehia and are responsible for all matters including law enforcement in the areas and report directly to the District Councils. They will also assist MoEVT and school managements in resolving grievances raised in their areas.

### 7.2.7. Project Capacity Development

The MoEVT will fund safeguards training and capacity enhancement for the project team, contractor(s), environmental and social consultants, suppliers and local councils. It will also finance the production of training manuals and awareness materials as needed. Moreover, the environmental and social officers based at the MoEVT shall be responsible for organising training and workshops with the local partners to operationalize the ESMP and agree on roles and responsibilities, organise workshops with project engineers and technical staff to explain the ESMP and its implementation.

The environmental and social safeguard team based at the MoEVT will also be responsible to organize specialized and on-the-job training and technical assistance to local partners. They will organize workshops with contractors to explain the ESMP and the environmental and social clauses that relate to labour and working conditions. They may team up with consultants and contractors to organise sessions to sensitize local communities and councils on the ESMP and its implementation. Key areas of capacity development include but are not limited to:

a) Implementation of the ESMP
b) Occupational and Community Health and Safety (OCHS)
c) Grievance Redress Mechanism (GRM)
d) Gender Based Violence (GBV)
e) Emergency Preparedness and Response Plan

Table 10 provides more details of each training theme including the indicative cost provisions.

Table 10: Capacity build and training program required to implement the ESMP

| SN | Training Theme | Estimated No. of participants | Frequency | Unit Cost (USD) | Total Cost (USD) |
|---|---|---|---|---|---|
| 1 | Training on implementation of the ESMP targeting E&S safeguard personnel for the client, contractors, consultants and relevant government institutions | 25 | Annual | 100 | 2,500 |
| 2 | Training on Occupational and Community Health and Safety (OCH&S) targeting E&S safeguard personnel for the client, contractors, consultants and relevant government institutions | 25 | Biannual | 100 | 5,000 |
| 3 | Training on Grievance Redress Mechanism (GRM)targeting E&S safeguard personnel for the client, contractors, consultants and relevant government institutions and GRC members | 25 | Biannual | 100 | 5,000 |
| 4 | Training on Gender-Based Violence (GBV), Sexual Exploitation and Abuse (SEA) and Sexual Harassment (SH), targeting E&S safeguard personnel for the client, contractors, consultants, GRCs, NGOs, Police, relevant LGA staff, and local leaders | 25 | Annual | 100 | 2,500 |
| 5 | Training on Emergency Response and Preparedness Plan targeting E&S safeguard personnel for the client, contractors, consultants and relevant government institutions | 25 | Biannual | 100 | 5,000 |
| **Total budget estimates for capacity building (USD)** | | | | | **20,000** |

# 8. CONCLUSION AND RECOMMENDATION

## 8.1. Conclusion

The Ministry of Education and Vocational Training (MoEVT) of the Revolutionary Government of Zanzibar (RGoZ) is implementing a project titled Zanzibar Improving Quality of Basic Education (ZIQUE) Project through financial support from the International Development Association (IDA). The Project aims to improve learning outcomes and support student progression through the learning cycle by addressing some of the most critical challenges to achieving quality basic education (primary and lower secondary) in Zanzibar. The ZIQUE project has four components including: (i) supporting the effective roll-out of the new curriculum in basic education; (ii) strengthening teacher effectiveness; (iii) supporting conducive learning environments; and (iv) systems strengthening and project management.

Component three (i.e. Supporting conducive learning environments) involves, among other things, the construction of new school buildings for the four schools in Unguja Island including Mtoni Kidatu Primary Schooln as well as Kianga, Jang'ombe and Mikunguni Secondary Schools. The schools belong to the Revolutionary Government of Zanzibar, operating under MoEVT. At the moment, the schools embrace various building structures, facilities and services including classrooms, offices, water facilities (mainly groundwater boreholes), electricity supply services and sanitary and waste management systems. However, the existing building structures and facilities are very old, dilapidated and inadequate to meet the current demand qualitatively and quantitatively. These deficiencies not only threaten the welfare of the beneficiary community in terms of health, safety and security but also jeopardise the quality of education service delivery.

The construction of the proposed school buildings for the four schools on Unguja Island is expected to result in positive and negative environmental and socio–economic impacts emanating from both planned and accidental events. As such, in order to ensure that the proposed intervention is done in an environmentally and socially acceptable manner, MoEVT has prepared this Environmental and Social Management Plan (ESMP) in compliance with Zanzibar requirements as well as World Bank (the financier) guidelines.

The E&S appraisal which has been done in the course of preparing this ESMP has identified and assessed potential environmental and social impacts of the proposed project in all phases of its implementation as well described in Chapter 6. A total of 14 impacts (including 5 environmental impacts and 9 socio-economic impacts of which 12 impacts are negative and 2 are positive) have been identified.

Environmental impacts and risks identified include:

- Degradation of sources and depletion of resources at points for extraction of construction materials (including water, soils, sand, aggregates and stones);
- Impairment of air quality and contribution to localized climate change;
- Disturbance and loss of vegetation cover. This impact is associated with site clearance and early works and is limited to the construction of workers' camp, materials storage and processing yard.
- Disturbance and degradation of land leading to soil erosion;
- Impairment of water and land quality due to improper management of waste where it is estimated that about 12,000m$^3$ of demolition and overburden materials, 156 kg/day of solid

waste and 27.52m$^3$/day of liquid waste will be generated during the peak of mobilisation and construction phases.

Social impacts and risks will include:

- Disruption of existing social infrastructures and utility services;
- Increase in traffic movements and possible road accidents;
- Conflicts over project-induced immigration and competition for access to jobs;
- Interference with cultural traditions and erosion of cultural heritage;
- Occurrence of GBV and SEA/SH during the construction phase
- Occupational health and safety risks to the construction crew and MoEVT staff during both construction as well as O&M phases; and
- Community health, safety and security risks during both construction and O&M phases.

Identified positive impacts include.

- Creation of jobs and employment opportunities during the construction phase whereby about 240 people will be engaged directly in the project as the labour force;
- Stimulation of local businesses, markets and the economy due to the rising demand for consumables and services in the project area during the construction phase;

Appropriate measures have been proposed to enhance impacts which are positive to the environment and the communities. Mitigation measures have been proposed to avoid, minimize adverse (negative) impacts, or compensate for those negative impacts that cannot be mitigated by the project for the purpose of maximizing benefits of the proposed project. It has already been shown that implementation of some of the mitigation measures will require collaboration of other stakeholders at different levels of project implementation.

### 8.2. Recommendations

- All school management and Shehia where the project is implemented should have a copy of this ESMP,
- Adequate budget should be allocated to facilitate the implementation of the mitigation measures to avoid project impacts on the environment and the community and enhance project benefits.
- Training for all stakeholders on E&S issues is key to achieving the objectives of this ESMP. All key stakeholders identified in this ESMP must be trained to facilitate smooth implementation of the E&S issues during project implementation.

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# APPENDICES

## Appendix 1: Grievance Redress Mechanism

### A1.1 Rationale for the grievance redress mechanisms

A grievance is a concern or complaint raised by an individual or group affected by the project's components on construction or operational activities. Both concerns and complaints can result from either real or perceived impacts of a project operation and may be filed in the same manner and handled with the same procedure.

Grievance Redress Mechanism (GRM) is an essential tool for facilitating Project Affected People (PAP) to voice their concerns as they arise about the project activities and, if necessary, for corrective action to be taken promptly. Such mechanisms are fundamental to achieving transparency in handling grievance issues.

The GRM is designed with the general objective of solving disputes at the earliest possible time, which will be in the interest of all parties concerned and therefore implicitly discourages referring such matters to the Tribunal/Law courts for resolution, which would otherwise take a considerably longer time. Specifically, GRM should foresee to (a) provide stakeholders with a clear process for providing comment and raising grievances; (b) allow stakeholders the opportunity to raise comments/concerns anonymously through using the local government (Shehia) Forum to communicate; (c) structure and manage the handling of comments, responses and grievances, and allow monitoring of the effectiveness of the mechanism; and (d) ensure that comments, responses and grievances are handled in a fair and transparent manner.

In practise, grievances and disputes that are most likely during the implementation of the MoEVT project could be various but commonly concerning:

- Possible damage to assets and properties including crops
- Possible temporary disruption of land parcels
- Non-fulfilmentof contractors' obligations
- Denied access to fields as a result of rehabilitation or construction activities
- Temporary disruption of socio-economic services and infrastructures
- Poor collaboration between local communities and contractors
- Gender-Based Violence related to MoEVT project, etc.

As such, where there are affected communities, the proponent shall establish a grievance mechanism to receive and facilitate resolution of affected communities' concerns and grievances about the client's environmental and social performance.

The grievance mechanism shall be scaled to the risks and adverse impacts of the project and have affected communities as its primary user. It shall seek to resolve concerns promptly, using an understandable and transparent consultative process that is culturally appropriate and readily accessible, and at no cost and without retribution to the party that originated the issue or concern.

The mechanism shall not impede access to judicial or administrative remedies. MoEVT will inform the affected communities about the mechanism in the course of the stakeholder engagement process.

### A1.2 Grievance Management Committees

The Grievance Mechanism (GM) will consist of a number of levels starting with a Shehia Grievance Committee at the lowest level, a Project Grievance Committee, a District Grievance Committee, a Regional Grievance Committee and a Ministerial Grievance Committee. The Land Tribunal is also available for land-related matters. Complainants can always go to the judicial system. The structure of grievance committees is detailed in the following section.

#### A1.2.1 Shehia Grievance Redress Committee (GRC)

Each respective Shehia (where a project site is located in the Shehia of Mtoni, Kianga, Jang'ombe and Sebleni) will have its own Local Grievance Committee. The committee will meet whenever a grievance is filed and will comprise the following members:

a) Sheha who will be the Chairperson of the Shehia GRC
b) Sheha Secretary who will be the Secretary of the Shehia GRC
c) School Head Teacher
d) 2 religious leaders
e) Community Social Worker (dealing with Women, Children and GBV issues) Officer Commanding Station (OCS)

#### A1.2.2 MoEVT Committee

The project will also have its own Grievance Committee. The committee will meet whenever a grievance is filed and will comprise the following members:

a) ZIQUE Project manager
b) Head of MoEVT engineering section
c) Public relations officer
d) Project social safeguard officer
e) Project environmental safeguard officer
f) Project health, safety and security officer
g) Project Gender officer
h) Consultant social safeguard expert

#### A1.2.3 District committee

At District level the Grievance Redress Committee (GRC) will meet whenever a grievance is filed that could not be resolved at project level. The committee will have the following members:

a) The District Commissioner who will be the Chairperson of the Committee
b) District Administrative Secretary who will be the Secretary for the Committee
c) District Coordinator (Mratibu)
d) Office Commanding District (OCD)
e) District Planning Officer
f) Agricultural Officer
g) Environmental Officer
h) Community Social Worker
i) District Security Officer
j) Land Officer – Will be invited from the Ministry of Land if a grievance received will be associated with Land issues such as ownership of land or compensation issues.

#### A1.2.4 Regional committee

The regional GRC will meet whenever a grievance is filed and will comprise:

a) The Regional Commissioner who will be the Chairperson of the Committee
b) Regional Administrative Secretary who will be the Secretary for the Committee
c) Labour Officer (If a grievance will be related to Labour issues)

d) Land Officer – To be invited from the Ministry of Land or Chief Government Valuer if grievance is related to land or compensation issues
e) Community Development Officer/Community Social Worker
f) Regional Security Officer/Representative
g) Member from Zanzibar Anti-Corruption and Economic Crimes Authority (ZAECA)
h) Regional Coordinator – This Officer is a link between Regional Office and Vice President Office
i) Regional Police Commander (RPC)

**A1.2.5 Ministerial grievance committee**

a) Principal Secretary – Ministry of Education and Vocational Training (MoEVT)
b) Principal Secretary – Ministry of Lands and Housing Development
c) Chief Government Valuer (CGV)
d) Director of Policy, Planning and Research – MoEVT
e) Project Manager – ZIQUE - MoEVT

**A1.2.6 Appeals through Region, Ministry and Tribunals / Court System**

It is assumed that most of the cases shall be resolved at local / Project / District levels. It may be possible, however, that there are cases which might still remain unresolved at lower levels. For such cases, the PAP shall have the option to refer his/her case to Region, Ministry and appropriate court. Failure of the GRC at different levels to settle the complaints will be addressed to the existing tribunals and/or local courts system of administration of justice.

**A1.3 Grievance handling process**

MoEVT project shall adopt the following procedure on handling the grievances:

**A1.3.1 Submitting a grievance to the Project**

A grievance can be submitted to the Project in a number of ways.

- During regular meetings held between communities and the Project;
- Through the consultations at Shehia level established in the affected Shehia;
- During informal meetings with project management and contractors / subcontractors;
- Through communication directly with management – for example a letter addressed to site management, MoEVT, ZIQUE project management or other operational offices;
- Directly by e-mail to the web and emails of MoEVT
- A telephone through project hotline numbers and emergency number.
- Placing a comment in the comment box at MoEVT and ZIQUE operational areas.
- Through Shehia committees

Grievances which will be submitted through Shehia committees will be registered and the ZIQUE project social specialist will be informed within 24 hours.

**A1.3.2 Logging the grievance**

Once a grievance has been received it must first be logged in the grievance database register. Registers will be available at the Shehia level and at the MoEVT project office. The Sheha office will transmit the grievance details to the project sociologist within 24 hours. A typical grievance logging form is as presented in the table below.

| **Location Where Grievance/Problem Occurred:** |
|---|
| Name of Region: _____ Name of District: _____Shehia: _____ |
| **Full Name of PAP(s)/Complainants/Stakeholder**: (OPTIONAL) |

| |
|---|
| Name of Complainant/Stakeholder: _____<br>Age_____ Gender: □ Male □ Female<br><br>Other complainants: Jinsia: Me Ke<br>1. _____ _____ _____<br>2. _____ _____ _____<br>3. |
| **Contact Information: (OPTIONAL)**<br>Please mark how you wish to be contacted (mail, telephone, e-mail).<br>□ By Post; Please provide mailing address: _____<br>□ By Telephone; Please provide telephone number: _____<br>□ By E-mail; Please provide Email address:_____ |
| **Mode of Filing Inquiry or Grievance (check √):**<br>□ In person □ Telephone □ E-mail □ Phone Text Message<br>□ Community meeting Other _____ |
| **Inquiry/ Comment or Suggestion** (This part is to be filled in for non- grievance matters like Question/Comment, Feedback or Suggestion). |
| **Incident/ Problem or Grievance Number:** _____<br>(This is to be filled in by the Shehia Office if the matter is a complaint or grievance) |
| **Preferred Language for communication:**<br>□ Swahili<br>□ English |
| **Nature of Incident/ Problem or Grievance:**<br>□ Land related (such as way leave acquisition, valuation, compensation)<br>□ Environmental related issues<br>□ Safety and Health issues<br>□ Issues related to electricity provision/connection<br>□ Employment and employees related<br>□ Social-cultural and misbehaviours of project personnel<br>□ Sexual Exploitation and Abuse<br>□ Others |
| **Description of Incident/ problem or Grievance:** |
| **Date of incident/grievance**<br>□ One-time incident/grievance (date _____)<br>□ Happened more than once (how many times? _____)<br>□ Ongoing (currently experiencing problem) |
| What would you like to see happen to resolve the problem? |
| **Signature of PAP(s)/complainants/stakeholder**: _____ |
| **Date submitted:** _____ |
| Please return this form to Shehia office:<br>Address:<br>Telephone: _____<br>E-mail: _____<br>We will register your complaint and respond to you within 14 days |
| Grievance received by: _____ Date: _____<br>Incident/ Problem or Grievance Number: _____ |
| Signature and stamp: _____ |

#### A1.3.3 Providing the initial response

The person/community/stakeholder that lodged the initial grievance will then be contacted within 3-5 days to acknowledge that the project has logged the complaint. The Shehia GRC will determine whether the grievance is related to the project or not. The project grievance mechanism will be used for complaints that are related to the project and for those which are not related to the project they will be channelled to relevant departments or institutions.

The acknowledgement form will be provided as an initial response and will include details of the next steps for investigation of the grievance, including the person/ level responsible for the case.

#### A1.3.4 Investigating the grievance

Depending on the nature of the grievance, the approach and personnel involved in the investigation will vary. A complex problem may involve external experts for example. A simpler case may be easier and quicker to investigate. The project sociologist will lead the investigation of the grievances, with support from local administration and other entities as necessary. The project will regularly update the complainant on the progress of the investigation and the timeline for resolution. MoEVT project team shall aim to complete the investigation within two weeks of the grievance first being logged.

#### A1.3.5 Concluding/Resolving the Grievance

The grievance shall then be concluded by outlining the steps taken to ensure that it does not re-occur. Consultation with aggrieved parties will be undertaken and views sought about project recommendations. If the complainant is satisfied, then they shall sign the grievance database register.

#### A1.3.6 Taking Further Steps if the Grievance Remains Open

If, however, the grievance cannot be resolved, then further investigation shall be initiated as relevant. Protracted grievances will be discussed with the MoEVT Principal Secretary and ZIQUE project manager to determine the steps for future action.

# Appendix 2: Emergency Preparedness and Response Plan

## A2.1 Objectives

The main objective of this Emergency Response Plan is to present systematic procedures to be adopted in order to minimise the effects of possible emergency situations that may occur during Project activities and to efficiently manage the resources available to respond to emergencies.

The Emergency Response Plan is a preventive measure and will assist the developer and its Contractor to meet their obligations in accordance with national legal requirements, International Standards (IFC Performance Standards) and other recognised standards such as the World Bank Group Environmental, Health and Safety Guidelines (EHS Guidelines) and International Good Industrial Practice. Specifically, this procedure will:

- Identify potential emergency situations (emergency scenarios) and specific response actions;
- Provide equipment and resources to respond to emergency situations;
- Describe the communication process to be followed in case of emergency;
- Establish evacuation procedures to be followed in emergency situations;
- Define responsibilities for competent persons appointed for emergency response;
- Establish procedures to maintain the safety of people, preserve the environment and property during and after an emergency;
- Identify training requirements for emergency response;
- Describe the criteria for resuming normal activities on site after an emergency;

## A2.2 Proposed Actions

### A2.2.1 Establishing Emergency Contacts

Emergency numbers should be established to be contacted for emergencies that exceed the response capacity of the internal emergency response team or occur during periods of inactivity. The emergency contact list should include the number of the police, local hospital, fire services, health and safety representative, and others.

Information on safety aspects shall be erected at the entrance of all workplaces with preliminary safety information, but not limited to: prohibition, warning, obligation and information signs and their meanings. Depending on the fronts and workplaces, the information shall be related to the obligation to use PPE, prohibition of smoking and fire, location of first aid kit, emergency meeting point, speed limits, hazards, location of fire extinguishers, etc.

### A2.2.2 Procedures

In case of fire, storm, flood, serious injury or other emergency, it should be available:

1. First Aider (nurse) to be appointed with valid certification
2. Qualified Snake Handler must be nominated with a valid certificate;
3. Anti-fidic serum on site;
4. Emergency Preparedness and Response Liaison Officer to be appointed (will coordinate the reduction of construction-related traffic for the duration of any emergency on or near the project site);
5. First aid equipment;
6. Fire extinguishers.


Examples of safety information boards to be erected at the workplace.

### A2.2.2.1 Firefighting

**Purpose:** To provide a procedure for dealing with an emergency involving a fire on the construction site or immediate surrounding areas.

The fire may involve the bush area around the construction site, vehicle and equipment fires, fuel storage plant fires, plant equipment (engine, substation, power generation equipment) or buildings (administrative buildings, clinics or camp buildings).
Hazards created by fire include:

- Explosion - fuel tanks, gas cylinders and fuel storage tanks.
- Contaminated smoke, carbon monoxide contamination.
- Asphyxiation due to lack of oxygen in confined spaces.
- Structural collapse of buildings.
- Falling/burning trees.
- Loss of life.

**a) Hazard Response:**

- Activate the emergency warning siren;
- Close down the entire plant affected in the area;

- Stop fuel and/or gas leaks if possible;
- Isolate electrical components or disconnect them;
- Fight small fires with appropriate extinguishers;
- Making the workplace safe;
- Evacuate the area;
- Organize the rescue of personnel, if properly equipped;
- Arrange containment, move unaffected equipment and facilities and fight the fire (with fire extinguishers available);
- Choose the right extinguisher (water, foam, carbon dioxide and/or dry chemical
- powder), according to the type of fire;
- Protect adjacent areas;
- Clean up possible environmental contamination.

Note: The site will be equipped with the necessary types of fire extinguishers according to the hazards present. Evacuation: Evacuate all personnel within 500 m of any fire.

**b) Containment:**

- Isolate fuel leaks.
- Move all equipment nearby (500 m radius gap).
- Segregate and move cylinders, drums and combustible materials.
- Cool adjacent drums and cylinders with large quantities of water.
- Wetting adjacent buildings and property facilities and equipment.

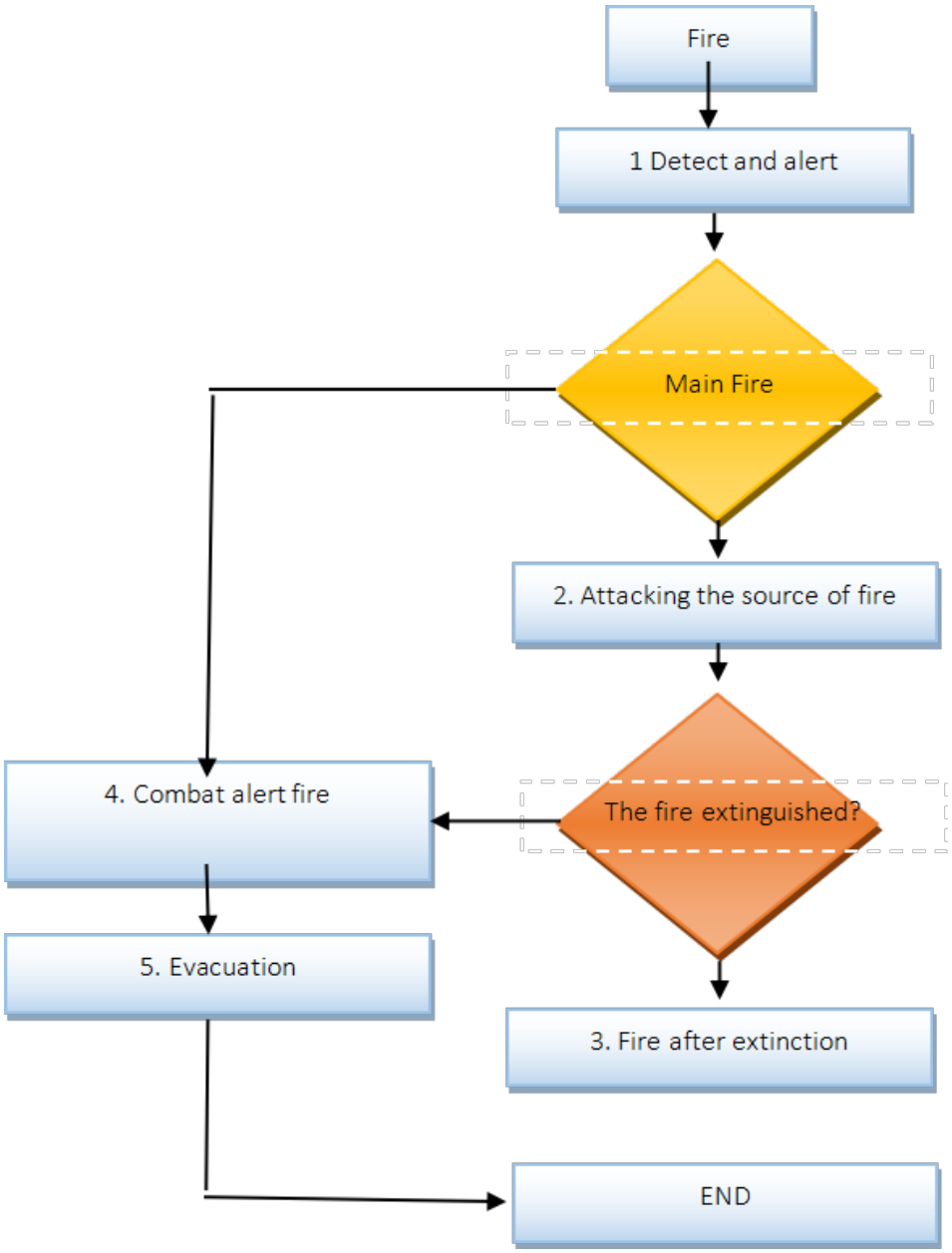
**c) Resources:**

- Water hoovers.
- Medical facilities.
- Fire extinguishers.

The location of fire extinguishers should be properly identified with appropriate signs. Fire extinguishers shall be at least at the following locations:

- Kitchen and Offices Outside and close to tool stores and dormitories.

Periodic maintenance and checks of fire extinguishers should be assigned to a person trained not only to carry out this task but also to use them and ensure that others use them correctly where necessary. For information purposes, the following table defines the suitability between the type of fire and the recommended extinguishers.




*Flowchart of the Fire Fighting Response*

### A2.2.2.2 Explosion and Fire of Gas Bottles

**Objective:** To provide a safe method of handling an emergency involving a gas cylinder explosion

**a) Hazards:**

- A construction site/logistics storage explosion may involve the following hazards: personal injury, shockwave, fires, toxic fumes, flying debris and dense smoke.

**b) Emergency manager:**

- Project Manager and Occupational Health and Safety (OHST) Technician

**c) Response to danger:**

- Ensure their own safety;
- Emergency alert;
- Evacuate the premises and neighbouring areas within a radius of 500 m;
- Check that evacuation is complete;
- Contact the Emergency Management team
- Restrict entry to the area and post sentries at named points to control access;
- Allow the fires to burn out. Do not re-enter the site until the authorities have given all they can.

**d) Evacuation:**

- Evacuate all personnel from the area at least 500 m away. Barricade entry points and place continuous surveillance.

**e) Containment:**

- Do not re-enter or allow others into the area until it is deemed safe to do so by the Emergency Manager.
- Do not disturb or clear the site until the investigation team has indicated that it is OK to do so.

#### A2.2.2.3 Oil and Hazardous Substance Spills

**Objective:** To provide a procedure for the management of a large volume hazardous material spill equal to or exceeding 200 L (incident).

**a) Hazards:**

- Consult MSDS Record for handling of hazardous materials. May be toxic, corrosive or flammable.

**b) Emergency manager:**

- Project Manager and Occupational Health and Safety Technician (OHST)

**c) Incident Response:**

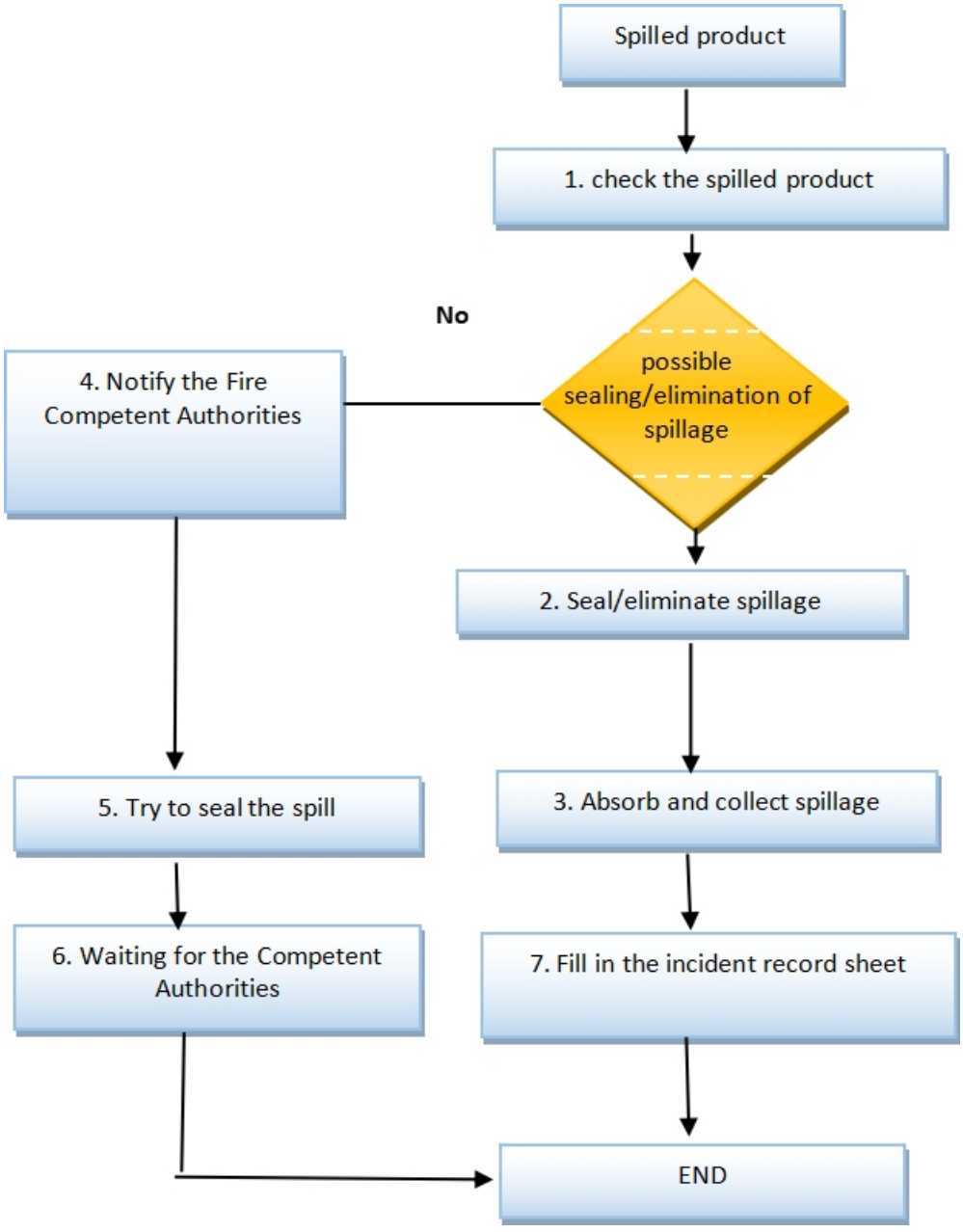
- Activate alert, Emergency Response Team and the Occupational Health and Safety Technician (OHST)
- Identify substance or material hazardous to construction;
- Evacuate the area (wind up) if appropriate;
- Define method of approach
- Gather the necessary resources (direct and indirect);
- Contain hazardous material;
- Remove and dispose of hazardous material;
- Rehabilitate the affected area

**d) Evacuation:**

- Make the work area safe and free from hazardous and risk materials (MSDS).

**e) Contention**

- As appropriate for hazardous and risk materials. May require ground cover and/or bunding and warning by signs. Medical professionals will be involved, as well as the Project Manager (Contractor) and National Authorities (if applicable).
- Instruct all personnel to keep the radio channel clear for the duration of the emergency.
- Reference Material
    - MSDS.
    - Hazardous Chemicals Spill Register




*Flowchart of Hazardous Substance Spill Response*

#### A2.2.2.4 Serious Road Accident

**Purpose: To** provide a procedure to ensure a safe and efficient response to an emergency involving a vehicle collision.

**a) Hazards:**

A serious vehicle accident on or off the construction site may involve the following:

- Injury and/or death;
- Vehicle fire;
- Fuel and/or oil spillage;
- Aggregate spillage.

**b) Hazard Response:**

The first person to approach the accident will:

- Ensure their own safety;
- Warning;
- Apply first aid or call someone to do it;
- Do not move any victim unless there is a life-threatening situation;
- Prepare to extinguish any fire (use the nearest fire extinguisher);
- Advise and respond to hazardous material spills as indicated above;
- Be prepared to direct the emergency preparedness and response team to the scene.

**c) Emergency Preparedness and Response Team:**

- Secure area;
- Treat the accident, if appropriate;
- Extinguish the fire if necessary;
- Support the accident investigation by not removing unnecessary items

**d) Evacuation:**

- Not applicable unless hazardous material is carried in the vehicle or if told to do so by the Project Manager.

**e) Containment:**

- Using staff to divert other vehicles and equipment away from the scene of an accident.
- Do not disturb the area unless it is for medical or emergency reasons only.
- Do not remove any items from the scene of an incident unless instructed to do so; this may become evidence to the OHST or the police.
- Permission to remove items from an emergency, especially a fatality, can only be given by the OHST, Technical Project Manager and/or Police.

#### A2.2.2.5 Live Line Contact

**Purpose**: To provide a safe method of dealing with an emergency involving contact of a vehicle or equipment with live electricity line.

**a) Hazards:**

Contact between a vehicle or equipment and a live line may involve the following hazards:

- Personal injury or death by electrocution.

- Fire (in the vehicle or around the place of contact).

**b) Response to Danger**

- The equipment most likely to come into contact with live overhead electric cables is crane vehicles, transport trucks and/or excavators.
- The operator shall remain in the cab and avoid touching any part of the metal cab.
- Initiate emergency procedures by radio, if possible. Warn people not to approach the vehicle.
- The operator should remain in the vehicle until emergency preparedness and response.
- The coordinator isolated the power source and advised the operator that it is safe to leave the vehicle.
- If the vehicle is still operational, the operator should manoeuvre in accordance with the instructions of the Emergency

**c) Preparedness and Response Coordinator.**

- Park the vehicle and switch off the engine (Turn off the main switch only if it is safe to do so).
- The Emergency Preparedness and Response Co-ordinator should ensure that the power source is isolated by a qualified electrician to ensure that the line is not energised, and has been contained, before allowing the operator to leave the vehicle.
- When the power is off, the Emergency Preparedness and Response Coordinator should direct the operator to leave the vehicle from the front or rear:
- The Operator should not leave the vehicle with any part of the body in contact with the vehicle and the ground at the same time (Skip last stage).
- Move the vehicle to an isolated area, not within 300m of any building or other equipment.

**d) Evacuation:**

- Evacuate all personnel from the area, at least 250m around the vehicle. Barricade and post sentries as appropriate.

**e) Containment:**

- Move the vehicle to an isolated area.

#### A2.2.2.6 Bites From Poisonous Insects/Reptiles

**Purpose:** To provide a safe method of medical intervention in case of stings from poisonous snakes, spiders, scorpions and stinging insects.

**a) Hazards:**

- Biological Hazards.

**b) Emergency controller:**

- Project Manager and Occupational Health and Safety Technician (OHST)

**c) Response to danger:**

- Evacuate the victim immediately to receive medical attention.
- Activate the emergency number immediately, especially if the area changes colour, starts to swell or is painful.

- Identify the species whenever possible; if it is a snake, identify the colour.
- If possible, take these measures while waiting for medical help:
  - Keep calm and move beyond the attacking distance of the insect/snake.
  - Remove jewellery and tight clothing before it starts to swell.
  - Position yourself, if possible, so that the bite is at or below your heart.
  - Clean the wound, but do not wash it with water. Cover it with a clean, dry dressing.
  - The ambulance will be equipped with anti-venom serum to be injected by a nurse who will transport her to a local hospital for further treatment.

**d) Evacuation:**

- Not applicable, unless there is a life-threatening situation in the area.

#### A2.2.2.7 Assistance to Victims

Any medical injury or emergency during project activities, involving employees or third parties will follow this procedure. It will apply for any emergency scenario (e.g. fire, equipment failure, traffic incident) resulting in serious or multiple injuries.

**Purpose: To** provide a procedure to ensure a safe and efficient response to an emergency involving major personal injury on a construction site.

**a) Hazards:**

A major accident on or off the construction site may involve the following:

- Serious injuries and/or death.
- Fall from height, burns, amputation, electrocution, drowning, unconsciousness, serious fracture (back, neck), asphyxiation, inhalation of toxic material, vehicle.

**b) Hazard Response:**

The first person to approach the accident will:

- Ensure their own safety;
- Activate the emergency warning siren;
- Do not move any victim unless there is a life-threatening situation;
- Apply first aid or have someone else do it;
- Prepare to extinguish any fire (use fire extinguisher);
- Advise and respond to hazardous material spills as indicated above;
- Be prepared to guide the emergency preparedness and response team for the area;
- The emergency preparedness and response team carry out patient recovery and initial treatment.

**c) Evacuation:**

Not applicable, unless there is a hazardous material or situation.

**d) Resources:**

- Ambulance;
- Medical facilities;
- Rescue equipment;
- Medical Officer.

### A2.3 Communication Systems

#### A2.3.1 Communication and Notification to Workers

During an emergency event, the Developer/Contractor shall use the following means and methods of communication:

- Sirens;
- Visual alarms;
- Mobile phones;
- Other forms of communication to alert workers to the emergency.

These systems will be maintained to ensure effectiveness when an emergency occurs and these measures include:

- Testing the warning system at least once a year (and fire alarms every month), and more frequently if required by local regulations, equipment or other considerations; and
- Installation of a communications support system on the site, with site resources such as the fire brigade, if normal methods of communication fail following an emergency proceed to community notification.

#### A2.3.2 Communication and Community Notification

If the local community is at imminent risk of a potential emergency at the facility, the Developer/ Contractor's Project Manager implement communication measures to alert the community, such as:

- Audible alarms, such as fire bells and sirens;
- Distribute emergency telephone directories;
- Loudspeakers in vehicles;
- Announce details of the nature of the emergency;
- Communicate protection options (e.g. evacuation, quarantine); and
- Advice on the selection of a suitable protection option.

#### A2.3.3 External Communication and Public Relations

The emergency information will be communicated to the press via the same:

- Appointment of a spokesperson or a local company able to interact with stakeholders
- parties, when talking to the media, government and other agencies; and
- Press releases with accurate information, with a level of detail appropriate to the emergency, and whose accuracy can be guaranteed.

### A2.4 Availability of Resources

The Project Manager will make available the following resources to respond to emergency situations:

- Internal equipment and materials;
- External equipment and resources;
- Personnel (firefighting team, spill response specialists, environmental specialist, engineering team);
- Facilities.

- A list of available resources should be established and maintained to ensure adequate management of emergency situations.
- External firefighting equipment will be provided if available capacity is deemed insufficient. This may include pumps, water supply, trucks and staff training.
- In terms of Medical Services, the Developer / Contractor shall ensure first aid equipment for the construction site, adequate medical equipment and consumables for personnel, specialised personnel for the required level of treatment of injuries occurring on site before transferring victims to the nearest hospital.
- Where necessary, assistance agreements should be maintained with other organisations to enable the sharing of specialised personnel and equipment.

### A2.5 Performance Indicators and Reports

#### A2.5.1 Performance Indicators

The Contractor will review the indicators that will be monitored to determine the effectiveness of the Emergency Preparedness and Response Plan. Indicators will include, but shall not be limited to:

- Emergency preparedness and response drills conducted;
- Emergency preparedness and response training sessions completed;
- The extent of environmental contamination incidents.

#### A2.5.2 Reports

The Contractor shall prepare a monthly environmental health and safety performance report which shall include:

- Emergency preparedness and response reports, including reports of exercises conducted and training.

### A2.6 Accident/Incident Reports

Take immediate action to minimise the risk of further injury or damage (isolating the hazard, evacuation, containing spillages). In case of injury, depending on the severity and preference of the injured worker, appropriate first aid or medical attention should be sought.

Check that all employees are safe and treat any injuries or illnesses immediately. For simple cuts and bruises or other minor injuries, basic first aid treatment may be sufficient. For serious injuries or illnesses, determine the level of emergency and contact an appropriate medical professional.

After certifying that the injured person has received medical attention, immediately report the accident to the Project Manager; the report should include, but not be limited to:

- Name and location of the organisation;
- The exact nature of the emergency;
- The exact location of the emergency, including the area within the site;
- Any accident, material damage or environmental issues;
- the name of the person reporting the emergency; and
- Contact telephone number.

All accidents and work-related incidents must be reported to the immediate Local Leadership as soon as reasonably practicable after they occur (within 24 hours internally and externally with 48h).

# Appendix 3: Chance Find Procedures

### A3.1 Material Discovery During the Assessment

Once discovered, the area should be demarcated for further confirmation and action. The clearance permit authorisation should be kept on hold until when the discovered materials have been investigated and action taken accordingly. Then an initiation process should be made to confirm the discovery, by either using the internal or external resource.

### A3.2 Material Discovery During the Actual Work

The areas identified to have archaeological significance during project implementation will immediately be suspended from work and clearly demarcated. The contractor will notify the responsible department, in this case the environmental department;

- The contractor will move on to other work until required archaeological studies are completed and advised accordingly;
- The contractor shall ensure that all staff working in the field are aware of the possible archaeological remains that have been discovered;
- The responsible environmental department will assign a specialist in the field of archaeology/palaeontology to undertake a site assessment and recommend accordingly;
- Additionally, locations of actual or suspected archaeological finds should be secured against trespass by unauthorised persons, until they have been inspected by the archaeologist;
- The responsible site manager will in turn notify the qualified archaeologist from a recognised institution (i.e., University or Department of Museum and Antiquities - Ministry of Tourism and Heritage), who will assess archaeological remains and identify appropriate procedures; and
- Once the archaeologist or qualified personnel of the applicable discipline (Archaeology/palaeontology), confirms that the materials in question are genuine archaeological remains, then the procedures to be adopted are described below.

### A3.3 Managing Human Remains Chance Finds

Human remains must be accorded full dignity and respect. If at all possible, burial places found should not be disturbed. However, it may not always be feasible to protect a burial from construction activities. As required, the archaeologist will develop a recovery protocol which meets with national customs, law or district regulations. The following procedures will be followed if suspected human remains are found:

- Work will immediately cease in the affected location.
- The field supervisor will contact the environmental expert/ officer and community liaison expert/officer.
- The environmental expert/ officer will take over responsibility for the site and contact the archaeologist for further advice.
- The community liaison expert/ officer will notify the representative from the community related to the place.

- If the area with the discovery is busy or has high public visibility, an employee will be assigned by the environmental expert/ officer to stand watch until the archaeologist arrives.
- The affected area will be staked or flagged off to prevent additional disturbance. Any exposed bones will be covered with a plastic sheet, blanket, or other clean covering.
- The environmental expert/ officer will collect relevant location information, take photos of the find, and complete the site recording form (Table 1).
- The archaeologist in consultation with the environmental expert/ officer will review the available description and images and conduct a site visit, if necessary, to develop a site management plan.
- If excavated material has been loaded into a truck, it will be emptied at a nearby secure location for inspection by the archaeologist.
- Prior to continuing work in the identified site area, the archaeologist, representative from the community and site manager will implement any management plans which are outlined under local customs law or municipal/district regulations.
- The environmental expert/officerwill report the findings, recommendations and follow-up actions to the project incident reporting system.
- The contractor will resume work once the archaeological study is complete and approval is given after consulting with the community.

### A3.4 Managing Artefact Scatters

These sites may be extensive or localised. Human remains may also be present. If feasible, such deposits should be avoided through changes in design, or by capping them with clean, coarse-textured fill. If avoidance is not feasible, it may be necessary to conduct archaeological excavations (systematic data recovery) to mitigate threatened sites. All archaeological / palaeontological excavations require a permit from the Department of Museum and Antiquities. The following procedures will be followed in the event of chance finds of artefact scatters:

- Stop any work that would move or otherwise disturb the artefact or deposits at the site immediately.
- The affected area will be staked or flagged off to prevent additional disturbance.
- The field supervisor will contact the environmental officer.
- The environmental expert / officer will collect relevant location information, take photos of the find, and complete the site recording form (Table 1) prior to notifying the qualified archaeologist.
- The archaeologist will review the available descriptions and images and conduct a site visit, if necessary, to develop a site management plan:
  - ✓ If the archaeologist advises that there are no further concerns, project activities will be allowed to resume under the original work plan.
  - ✓ If the original work plan can be modified and the archaeologist advises that this will create no further concerns and the modification will not cause impacts to other resources beyond the scope of the original work plan, project activities will be allowed to resume under the modified work plan.
  - ✓ If the archaeologist advises that the site is of archaeological concern, the environmental expert / officer will notify the contractor not to proceed with work, and inform the Department of Museum and Antiquities of the find.
  - ✓ The archaeologist in consultation with the Antiquities Division in the MNRT and project contractor will recommend interim management and follow-up actions.

- Before continuing work in the identified site area, personnel will implement any management plans and/or follow-up actions as approved by the Department of Museum and Antiquities.
- In case excavation is required to salvage significant archaeological material, a Department of Museum and Antiquities permit will be required. An application for a permit will be submitted to the Department of Museum and Antiquities.
- Excavated material with cultural significance must be submitted to the Department of Museum and Antiquities by the archaeologist.
- The environmental expert/ officer must maintain a chain of custody during this process.
- The environmental expert / officer will report findings, recommendations and follow-up actions as per the requirements of the incident reporting system.

### A3.5 Managing Isolated Artefacts

Single artefact finds are nearly as important as large sites for understanding the the cultural significance of the proposed Project area. These artefacts are frequently easy for non-archaeologists to identify during clearing/ operations. Should an isolated artefact be observed, the procedure as per step 4 above should be adopted.

### A3.6 Managing Isolated Fossil (Bone) Finds

During excavations and bulk earthworks, isolated bones may be spotted in the sides or bottom excavations, or as they appear on the spoil heap. If the number of distinct bones exceeds five pieces, the finds must be treated as a bone cluster. The following procedures will be followed in the event of chance finds of fossil bones:

- If suspected palaeontological deposits or materials are encountered, stop any work that would move or otherwise disturb the fossil or deposits at the site immediately.
- The affected area will be staked or flagged off to prevent additional disturbance.
- Retrieve the isolated bone that has been exposed in an excavation or spoil heap and set aside before it is covered by further spoil from the excavation.
- The site supervisor and environmental expert / officer must be informed immediately.
- The environmental expert / officer then contacts the palaeontologist for advice.
- The environmental expert / officer will take custody of the fossil.
- The environmental expert / officer will collect relevant location information, take photos of the find, and complete the site recording form (see Table 1). The following information will be recorded:
  - ✓ Position (excavation position).
  - ✓ Depth of find in hole.
  - ✓ Digital image of hole showing vertical section (side).
  - ✓ Digital image of fossil.
- The fossil should be placed in a plastic bag, along with any detached fragments. A label must be included with the date of the find, position information, and depth.
- The palaeontologist will assess the information and liaise with the environmental expert/ officer and a suitable management plan will be established (as per the options described in section 4).
- If necessary and feasible a mould and/or cast of the fossil will be taken.
- Important specimens (fossils) must be submitted to the Department of Museum and Antiquities.
- The environmental expert/ officer must maintain a chain of custody during this process.

- The environmental expert/ officer will report findings, recommendations and follow-up actions as per the requirements of the incident reporting system.

### A3.7 Managing Fossil (Bone) Cluster Finds

A fossil cluster is a major find of fossils: e.g. several bones in close proximity or bones resembling parts of a skeleton. These bones will likely be seen in broken sections of the sides of the hole and as bones appearing in the bottom of the hole and on the spoil heap. Follow the procedure described in section 1.6 in the event of bone cluster finds.

### A3.8 Managing Historical/Structural Remains

These include archaeological remains materials such as ruined structures, isolated historical artefacts, cemeteries/graves. The historical remains are easy to recognise as artefacts, but determination of their historic significance is more difficult. Such appraisals can sometimes be made on the basis of verbal reports, but field inspections may be required for some finds. When historic remains cover an extensive area, the following procedures will be adopted:

- Work will cease in the affected location and contact the Environmental Expert / Officer who will notify the archaeologist.
- Affected location will be staked or flagged off to prevent additional disturbances.
- The site supervisor and environmental officer must be informed immediately.
- The environmental officer then contacts the archaeologist for advice.
- The environmental officer will collect relevant location information, take photos of the find, and complete the site recording form (Table 1).
- The archaeologist will determine if the site is of historic significance.
- The archaeologist will assess the information and liaise with the environmental officer to develop a suitable management strategy.
- The contractor will only resume work once approval has been given by the archaeologist and environmental officer.

Table 1: Cultural heritage Recording Form

| | |
|---|---|
| Recorder Name: | Location: |
| Department: | GPS (UTM): |
| Position: | Location of find - depth below surface (m): |
| Date: | Time: |
| Preliminary survey YES/NO: | Archaeologist of record: |
| Find number: | |
| Find type: Archaeology/fossil/human remains/ paleontology | |
| Status of find: Significance/None significance | |
| Permit required from the Department of Museum and Antiquities YES/NO | |

| | |
|---|---|
| Dimension of object (metres)<br>Length<br>Width<br>Height | Sketch |
| Dimension of site (metres)<br>Length<br>Width | Sketch |
| Attach photographs<br>Yes ☐ No ☐ | |
| Attach site map and mark the place<br>Yes ☐ No ☐ | |
| State further action required (follow up). | |
| Communication recording:<br>Who was contacted (e.g., Supervisor, Environmental Expert / Manager, Site manager, archaeologist or Cultural heritage expert) Name, Time, Phone number and details of conversation. | |
| Name of the supervisor: _____<br><br>Position: _____<br><br>Signature: _____ | |

# Appendix 4: Code of Conduct for Contractor's Personnel

## A4.1 Preamble

We are the Contractor, [*enter name of Contractor*]. We have signed a contract with [*enter name of Employer*] for [*enter description of the Works*]. These Works will be carried out at [*enter the Site and other locations where the Works will be carried out*]. Our contract requires us to implement measures to address environmental and social risks related to the Works, including the risks of sexual exploitation, sexual abuse and sexual harassment.

This Code of Conduct is part of our measures to deal with environmental and social risks related to the Works. It applies to all our staff, labourers and other employees at the Works Site or other places where the Works are being carried out. It also applies to the personnel of each subcontractor and any other personnel assisting us in the execution of the Works. All such persons are referred to as "**Contractor's Personnel"** and are subject to this Code of Conduct.

This Code of Conduct identifies the behaviour that we require from all Contractor's Personnel. Our workplace is an environment where unsafe, offensive, abusive or violent behaviour will not be tolerated and where all persons should feel comfortable raising issues or concerns without fear of retaliation.

## A4.2 Required Conduct

Contractor's Personnel shall:

1. carry out his/her duties competently and diligently;
2. comply with this Code of Conduct and all applicable laws, regulations and other requirements, including requirements to protect the health, safety and well-being of other Contractor's Personnel and any other person;
3. maintain a safe working environment including by:
    a. ensuring that workplaces, machinery, equipment and processes under each person's control are safe and without risk to health;
    b. wearing required personal protective equipment;
    c. using appropriate measures relating to chemical, physical and biological substances and agents; and
    d. following applicable emergency operating procedures.
4. report work situations that he/she believes are not safe or healthy and remove himself/herself from a work situation which he/she reasonably believes presents an imminent and serious danger to his/her life or health;
5. treat other people with respect, and not discriminate against specific groups such as women, people with disabilities, migrant workers or children;
6. not engage in any form of Sexual Harassment, which means unwelcome sexual advances, requests for sexual favours, and other verbal or physical conduct of a sexual nature with other Contractor's or Employer's Personnel;
7. not engage in Sexual Exploitation, which means any actual or attempted abuse of position of vulnerability, differential power or trust, for sexual purposes, including, but not limited to, profiting monetarily, socially or politically from the sexual exploitation of another;
8. not engage in Sexual Abuse, which means the actual or threatened physical intrusion of a sexual nature, whether by force or under unequal or coercive conditions;

9. not engage in any form of sexual activity with individuals under the age of 18, except in case of pre-existing marriage;
10. complete relevant training courses that will be provided related to the environmental and social aspects of the Contract, including on health and safety matters, Sexual Exploitation and Abuse (SEA), and Sexual Harassment (SH);
11. report violations of this Code of Conduct; and
12. not retaliate against any person who reports violations of this Code of Conduct, whether to us or the Employer, or who makes use of the grievance mechanism for Contractor's Personnel or the project's Grievance Redress Mechanism.

**A4.3 Raising Concerns**

If any person observes behaviour that he/she believes may represent a violation of this Code of Conduct, or that otherwise concerns him/her, he/she should raise the issue promptly. This can be done in either of the following ways:

1. Contact [*enter name of the Contractor's Social Expert with relevant experience in handling sexual exploitation, sexual abuse and sexual harassment cases, or if such person is not required under the Contract, another individual designated by the Contractor to handle these matters*] in writing at this address [ ] or by telephone at [ ] or in person at [ ]; or
2. Call [ ] to reach the Contractor's hotline *(if any)* and leave a message.

The person's identity will be kept confidential, unless reporting of allegations is mandated by the country law. Anonymous complaints or allegations may also be submitted and will be given all due and appropriate consideration. We take seriously all reports of possible misconduct and will investigate and take appropriate action. We will provide warm referrals to service providers that may help support the person who experienced the alleged incident, as appropriate.
There will be no retaliation against any person who raises a concern in good faith about any behaviour prohibited by this Code of Conduct. Such retaliation would be a violation of this Code of Conduct.

**A4.4 Consequences of Violating the Code of Conduct**

Any violation of this Code of Conduct by Contractor's Personnel may result in serious consequences, up to and including termination and possible referral to legal authorities.

FOR CONTRACTOR'S PERSONNEL:
I have received a copy of this Code of Conduct written in a language that I comprehend. I understand that if I have any questions about this Code of Conduct, I can contact [*enter name of Contractor's contact person(s) with relevant experience*] requesting an explanation.

Name of Contractor's Personnel: [insert name]
Signature: _____
Date: (day month year): _____

Countersignature of authorised representative of the Contractor:
Signature: _____
Date: (day month year): _____

**ATTACHMENT 1 TO THE CODE OF CONDUCT FORM**

**BEHAVIORS CONSTITUTING SEXUAL EXPLOITATION AND ABUSE (SEA) AND BEHAVIOURS CONSTITUTING SEXUAL HARASSMENT (SH)**

The following non-exhaustive list is intended to illustrate types of prohibited behaviours.

(1) **Examples of sexual exploitation and abuse** include, but are not limited to:

- A Contractor's Personnel tells a member of the community that he/she can get them jobs related to the work site (e.g. cooking and cleaning) in exchange for sex.
- A Contractor's Personnel that is connecting electricity input to households says that he can connect women-headed households to the grid in exchange for sex.
- A Contractor's Personnel rapes, or otherwise sexually assaults a member of the community.
- A Contractor's Personnel denies a person access to the Site unless he/she performs a sexual favour.
- A Contractor's Personnel tells a person applying for employment under the Contract that he/she will only hire him/her if he/she has sex with him/her.

(2) **Examples of sexual harassment in a work context**

- Contractor's Personnel comment on the appearance of another Contractor's Personnel (either positive or negative) and sexual desirability.
- When a Contractor's Personnel complains about comments made by another Contractor's Personnel on his/her appearance, the other Contractor's Personnel comment that he/she is "asking for it" because of how he/she dresses.
- Unwelcome touching of a Contractor's or Employer's Personnel by another Contractor's Personnel.
- A Contractor's Personnel tells another Contractor's Personnel that he/she will get him/her a salary raise, or promotion if he/she sends him/her naked photographs of himself/herself.