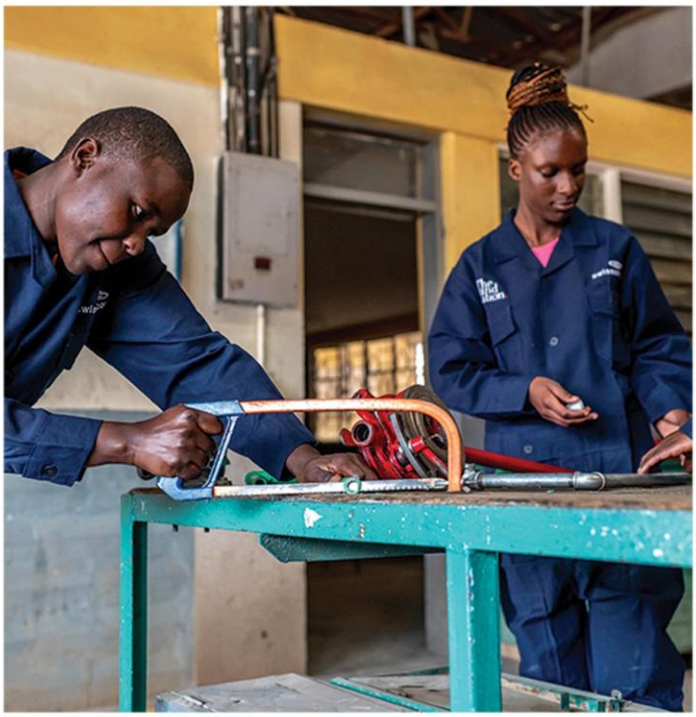
MINISTRY OF EDUCATION AND VOCATIONAL TRAINING
SKILLS DEVELOPMENT AND YOUTH EMPLOYABILITY IN BLUE ECONOMY (SEBEP) PROJECT



DRAFT REPORT

ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT EXERCISE FOR PROPOSED CONSTRUCTION OF VOCATIONAL TRAINING CENTRE AT PANGATUPU NORTH "B" DISTRICT, NORTH REGION, ZANZIBAR

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Project	Environmental and Social Impact Assessment for Proposed Construction of Vocational Training Centre at Pangatupu Kaskazini "B" District, North Region, Zanzibar
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ACRONYMS AND ABBREVIATIONS

AfDB	African Development Bank
PAA	Project Affected Area
AoI	Area of Influence
C-ESMP	Construction Environment and Social Management Plan
CLO	Community Liaison Officer
COLA	Commission of Lands
CoZ	Constitution of Zanzibar
DoMA	Department of Museums and Antiquities
EHS	Environmental, Health and Safety
EPC	Engineering, Procurement and Construction
ESIA	Environmental and Social Impact Assessment
ESMP	Environmental and Social Management Plan
FGDs	Focus Group Discussions
GBV	Gender Based Violence
GHG	Greenhouse Gases
GIIP	Good International Industry Practice
GRM	Grievance Redress Mechanism
GSI	Gender and Social Inclusion
IFC PS	International Finance Corporation Performance Standards
ILO	International Labor Organization
KIST	Karume Institute of Science and Technology
LV	Low Voltage
MANRLF	Ministry of Agriculture, Natural Resources, Livestock and Fishing
MoEVT	Ministry of Education and Vocational Training
O&M	Operation & Maintenance
OSHA	Occupational Safety and Health Act
RAP	Resettlement Action Plan
RGoZ	Revolutionary Government of Zanzibar
RoW	Right of Way
SEBEP	Skills Development for Youth Employability in the Blue Economy
SEP	Stakeholder Engagement Plan
SGBV	Sexual Gender Based Violence
STP	Sewage Treatment Plants
SuDS	Sustainable Drainage Systems
SUZA	State University of Zanzibar
TVET	Technical and Vocational Education and Training
UN	United Nations
VTC	Vocational Training Centre
WBG	World Bank Group

ZAWA	Zanzibar Water Authority
ZECO	Zanzibar Electricity Corporation
ZEMA	Zanzibar Environment Management Authority
ZURA	Zanzibar Utilities Regulatory Authority

EXECUTIVE SUMMARY

This Environmental and Social Impact Assessment (ESIA) Study Report presents an assessment of the potential environmental and social impacts associated with the proposed construction of the District Vocational Training Centre at the Pangatupu area, Kaskazini 'B' District, North region of Unguja, Zanzibar in order to ensure that environmental and social aspects are diligently considered and managed during the project lifecycle. This ESIA study report has been prepared for the Ministry of Education and Vocational Training (MoEVT) under the "Skills Development for Youth Employability in the Blue Economy" (SEBEP) project.

Project Background

The Ministry of Education and Vocational Training, Zanzibar is implementing a five-year project (2022/2027) under the name of "Skills Development for Youth Employability in the Blue Economy (SEBEP)". The project development objective is to improve access to quality and relevant skills for increased youth employability in the Blue Economy. It addresses key issues of skills shortages, mismatch and quality of training institutions. Its impact on stakeholders will include enhanced employability of Zanzibar youth, improved capacity of skills development institutions to deliver high quality and labour-market relevant training and increased availability of high-quality skills in the labour market to meet the demands of the industry. It will equip the youth with skills to make them employable in various sectors in the Blue Economy, but it will also enhance self-employment through entrepreneurship. The project directly responds to the Bank´s High 5 on ´Improving the Quality of life for the people of Africa´ especially its sub-theme on Jobs for Youth in Africa.

The project has been designed within the aspirations of the Zanzibar Development Vision 2050, which identifies the development of core skills and competencies as a prerequisite for sustainable development in Zanzibar. The Vision highlights the need for innovative and inclusive skills development programs for decent employment, especially for the youth. The project is also aligned with the priorities of the Zanzibar Education Development Plan II (2017/18–2021/22), specifically the focus on promoting Technical, Vocational Education and Training (TVET) that is responsive to labour market demands. It is employment and the Blue Economy Policy (2022) which underscores the need for Zanzibar to harness its 'blue resources' to reduce poverty, create employment, and improve growth and exports while strengthening food and energy security. Among the main activities in this project is the construction of five vocational training centres (VTCs) in both Unguja and Pemba.

Thus, the Ministry of Education and Vocational Training (MoEVT) Zanzibar intends to use part of the project funds for the construction of the District Vocational Training Centre at the Pangatupu area, Kaskazini 'B' District, North region of Unguja, Zanzibar.

Project Proponent

The proposed construction of Pangatupu District Vocational Training Centre will be implemented by the "Skills Development for Youth Employability in the Blue Economy (SEBEP)".

Project Financier

The proposed construction of Pangatupu Vocational Training Centre is to be financed by the African Development Bank (AfDB).

Project Objectives and components

The main project objective of the SEBEP project is to equip the youth with technical, vocational and entrepreneurship skills for employment in the tourism, marine/maritime and oil and gas sectors of Zanzibar's Blue Economy. The Revolutionary Government of Zanzibar aims to achieve this objective through improved access to quality and relevance of Technical and Vocational Education and Training as well as entrepreneurship training for youth employment. The Bank support is proposed to focus on three components. These include:

- **Component 1**: Access, relevance and quality of TVET: It aims at increasing access, improving quality and enhancing relevance and equity in technical skills development. The component has two sub components as summarized below;
    i. This sub-component will support interventions that will increase access through construction/upgrading and equipping of infrastructure for higher education and TVET centres. The proposed activities/interventions to be supported under the sub- component will include: (i) construction of 5 Vocational Training Centres in Unguja and Pemba (Each consisting of class room bock, workshop block and dormitory plus other relevant infrastructure such as playground pathways).
    ii. Sub-component 2: This will also support interventions aimed to improve quality and relevance of skills development for both higher education and TVET.
- **Component 2:** Youth entrepreneurship ecosystem development: The sub-component aims to support youth entrepreneurship eco-systems. The focus will be on support to business incubation centers at SUZA and KIST to provide physical space and services to start-ups, helping them through the early stages of their development, providing young entrepreneurs with coaching and mentorship, advice on financing and marketing issues and facilitating networking with industry experts. The proposed activities include: (i) development of entrepreneurship and business infrastructure (incubators, accelerators etc.) within learning institutions to enhance youth entrepreneurship in the blue economy and (ii) support to skills hubs in Common Facility Processing Centers. Partnerships with the private sector will be emphasized in the running and management of entrepreneurship facilities.
- **Component 3:** Capacity Building and Project Management: Under this component the proposed project will provide support to establish the Institutional Arrangement necessary to effectively and efficiently manage project resources and implement activities as outlined in the Project Appraisal Report.

Project Location

The site for proposed Pangatupu vocational training centre is located in Pangatupu, Kaskazini 'B' District, North region of Unguja, Zanzibar. The proposed project site is located at latitude 5°58'34.8"S and longitude 039°13'22"E and is found approximately 27 km from Zanzibar

Stone Town in Kidanzini Shehia. The Kaskazini 'B' District is one of two districts of North Region Unguja (Figure 1). The site covers an area of approximately 16 acres. The land is under one title deed registered as **CRO/Z.504/2024/0773155**.

Proposed Project Layout and Designs

The proposed infrastructure and utilities that are planned for construction include;

- Classroom blocks,
- Administration offices,
- Computer lab
- Library
- Multipurpose Hall,
- A prayer area
- Sanitary facilities (Toilets and bathrooms),
- Hostels
- Cafeteria,
- Staff quarters
- Workshop block

Justification for Environmental and Social Impact Assessment

African Development Bank (AfDB) Integrated Safeguards Systems Operational Safeguards (ISS, OS) on Environmental and Social risk, together with the Government of Zanzibar's laws particularly Section 39(1) of the Environmental Management (Amendment) Act No. 3 of 2015 will be the guiding principles for this consultancy. The objective of Section 39(1) amended in 2015 and AfDB ISS Operational Safeguards is to ensure that projects financed Government of Zanzibar for which the proposed project is part of, utilizes funds in an environmentally and socially sustainable manner without adverse impacts to the environment.

ESIA Study Objectives

The ESIA study has been developed in compliance with the Government of Zanzibar's laws particularly Section 39(1) of the Environmental Management (Amendment) Act No. 3 of 2015 and AfDB's Operational Safeguards. The purpose of an ESIA is to provide information to regulators, the public, and other stakeholders to aid the decision-making process. The objectives of an ESIA are to:

- Identify relevant national and international legislation, standards and guidelines and ensure that they are considered at all stages of project development.
- Describe the proposed project activities and the existing environmental and social conditions that the project activities may interact with.
- Predict, describe, and assess impacts that may result from project activities and identify mitigation measures and management actions to avoid, reduce, remedy or compensate for significant adverse effects and, where practicable, to maximize potential positive impacts and opportunities.
- Provide a plan for implementation of mitigation measures and management of residual impacts as well as methods for monitoring the effectiveness of the plan.

ESIA Methodology

The approach taken in this study is guided by the principles of integrated environmental management. The approach is therefore guided by the principles of transparency, which aims at encouraging decision-making. The underpinning principles of integrated environmental management are:

- Informed decision-making
- Accountability for information on which decisions are made
- Consultation with stakeholders
- Due consideration of feasible alternatives
- An attempt to mitigate negative impacts and enhance positive impacts associated with the proposed project
- An attempt to ensure that social costs of the development proposals are outweighed by the social benefits
- Regard to individual rights and obligations
- Compliance with these principles during all stages of planning, implementation and decommissioning of the proposed development; and
- Opportunities for public and specialist input in the decision-making process.

Environmental and Social Safeguards

This ESIA was prepared in compliance with both AfDB ISS Operational Safeguards and the Revolutionary Government of Zanzibar's (RGoZ) environmental laws and regulations. The ESIA was carried out through analysis of various environmental and social parameters, field investigations and stakeholder consultations.

Desktop Studies

This mainly involved: -

- Review of the preliminary project designs
- Review of relevant existing legislation, regulation, and policies relevant to the proposed Project.

Table 0-1: National Legislations and Regulations

Applicable Policy, Legal or Framework Instrument
Zanzibar Environmental Policy, 2013,
Environmental Management (Amendment) Act No 3 of 2015
Environmental Impact Assessment - Guidelines and Procedures' of 2009
Zanzibar Blue economy Policy (2020)
The Zanzibar Vision 2050
Sustainable Utilization of Non-Renewable Natural Resources Regulations of 2011
The Zanzibar Strategy for Growth and Reduction of Poverty (ZSGRP or MKUZA)
Water Policy, 2004 and Water Act No. 4 of 2006
Zanzibar Land Policy

The Land Tenure (Amendment) Act No. 12 of 1992
Land Commission Act No. 6 of 2015.
Zanzibar Constitution 1984
Local Government Authority Act (2014)
Zanzibar Local Government Policy (2012)
Regional Administration Act (2014)
Zanzibar Employment Act (2005)
Zanzibar Forest Resources Management and Conservation Act (No. 10 of 1996)
Zanzibar Education Policy (2006)
Zanzibar Health Policy (2011)
Zanzibar Employment Policy (2007)
Zanzibar Workers' Compensation Act (No. 11 of 2005)
Zanzibar Occupational Safety and Health Act (No. 8 of 2005)
The Zanzibar Policy Guidelines for Occupational Health, Safety and Wellbeing of Workers in the Health System (2018)
Labour Relations Act, (No.1 of 2005)
The Ancient Monuments Preservation Act, (No. 11 of 2002)
Town and Country Decree (Cap 85), Regulations
Zanzibar Electricity Corporation Act (2006)
Zanzibar Disaster Management Policy (RGoZ, 2011)
The Fire Brigade and Rescue Act No. 7 of 1999
The Penal Act No. 6 of 2018

Applicable AfDB Integrated Safeguards Systems (ISS)

A review of the project indicates that the following AfDB ISS operational safeguards have been triggered, namely: -

Table 0-2: Applicable AfDB ISS OS

Applicable Legal or Policy Instrument
AfDB OS 1 on Assessment and Management of Environment Social Risks and Impacts
AfDB OS 2 on Labour and Working Conditions
AfDB OS 3 on Resource Efficiency and Pollution Prevention and Management
AfDB OS 4 on Community Health and Safety and Security
AfDB OS6 on Biodiversity Conservation and Sustainable Management of Natural Living Resources

AfDB 0S 8 on Cultural Heritage
AfDB 0S 10 on Stakeholder Engagement and Information Disclosure
Relevant International References The Project ESIA has considered relevant and latest updates of the following documents among others: 1. WHO Guidelines for Drinking-water Quality 2. WHO Air quality guidelines for particulate matter, ozone, nitrogen dioxide and sulphur dioxide 3. World Bank's Pollution Prevention and Abatement Handbook 4. World Bank Group Environmental, Health, and Safety Guidelines, General (known as the "EHS Guidelines"). 5. Scoping Report prepared for SEBEP for the proposed construction of VTC at Pangatupu.

Field Investigations

Activities implemented during field investigations involved: -

- Site visit to the project area and the neighboring areas within the zone of influence of the project to collect primary baseline environmental and socio-economic data.
- Photographing the significant aspects to aid in describing baseline environmental and social conditions of the Project area and its influence zone.
- Public consultation in form of onsite key informant interviews with various departments within the government (water, energy, lands), questionnaires distributed randomly to the residents within the project area; ad hoc interviews with interested persons; and public consultation meeting in form of a baraza meeting with the public.
- Identification of sensitive receptors including health facilities, religious and educational institutions among others within the project area of influence.

The main purpose of the field investigation was to verify information and data collected during the desktop study and collection of any new information that may assist in the assessment of impacts and design mitigation measures as well as undertake stakeholder consultations with the communities within the Area of Influence (AoI).

Project Area Environmental and Social Baseline

Administrative

The project site is located in Pangatupu area, Kaskazini "B" district, Kaskazini region in Unguja, Zanzibar. Kaskazini "B" is one of two districts of North Unguja Region. The district lies between latitude 5°59'31.56" S and Longitude 39°15'29.88" E.

Kaskazini "B" district as with other administrative units in Zanzibar is composed of a two-tier system of government – the local government authority (LGA) and the central government. The district director is the leader of the LGA while the central government is headed by a district commissioner (DC), who is assisted by the district administrative secretary (DAS). The district is divided into 8 wards, 32 Shehia.

Environmental Baseline

Climate

The project area of influence has a tropical climate, with temperatures ranging between 20° and 40° centigrade. It also experiences a bimodal rainfall pattern – a long rainy season (or masika in Swahili) and a short rainy season (known as vuli in Swahili). The long rainy season is experienced during the months of March or April to May, while the short rainy season occurs during the months of September or October to December each year. The district receives between 900 mm and 1,200 mm of rainfall during the long rainy season and approximately 400 mm to 500 mm during the short rainy season.

Flora

The flora in the project area of influence is predominantly characterized by various species including Coconut palm (*Cocos nucifera*), Zanzibar Palm (*Chrisalidocarpus pembanus***)** Mango Tree (*Mangifera indica*) among other species.

Fauna

Due to human settlement in the project area of influence there are no wildlife noted within the proposed project site and surroundings. Avian species in the Project area for the proposed Vocational Training Centre include the Indian Crow (*Corvus splendens*) and African Palm Swift (Cypsiurus parvus).

Topography and Soils

The proposed project site and area of influence is generally a low-lying area and estimate terrain elevation above mean sea level is 42 metres. Soils in the project area are characterized as sand soils.

Overall, soils in Zanzibar are categorized into two main classes: the shallow, infertile, rocky coral rag soils in the east, and the deep, fertile soils in the west. In the coral rag, shifting cultivation is the dominant farming system, whereas the deep soils support permanent agriculture and plantation crops.

Socio-Economic Baseline

Population and Demography

Zanzibar has a population of 1,889,773 persons and is the second most populous Island in Eastern Africa after Madagascar3. Slightly above fifty percent (51.6%) of this population are females (974,281 persons) and 48.4 percent (915,492 persons) are males according to the PHC carried out in 2022.

The proposed project site is located in Kaskazini "B" district which is largely considered peri-urban in context and is characterized by a sparse fairly distributed population. The district's population according to the 2022 PHC stood at 99,921.

Settlement Patterns

Due to the influence of National Development Plan – construction of an Oil and Gas Port in Kaskazini "B" district where the proposed project is located, there is potential for rapid increase in settlement within the area. Currently the proposed area is sparsely populated.

The project proponent has acquired the proposed project site from initial owners after following due process of land acquisition i.e., as per RGoZ's procedures and in compliance with AfDB ISS OS 5. The community living in close proximity to the proposed project site practice small scale subsistence farming as well as keeping livestock. A section of the site is under cassava crop while the boundary sections are under Mango and Coconut trees**.**

Access to the site is by an all-weather road from the main Stone town – Mahonda tarmac road. The project site is bordered by an open playing field to the west and a sugar plantation owned by Zanzibar Sugar Factory Limited to the north and east.

Energy

The project area is served by the national grid and it is expected that proposed Pangatupu Vocational Training centre will be connected to this source during operation.

Water and Sanitation

The proposed project site is currently undeveloped. The project area is not connected to ZAWA water supply and has no sewer system in place. Project design will include rain water harvesting and a sewer system.

Health

The proposed VTC is located near the newly constructed and commissioned Pangatupu District Hospital.

Project Alternatives

The ESIA study has considered different project alternatives. These include;

- Project Alternative vs "No Project Alternative" – The Project option was against the "No project option" due to the social and economic benefits expected to occur in the present and long term. The proposed site vs Alternative site option – The proposed site option was most preferred considering that the MoEVT owns the land. An alternative site would need the ministry to purchase land elsewhere which would not only delay the project but also increase the cost of project.
- Alternative water sources – The preferred option is connection of the project to ZAWA supply. Other alternatives include rain water harvesting and drilling of borehole.
- Alternative energy sources – The preferred option is connection to the national grid. Other options include solar power and diesel engine generators. Power from the grid and solar are more preferred to diesel due to less environmental impact than diesel.
- Sanitation – The preferred option is connection to an existing trunk sewer system. However, this is not feasible considering the project area does not have an existing

system in place. Project will consider Septic tanks and biodigesters as alternative effluent disposal for the proposed VTC.

Public Consultations

Stakeholders were identified, mapped, and consulted as part of the ESIA study in line with the AfDB operational safeguards with respect to stakeholder consultations and engagement and in accordance with the ZEMA's EIA/EA regulations (2019) which require public consultations during ESIA preparation. The consultations targeted communities who were in the project Area of Influence (AoI) and hence likely to be directly or indirectly affected adversely by the project. Consultations also targeted key institutions at the national level and district administration. Tables **0-3 and 0-4** below shows the dates, venues and number of stakeholders consulted.

Table 0-3: Project Stakeholder Consultations Venues, Dates and Participants

Date	Venue	Participants	Males	Females
02/02/2025	Zanzibar Water Authority (ZAWA) Offices	5	3	2
03/02/2025	Zanzibar Electricity Corporation (ZECO) offices	6	4	2
03/02/2025	Ministry of Agriculture, Irrigation, Natural Resources and Livestock Offices	5	3	2
03/02/2025	Zanzibar Commission for Lands Offices	6	3	3
04/02/2025	District Commissioner's Office – Kaskazini "B" District	11	9	2
06/02/2025	Pangatupu District Hospital	8	3	5
06/02/2025	Zanzibar Fire Brigade Headquarters	5	3	2
06/02/2025	Directorate of Occupational Safety and Health offices	5	2	3
11/06/2025	Zanzibar Environmental Management Authority Offices	9	6	3
Total		**60**	**36**	**24**

Table 0-4: Public Consultation, Date and Number of Participants

Date	Venue	Participants	Males	Females
07/02/2025	Pangatupu Primary School Hall	59	26	33
Total		**59**	**26**	**33**

The comments and concerns raised by the community during stakeholder consultation and the responses given by both the consultants and the client are highlighted below. The key issues and concerns emanating from the consultations are highlighted below and were incorporated in this ESIA in relation to mitigation measures.

- Waste management
- Community health and safety
- Noise pollution
- Air emission impacts
- Influx of workers and associated impacts

Potential Beneficial Impacts

Table 0-5:Beneficial Impacts

Impact	Description
Poverty Alleviation	With the implementation of the project, job opportunities will be available to the local community. Proceeds from the jobs will lead to reduction in poverty levels.
Employment	The implementation of the project including construction and operation activities will provide employment opportunities–directly and indirectly–to skilled as well as unskilled work force primarily to local labor including women. The income, thus enhanced, of the local skilled and unskilled work force would also bring out a multiplier effect to other sectors of the economy.
Knowledge/Skills Transfer	Local workers will benefit in terms of knowledge transfer especially from expatriate external workers with advanced skills who when paired with the local workers will transfer on-the job skills to them. Further, local workers may undergo certain training as part of skill enhancement prior to employment.
Material Supplies	Another positive impact of the project involves local material sourcing mainly the sale of materials for use in the project. Some of these can be expected to be sourced locally and the rest through importation. It is expected that the project will generate new income revenues for the local population across the district in harvesting and transportation of sand, ballast, stones, and other construction materials. The new income revenues received will create demand for other goods and services causing a trickledown effect to the entire economy.

Potential Adverse Impacts

The potential negative impacts during construction are generally short-term, temporary, and reversible which can be reduced or eliminated by mitigation. Many of the impacts will only occur at active construction stage and mitigation measures have been set out in this report.

Table 0-6: Summary of Negative Impacts and mitigation

Construction Phase					
Issue	**Potential Impact**	**Impact Type and Rating**	**Extent**	**Duration**	**Mitigation**
Air pollution	Emissions from construction vehicles and equipment.	Direct, Moderate	Local	Temporary	Develop a Dust Management Plan; Liaise with local communities to forewarn of potentially dusty activities Undertake inspections to ensure compliance with the Dust Management Plan;
Noise pollution	Noise pollution from vehicles and construction equipment may cause nuisances to workers on site and neighboring communities.	Direct, Moderate	Local	Temporary	Siting noisy plant and equipment as far away as possible from NSRs, and use of barriers (e.g., site huts, acoustic sheds or partitions) to reduce the level of construction noise at receptors wherever practicable Working hours for significant noise generating construction

					work (including works required to upgrade existing access roads or create new ones), will be daytime only;
Water pollution	Water pollution may result from: • Accidental spillage of fuels, lubricants, and other chemicals. • Siltation of water courses from runoff laden with sediment and dust. • High suspended solids from soil eroded from construction	Direct, Minor	Local	Temporary	All wastewater which may be contaminated with oily substances must be managed in accordance with an appropriate waste management plan and no hydrocarbon-contaminated water may be discharged to the environment.
Soil erosion and contamination	Site clearance of vegetation and excavation works using equipment may induce/accelerate soil erosion and siltation of water courses. Contamination may occur as a result of accidental spillage of fuels, lubricant chemicals, sanitary wastewater, etc., as well as from leakage from inadequately protected solid waste storage facilities and sites. Soil may lose its fertility because of removal of topsoil.	Direct, Minor	Local	Temporary	Vegetation clearing, and topsoil disturbance will be minimized. Sheet erosion of soil shall be prevented where necessary through the use of sandbags, diversion berms, culverts, or other physical means
Solid waste generation	Vegetation and soil from excavation, construction waste material and packaging material may produce moderate quantities of waste.	Direct, Minor	Local	Temporary	Prepare and implement Waste Management Plan.
Impacts on flora and fauna	Removal of vegetation may lead to potential loss of flora and fauna in the project site including their habitat.	Direct, Minor	Local	Temporary	All areas disturbed by construction activities shall be landscaped and rehabilitated;
Public health problems	Pools of stagnant water may be a source of water borne diseases especially if excavated	Direct, Moderate	Local	Temporary	SEBEP will develop and monitor the implementation of a Community Health and Safety

	areas are left open (not back filled) over a long period of time.				Management Plan which will include the following measures:
Public Safety	Safety problems at the construction sites may arise from excavations, transportation, and movement of equipment.	Direct, Minor	Local	Temporary	SEBEP will develop and monitor the implementation of a Community Health and Safety Management Plan which will include the following measures:
Visual amenities	Construction of the infrastructure may have a negative impact on aesthetics of the surroundings	Direct, Minor	Local	Temporary	Any excavated or cut and fill areas will be landscaped and revegetated;
Disturbance and interruption of commercial and social activities	The construction process may cause traffic disruptions and congestion, resulting in temporary disturbance and interruption of commercial and social activities. It may also cause damage to infrastructure (roads, utility lines) and disruption of public services.	Direct, Minor	Local	Temporary	Methods will be implemented to maintain open, clear and transparent communication with the local communities regarding the use of local infrastructures by the Project throughout the different phases. Traffic Management Plan shall be issued before earth movements and construction start in order to minimize traffic disruptions
Socioeconomic disruption	Construction process may interfere with normal activities of the community in the AoI which may affect their livelihood and incomes. Furthermore, influx of people in the area may cause alteration of culture and introduce behavioral changes.	Direct, Minor	Local	Temporary	Engagement with the relevant authorities is recommended in order to avoid damage to common property and minimize access disruption to education and healthcare facilities
Occupational health and safety	Workers may be exposed to occupational health and safety hazards from project activities such as: accidents in excavations for foundations; working with equipment; fire outbreaks; working under noisy conditions., working in confined spaces; lifting of objects; storage, handling and use of dangerous substances and wastes. Workers may also be potentially exposed to HIV and other sexually	Direct, Minor	Local	Temporary	MoEVT will develop a Human Resources Policy, which will outline worker rights to be included in all contracts including restrictions on working hours in line with applicable ILO standards, compensation including consideration of overtime, holidays etc.

	Transmitted diseases.				
Community Health Safety and Security Impacts	Increased Project-related traffic, civil works for site preparation including site clearance and excavation and levelling, change to the environment due to increased noise, decreased air quality, inappropriate waste handling or disposal, and accidental leaks and spills, and the presence of the Project workforce all present potential hazards for the health and safety of local communities. The community may also be potentially exposed to STIs/HIV AIDS.	Direct, Moderate	Local	Long Term	SEBEP will develop and monitor the implementation of a Community Health and Safety Management Plan which will include the following measures:
GBV/SEA/SH	Activities may exacerbate gender-based violence, sexual exploitation and abuse and sexual harassment.	Direct, Minor	Local	Temporary	Contractor will extend the Worker Code of Conduct to include guidelines on worker – community interactions and will provide training on the worker code of conduct to all employees including contractors and subcontractors and truck drivers as part of the induction process
Operation					
Water pollution	Water pollution may occur from the vocational training centre activities	Direct, Major	Local	Temporary	All wastewater which may be contaminated with substances must be managed in accordance with an appropriate waste management plan and no hydrocarbon-contaminated water may be discharged to the environment.
Noise pollution	Noise generated from students and equipment used can be a nuisance to sensitive receptors.	Direct, Minor	Local	Temporary	Site noisy equipment away from teaching staff and students. Workers to use appropriate PPE.
Solid waste generation	Solid wastes may be produced by the operational activities of the vocational training centre	Direct, Minor	Local	Temporary	The VTC management to prepare a waste management plan and implement.

Occupational health and safety	Teachers, workers and students may be exposed to occupational health and safety hazards from project activities such as: accidents within the facility; working with equipment for maintenance or learning; working under noisy conditions., working in confined spaces; fire outbreaks; lifting of objects; storage, handling and use of dangerous substances and wastes. Faculty, Students and Workers may also be potentially exposed to HIV and other sexually Transmitted diseases.	Direct, Minor	Local	Temporary	MoEVT will develop a Human Resources Policy, which will outline worker rights to be included in all contracts including restrictions on working hours in line with applicable ILO standards, compensation including consideration of overtime, holidays etc.
GBV/SEA/SH	During operation of there may be gender-based violence, sexual exploitation and abuse and sexual harassment by teachers, workers and students	Direct, Minor	Local	Temporary	VTC management will extend the Worker Code of Conduct to include guidelines on workers' interactions and will provide training on the worker code of conduct to all employees including teachers and students.

Environmental and Social Management Plan

The ESIA includes an ESMP which details the mitigation measures, environmental monitoring activities, institutional responsibilities, and environmental management capacity building. During construction, MoEVT through SEBEP project implementing unit will closely monitor the works contractors' environmental performance and overall ESMP implementation.

Construction Environment and Social Management Plan

Construction Environment and Social Management Plan (C-ESMP) is an upgraded ESMP illustrating realities of the project works to be prepared by the Contractors. The Contractors are expected to finalize the work plan and upon approval, list the works items and for each item, present practical actions that will be undertaken to realize achievement of the ESMP. The actions on works items should address environmental and social aspects associated with the works and in line with guidelines from the ESMP. Based on these ESMP outline, the Contractors will be instructed to develop a Construction Environment and Social Management Plan (C-ESMP) for each component of the project and submit these plans to the Supervision Consultant and SEBEP PIU.

ESMP Implementation

For an effective integration of environmental and social safeguards into the project implementation the Contractor will need to adopt this ESMP and prepare a comprehensive Construction Environment and Social Management Plan (C-ESMP) before commencement of works that will provide the key reference point for compliance. The environmental supervision will also adopt the C-ESMP.

Project Implementation Unit

The project implementation arrangements have been established under SEBEP. The core functions of SEBEP Project management unit will be to coordinate and facilitate fiduciary oversight, environmental and social safeguards supervision among others. The Project Management Unit mandate includes ensuring compliance and to support corrective action.

Project Supervision Engineer

The Project Supervision Engineer with a qualified Environmentalist and Social Expert will be charged with the responsibilities of supervision, review of site reports, preparation of monthly progress reports, prepare and issue appropriate instructions to the Contractor and monitor ESMP implementation. To achieve this, the Consultant team will comprise the following professional key staff cadres.

a) Environmentalist Specialist (1No.)
b) Sociologist (1No.)

Contractor

The Contractors will ensure that the established safeguards are integrated and implemented throughout the project works as per the C-ESMP. The Contractors will internalize the ESMP/C- ESMP, prepare monthly progress reports and implement instructions issued by the Supervision Consultant. The Contractors will also undertake ESIA Studies for sites outside the project zone e.g., quarry and borrow pits and seek appropriate ZEMA Licenses. The Contractors, therefore, will engage qualified Environmentalist and Social Experts on full time basis to interpret the C-ESMP and advice on the implementation of the same, as well to the Counterpart Personnel for the Supervision Expert. The full Contractor's Team will comprise of key staff cadres as will be specified in the Bidding Document.

Grievance Redress

Grievance redress is a critical component of effective ESMP implementation. The purpose of GRM is to provide a forum to the internal and external stakeholders to voice their concerns, queries, and issues with the project. Such a mechanism would provide the stakeholders with one project personnel or one channel through which their queries will be channeled and will ensure timely responses to each query. This will allow for trust to be built amongst the stakeholders and prevent the culmination of small issues into major community unrest. It is noted that the Project has an already established GRM. The GRM will be accessible and understandable for all stakeholders in the project and for the entire project life. The GRM will be communicated to all relevant stakeholders and will also be applicable for any contractor that will occupy and/or use land during the construction and operations phase e.g., land for quarry or borrow pits.

Conclusion

This is a much-needed project in view of the beneficial impacts. Even though there are a number of risks and impacts identified, these are general construction risks that could be managed through application of the mitigation hierarchy and implementation of robust environmental and social management programs coupled with active supervision and monitoring by SEBEP and MoEVT.

The project will be crucial in achieving SEBEP's goals and support the Blue Economy which comes along with many benefits. For the project components, which are suggested to be maintained and those where alternatives were provided, an evaluation of the positive and negative impacts was performed, and an ESMP drawn. All negative impacts can be mitigated following the ESMP.

The negative impacts identified in this ESIA during the planning, construction, operation and decommissioning phase of the project, including waste generation, air pollution, noise pollution, occupational health and safety impacts, community health and safety impacts, impacts on flora, fauna and avifauna, increase in social maladies, labour influx gender based violence, sexual exploitation, abuse and harassment, displacement (resettlement) impacts will be limited to the Project site and area of influence and can be mitigated using the measures proposed in the ESMP as well as the preparation and implementation of C-ESMP

1 INTRODUCTION

1.1 Project Background

Zanzibar is the semi-autonomous part of Tanzania in East Africa. It is composed of the Zanzibar Archipelago in the Indian Ocean, 25–50 kilometres (16–31 mi) off the coast of the mainland, and consists of many small islands and two large ones: Unguja (the main island, referred to informally as Zanzibar) and Pemba.

The Ministry of Education and Vocational Training, Zanzibar is implementing a five-year project (2022/2027) under the name of "Skills Development for Youth Employability in the Blue Economy (SEBEP)". The project development objective is to improve access to quality and relevant skills for increased youth employability in the Blue Economy. It addresses key issues of skills shortages, mismatch and quality of training institutions. Its impact on stakeholders will include enhanced employability of Zanzibar youth, improved capacity of skills development institutions to deliver high quality and labour-market relevant training and increased availability of high-quality skills in the labour market to meet the demands of the industry. It will equip the youth with skills to make them employable in various sectors in the Blue Economy, but it will also enhance self-employment through entrepreneurship. The project directly responds to the Bank´s High 5 on ´Improving the Quality of life for the people of Africa´ especially its sub-theme on Jobs for Youth in Africa.

The project has been designed within the aspirations of the Zanzibar Development Vision 2050, which identifies the development of core skills and competencies as a prerequisite for sustainable development in Zanzibar. The Vision highlights the need for innovative and inclusive skills development programs for decent employment, especially for the youth. The project is also aligned with the priorities of the Zanzibar Education Development Plan II (2017/18–2021/22), specifically the focus on promoting Technical, Vocational Education and Training (TVET) that is responsive to labour market demands. It is employment and the Blue Economy Policy (2022) which underscores the need for Zanzibar to harness its 'blue resources' to reduce poverty, create employment, and improve growth and exports while strengthening food and energy security. Among the main activities in this project is the construction of five vocational training centres (VTCs) in both Unguja and Pemba.

Thus, the Ministry of Education and Vocational Training (MoEVT) Zanzibar intends to use part of the project funds for the construction of the District Vocational Training Centre at the Pangatupu area, Kaskazini 'B' District, North region of Unguja, Zanzibar.

1.2 Project Proponent

The Ministry of Education and Vocational Training (MoEVT) is the project proponent and is implementing it under SEBEP.

1.3 Purpose and Justification of the Project

The main project objective of the SEBEP project is to equip the youth with technical, vocational and entrepreneurship skills for employment in the tourism, marine/maritime and oil and gas sectors of Zanzibar's Blue Economy. The Revolutionary Government of Zanzibar aims to achieve this objective through improved access to quality and relevance of Technical and

Vocational Education and Training as well as entrepreneurship training for youth employment. The Bank support is proposed to focus on three components. These include:

- **Component 1**: Access, relevance and quality of TVET: It aims at increasing access, improving quality and enhancing relevance and equity in technical skills development. The component has two sub components as summarized below;
    iii. This sub-component will support interventions that will increase access through construction/upgrading and equipping of infrastructure for higher education and TVET centres. The proposed activities/interventions to be supported under the sub- component will include: (i) construction of 5 Vocational Training Centres in Unguja and Pemba (Each consisting of class room bock, workshop block and dormitory plus other relevant infrastructure such as playground pathways).
    iv. Sub-component 2: This will also support interventions aimed to improve quality and relevance of skills development for both higher education and TVET.
- **Component 2:** Youth entrepreneurship ecosystem development: The sub-component aims to support youth entrepreneurship eco-systems. The focus will be on support to business incubation centers at SUZA and KIST to provide physical space and services to start-ups, helping them through the early stages of their development, providing young entrepreneurs with coaching and mentorship, advice on financing and marketing issues and facilitating networking with industry experts. The proposed activities include: (i) development of entrepreneurship and business infrastructure (incubators, accelerators etc.) within learning institutions to enhance youth entrepreneurship in the blue economy and (ii) support to skills hubs in Common Facility Processing Centers. Partnerships with the private sector will be emphasized in the running and management of entrepreneurship facilities.
- **Component 3:** Capacity Building and Project Management: Under this component the proposed project will provide support to establish the Institutional Arrangement necessary to effectively and efficiently manage project resources and implement activities as outlined in the Project Appraisal Report.

1.4 Justification for ESIA

AfDB's ISS on environmental and social sustainable development, together with the Revolutionary Government of Zanzibar's Environmental Management Act (Act No.3 of 2015) will be the guiding principles for this consultancy. The objective of ZEMA Act (Act No.3 of 2015) and AfDB ISS is to ensure that projects financed by Zanzibar government agencies and partner funds are environmentally and socially sustainable without adverse impacts to the environment.

The objective of AfDB ISS is to ensure that projects are environmentally sound and sustainable, and that decision-making is improved through appropriate analysis of actions and of their likely social and environmental impacts. These integrated safeguards systems are triggered if a project is likely to have potential (adverse) environmental and social risks and impacts on its area of influence. The ISS cover impacts on the natural environment i.e., air,

water and land, human health, and safety; physical cultural resources; and transboundary and global environment concerns.

1.5 Objective and Scope of ESIA

The purpose of this study was to undertake an Environmental and Social Impact Assessment study for the proposed Pangatupu Vocational Training Centre. The ESIA study has been developed in compliance with Zanzibar Environmental Management Act (Act No.3 of 2015) and AfDB ISS. The purpose of an ESIA is to provide information to regulators, the public and other stakeholders to aid the decision-making process. The objectives of an ESIA are to:

- Identify relevant Revolutionary Government of Zanzibar environmental and social legislation, standards, and guidelines and to ensure that they are considered at all stages of project development.
- To ensure that the proposed project is in compliance with AfDB's safeguards standards and requirements
- Provide a description of the proposed project activities and the existing environmental and social conditions that the project activities may interact with.
- Predict, describe, and assess impacts that may result from project activities and identify mitigation measures and management actions to avoid, reduce, remedy or compensate for significant adverse effects and, where practicable, to maximize potential positive impacts and opportunities.
- Develop an environmental and social management plan that includes mitigation measures for addressing identified negative impacts during the life time of the project.
- Develop a monitoring plan to ensure proper implementation of the ESMP.
- Carry out stakeholder consultation (at institutional and community level) as an integral part of project implementation.

1.6 Methodology of the ESIA Study

The scope of the assignment was to conduct a study of the potential environmental and social impacts of the project activities on the proposed site and area of influence and further to develop an ESIA report. The recommendations of the ESIA report will provide guidance during project implementation. The study was conducted through literature review (desk work), stakeholder consultation and field visits.

1.6.1 Desktop Studies

This mainly involved;

- Review of Scoping Report prepared for the project.
- Review of existing legislation, regulations and policies relevant to the proposed project.
- Project Architectural drawings and designs prepared by design consultant.
- AfDB ISS.

1.6.2 Field Study

Field investigation was conducted in the course of the study. The objectives of field investigation were to ascertain the extent of the project site, the physical characteristics, and

baseline environmental and social profile. Activities undertaken during the field studies involved;

- Visual assessment of project site and area of influence.
- Photographing significant aspects to aid in describing baseline environmental and social conditions and its area of influence.
- Identification of sensitive receptors including health facilities, educational institutions among others.

1.6.3 Collection of Socio-Economic Data

The study collected baseline socio-economic data from a sample of community members in the project area of influence. This data was collected through a semi-structured questionnaire administered to the community. Further, desktop research was undertaken to corroborate the information obtained. The following parameters were basis of data collection;

- Population and household characteristics
- Land use and livelihoods
- Water and Energy supply
- Waste management systems
- Health and Education accessibility.

1.6.4 Stakeholder/ Public Consultations

Stakeholders were identified and consulted as part of the study in line with ZEMA regulations and AfDB requirements. The consultations targeted communities living in the project area of influence and hence likely to be directly or indirectly affected by the project. Key institutions were also consulted including ZAWA, ZECO, ZEMA, the Fire and Rescue Force, Kaskazini B district authorities, among others. Chapter 5 of the report elaborates on stakeholder consultation

1.7 Report Structure

In order to provide clear presentation of the ESIA procedures including their results, conclusions and recommendations, this report is structured as follows:

1. **Chapter 1. Introduction** (this chapter). The chapter introduces the Project by providing details of its location, scope, owner, and developer.
2. **Chapter 2. Project Description.** This chapter describes the background and phasing of the Project, including descriptions of the main and auxiliary facilities, infrastructure, associated facilities, as well as definition of the Project boundaries in the form of the Project area of influence. Tentative project implementation timeline is provided.
3. **Chapter 3. Policy Legal and Institutional Framework.** This chapter provides an overview of the national and international legal framework, within which the Project is to be developed and implemented. Environmental and social legal requirements of the Revolutionary Government of Zanzibar is considered together with the applicable international Lender requirements and guidelines.
4. **Chapter 4. Environmental and Socio-Economic Baseline Conditions.** The existing environmental and socio-economic baseline is described and characterized in this chapter.

5. **Chapter 5. Stakeholder Consultations**. This chapter describes the stakeholder engagement process adopted by the Project. It describes the results of consultation activities undertaken earlier and as part of the ESIA process. It also provides stakeholder identification.
6. **Chapter 6. Analysis of Project Alternatives.** The key process solutions are presented as they are seen at the current stage of planning, alongside with considered alternatives and justification of the preferred alternative.
7. **Chapter 7. Assessment of Potential Risks and Impacts**. This chapter presents the assessment of potential environmental and socio-economic impacts, including identification of mitigation measures and monitoring requirements. Impacts of the Project are assessed for each component of the environment. Impacts during the Project implementation are assessed on a topic-by-topic basis. This chapter addresses potential cumulative impacts of the Project and other third-party economic activities in the region.
8. **Chapter 8. Environmental and Social Management Plan.** This chapter describes the approaches to environmental and social management across all Project activities and recommends the management procedures and plans to be adopted to ensure compliance with the applicable international requirements throughout the life of the Project.
9. **Chapter 9. Grievance Management**
10. **Chapter 10. Conclusion** provides summary of the key significant impacts, mitigations and monitoring, as well as recommendations for further studies to remove uncertainties.

2 PROJECT DESCRIPTION

This Chapter describes the project, with information on its location, access to the site, and the history and future program of its development. The project components and the activities required to build them are presented, to provide the basis on which this ESIA has been undertaken.

2.1 Project Location

The site for proposed Pangatupu vocational training centre is located in Pangatupu, Kaskazini "B" District, North region of Unguja, Zanzibar approximately 27 km from Zanzibar Stone Town. The site is located at latitude 5°58'34.8"S and longitude 039°13'22"E and is located within Kidanzini Shehia locality. Kidanzini Shehia is bordered by Makoba, Mahonda, Zingwezingwe and Mangapwani. Kaskazini "B" District is one of two districts of North Region Unguja (Figure 1). The district is situated south of Kaskazini 'A' District, about 11 miles from Mjini Magharibi Region; it also shares borders with the Central District on the south-east, West "A" District on the south-west and the Indian Ocean on the west and east.

The proposed project site is bordered by an open plying field to the west and a sugar plantation owned by Zanzibar Sugar Factory Limited to the north and east. There are farmlands under cassava crop to the south of site. Pangatupu primary school and Pangatupu district hospital are located 300m from the site on the southern side. The community leaving in close proximity to the proposed project site practice small scale subsistence farming as well as keeping livestock. The site covers an area of approximately 16 acres. The land is under one title deed registered as **CRO/Z.504/2024/0773155**. Figure 3-1 below depicts the project site within the administrative units.

The proposed Vocational Training Centre is will be funded with support from the African Development Bank (AfDB). The Ministry of Education and Vocational Training owns the entire 8-acre parcel.

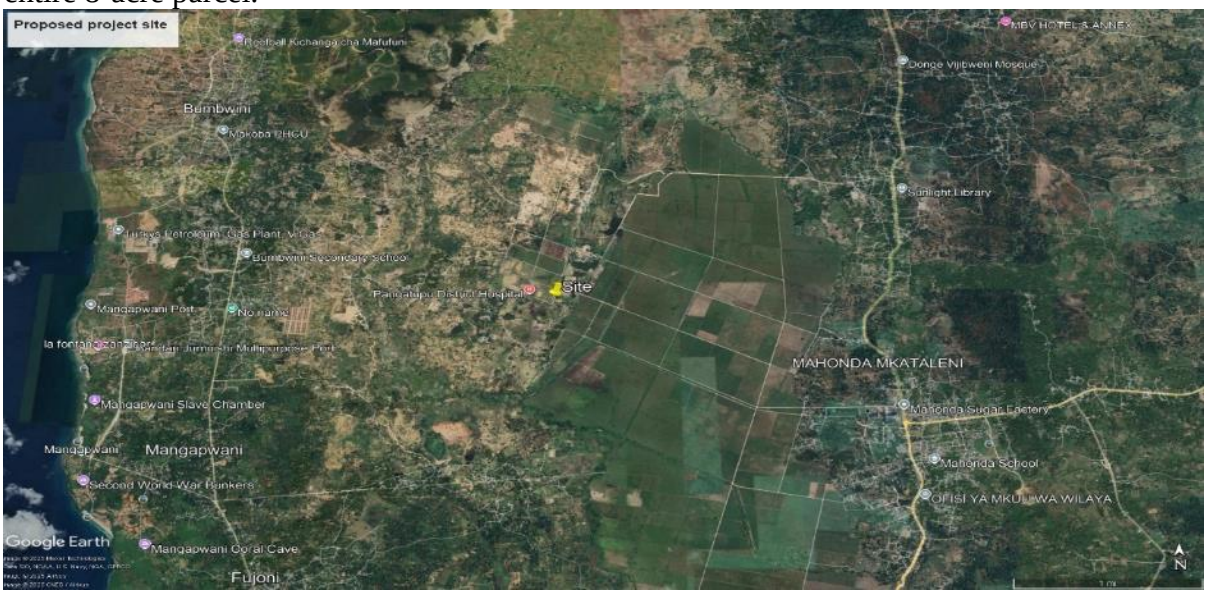

Figure 2-1: Proposed Project site
Source: Google Earth maps

2.2 Project Area of Influence

The project's area of influence includes and involves all the specifically identified physical elements, aspects, and facilities that are likely to generate environmental and social risks. The project area of influence is described below as screened using the Bank's processes for such a project and includes: -

a) The entire project site.

b) The locations of other project components including workers' accommodation camp sites, material sites (quarry sites, borrow pits), batching and asphalt plant sites, water sources among others have not been identified and will be determined by the contractor. These also form the project area of influence and if and when known, the project area of influence will be re-defined accordingly by proponent and contractor.

c) The project area of influence also includes locations where facilities to be owned and operated by contractors will be established if and when the locations are determined and include among others, material sites, workers' accommodation camps, among others. The proposed sites are not known at this point in time and will be determined by contractor which will lead to the refinement of the project area of influence.

d) Facilities to be constructed by contractors including diversions and access roads for the purpose of construction among others also form part of the project area and if and when locations are known, the project area of influence will be re-defined accordingly by the project proponent and contractor.

e) All Associated Facilities[1] also encompass the project area of influence. However, there are no associated facilities identified in this stage of ESIA.

2.3 Project Description

The proposed project is aimed at constructing a technical vocational training centre at the proposed site. It is expected that upon completion of construction and enrolment of students, the MoEVT will have achieved SEBEP goals of addressing skills shortages, improving training institutions' capacity, and increasing the availability of high-quality skills in the labour market.

2.4 On Site Infrastructure

The proposed site is a greenfield i.e., it is currently undeveloped with no infrastructure or utilities on site.

2.4.1 Power

The site is not connected to the national electric grid due to its undeveloped status, however it is at close proximity to the power line that transmits power to adjacent residential properties and the district hospital. This close proximity will enable ease of connectivity of the site when required.

1 Associated facilities, which are facilities that are not funded as part of the project and that would not have been constructed or expanded if the project did not exist and without which the project would not be viable.

2.4.2 Water Supply

The site is currently undeveloped and as such is not connected to water supply.

2.4.3 Wastewater/Sewerage

Currently, the site is not connected to sewerage systems. The project design shall consider the development of sewerage system for the proposed vocational training facility.

2.4.4 Access and Movement

At full build out, the vocational training facility will have access from the road linking the site to the main Ston town-Bububu-Mahonda road. The access road from the turn-off of main road to site is all-weather.

2.5 Project Layout and Designs

The proposed infrastructure and utilities that are planned for construction include;

- Classroom blocks,
- Administration offices,
- Computer lab
- Library
- Multipurpose Hall,
- A prayer area
- Sanitary facilities (Toilets and bathrooms),
- Hostels
- Cafeteria,
- Staff quarters
- Workshop block

Table 2-1: Proposed infrastructure and dimensions

BLOCK	SPACE NAME		Nos. Required	Total Area (Square meters)
1no. Classrooms and Administration (Ground +1)	Classrooms TYPE 1 (25 students per classroom)		6	225
	Classrooms TYPE 2 (50 students per classroom)		2	150
	Entrepreneur Clinic		1	56
	Admin. Offices	Principal including secretary and toilet	1	45
		Deputy principal	2	48
		Deputy principal secretary and toilet	1	45
		Maintenance office	1	20
		conference room	1	60
		Pantry	1	6
		Staffs room	1	56
		Registrar	1	30
		Accountant	1	20
		Counselling	1	30
		Examination office with strong room	1	56
		General Store	2	56
		Conference room	1	60
		Conference room	1	30
	Computer lab		1	75
	Library (reading hall and books store)		1	90

	Multipurpose Hall		1	150
	Toilets for students and teachers	Normal	16	40
		Lessable	2	10
		Net total area		*1358*
		Add 20% for cooridoors,lobs, stairs and ramps		*272*
		TOTAL GROSS AREA		***1630***
2nos. Hostel (Ground +1)	Bedrooms (8stutents each)		19	475
	Matron room with toilet (WC and Shower)		1	20
	Store		1	20
	Laundry and drying area		2	100
	Toilets	Normal WCs	12	31.2
		Lessable (WCs and shower)	2	12
		Shower	12	31.2
		Net total area		*689.4*
		Add 15% for cooridoors,lobs and stairs		*103*
		TOTAL GROSS AREA X 2		***1586***
1no. Cafeteria (Ground)	Dining hall		1	300
	Washing, cooking and serving		1	64
	Changing room		1	5
	Dry Store		1	20
	Cold Store		1	15
	Toilets	Normal (WC and Shower)	2	8
		Lessable (WCs and shower)	1	6
		Net total area		*418*
		Add 20% for corridors and lobs		*83.6*
		TOTAL GROSS AREA		***502***
	Bedrooms		24	288
	Sitting room		8	160
	Dining room		8	72
1no. Staff's Quarter with eight houses ofthree bedroom each(Ground +1)	Kitchen		8	72
	Store		8	40
	Toilets (WC and Shower)		16	60
	Net total area			*692*
	Add 25% for cooridoors,lobs and stairs			*172*
	TOTAL GROSS AREA			***864***
Workshop block (Ground)	Workshop (working area, store and office)		5	750
	General store		1	56
	Toilets for students and teachers	Normal	4	10
		Lessable	2	10
	Net total area			*826*
	Add 20% for cooridoors,lobs			*165*
	TOTAL GROSS AREA			***991***
Prayer area	***Prayer area for women***			***70***
	Ablution area			***15***
	Net total area			***85***

Designated electrical rooms	***Power house***	***120***
	Electrical rooms	***6***
		296
	Add 20% for corridors,lobs and stairs	***59***
	TOTAL GROSS AREA	***355***

Figure 2-2: Pangatupu VTC Master Plan

Source: Mekon Arch

2.6 Project Construction Activities

The activities associated with the construction of the project are described below to the possible extent known and based on the feasibility study report.

2.6.1 Pre-Construction Activities

- **Feasibility Study Design: -** Feasibility study has been undertaken for this project. The feasibility study report is the basis for the preparation of this ESIA document.
- **Obtaining Necessary Permitting Requirements: -** A number of environmental and social permitting requirements will be required to be obtained by the contractor for this project as per the statutes of the Revolutionary Government of Zanzibar before the construction commences.

2.6.2 Activities during Construction

A description of the key activities during the construction of the project is presented to the extent known (based on typical construction of buildings) and is subject to change depending on final methodology that will be adopted by the project developer.

2.6.2.1 Clearing and Grubbing

Preparing the construction area is referred to as clearing and grubbing. During the clearing phase, trees are felled. Grubbing refers to the clearing and removal of stumps and organic debris.

2.6.2.2 Excavations

Excavation vehicles will also dig up and remove rocks and stones from the site. No existing material, which will remain in the completed works, should be loosened unnecessarily during excavation. Excavation works, along with all construction activities, must be undertaken in as safe a manner as possible to minimize the dangers to road users and the contractors' personnel. Excavated materials need assessing as suitable or unsuitable. Suitable materials should be used, when possible, in the works.

2.6.2.3 Construction of Facilities

Some of the activities to be undertaken will include excavation of foundation footing, laying down a brick base, pouring a concrete slab, installation of framework, installation of plumbing workers, putting a wall frame, roofing, and finishing.

2.6.2.4 Structural Steel Works

The administrative blocks will be reinforced with structural steel for stability. Structural steel works involve steel cutting, welding, and erection.

2.6.2.5 Plumbing Works

The Project area has does not have an existing sewerage system. As such, the project will need to factor in a sewerage system in the designs. Plumbing activities will include metal and plastic pipe cuttings, the use of adhesives, metal grinding and wall drilling among others. Plumbing will also be done for drainage of storm water from the rooftop into the peripheral storm water harvesting tanks.

2.6.2.6 Electrical Works

Electrical works will be undertaken and will involve fixed wiring work including sockets, boards and power cables.

2.6.2.7 Construction Workforce

The project designers have not yet estimated the number of workers required. Based on other similarly sized projects being built in the region, there could be need for 200 workers at peak over a multi-year construction program. Typically, more than 10 different occupations are required covering a range of expertise. Unskilled, semi-skilled and highly skilled workers will be needed.

2.7 Resource consumption and construction materials

2.7.1 Land Requirements

MoEVT has set aside 16 acres of land acquired from farmers for the project. The parcel is undeveloped and has no encumbrances. The local community utilizes sections of the land parcel to cultivate subsistence crops and graze their livestock. During the public consultation held with community near the site, it emerged that the ministry, through the SEBEP project has undertaken land acquisition process and affected Project Affected Persons (PAPs) are awaiting their due compensation as per the relocation entitlement matrix. The project therefore does not trigger land acquisition and involuntary resettlement.

2.7.2 Construction Equipment

The construction will require the use of various equipment and machinery. The typical equipment to be used in the construction of the proposed project include among others: -

- Trucks
- Ordinary rollers
- Vibrator rollers
- Excavators
- Water Tankers
- Concrete Mixer
- Excavators
- Backhoe
- Bulldozers
- Wheel Tractor Scraper
- Trenchers
- Loaders
- Tower Cranes
- Compactors
- Dump Trucks

2.7.3 Construction Materials

Items of major importance which are used in normal construction are:

- Portland cement concrete
- Structural steel
- Stone
- Sand

- Boulders
- Aggregate
- Wood
- Clay
- Glass
- Plastic
- Aluminum
- Ceramic
- Tiles
- Fibre
- Bricks

2.8 Project's Operational Activities

2.8.1 Facility Use

During the operation phase of the project, the facility will be open for use by faculty and students as a teaching facility and accommodation premises.

2.9 Project's Decommissioning Activities

In general, the decommissioning phase of this type of projects includes impacts similar to those associated with the construction phase: contract completion of workforce, demobilization of equipment, demolition of infrastructure, waste disposal, landscaping to improve visual aesthetics of the site, rehabilitation of all damaged areas to restore them to their natural beauty, re-vegetating areas that were cleared by the contractor and restoration of other project sites to other beneficial uses. This phase is not yet scheduled, being dependent of the lifetime of the project. Although described here, the ESIA provides minimal assessment of this phase, since its possible occurrence will take place at a date already far from the present. It is thus difficult to predict which will exist at that time, namely the possibility of reusing some of the structures for other purposes.

2.9.1 Demolition Works

Upon decommissioning, the project temporary components including buildings, pavements, drainage systems and associated facilities will be demolished. This will produce a lot of solid waste, which will be re-used for other construction works or if not re-usable, disposed of appropriately by a licensed waste disposal company.

2.9.2 Dismantling of Equipment and Fixtures

All equipment including electrical installations, furniture, finishing fixtures partitions, pipework and sinks among others will be dismantled and removed from the site on decommissioning of the project. Priority will be given to reuse of this equipment in other projects. This will be achieved through resale of the equipment to other building owners or contractors or donation of this equipment to schools, churches, and charitable institutions.

2.9.3 Site Restoration

Once all the waste resulting from demolition and dismantling works is removed from the site, the site will be restored through replenishment of the topsoil and re-vegetation using indigenous plant species.

3 POLICY, LEGAL AND INSTITUTIONAL FRAMEWORK

This chapter sets out the standards to which the legal, policy and administrative framework within which the Project will be developed. It identifies the applicable lender requirements and national standards. The proponent through this ESIA will conform to Zanzibar's legislative and regulatory framework and AfDB operational standards together with IFC General Environmental, Health and Safety (EHS) Guidelines (2007). Where there is a difference between national standards and AfDB ISS operational standards, the latter will prevail.

3.1 Applicable Standards

The applicable standards for this ESIA, referred to as the E&S reference framework, are:

- All Zanzibar laws, decrees and regulations that comprise the national legal framework.
- The African Development Bank's ISS OS and Guidance Notes to Borrowers
- United Nations (UN), International Labor Organization (ILO) and United Nations Educational, Scientific, and Cultural Organization (UNESCO) treaties, declarations, and conventions that Zanzibar has ratified and is a signatory.
- The deliverables will also reflect good international industry practice (GIIP), taking into account the IFC and World Bank guidance practice notes and handbooks. The sections below discuss key parts of the applicable standards, including GIIP.

3.2 Context

In recognition of the importance of natural resources to Zanzibar economy and way of life, the country has a comprehensive body of environmental law. The detail of the law is contained in a number of important Acts and Regulations, many of which have been recently promulgated as older laws in the country are being revised to reflect the relatively new privatization policy and following the general global trend for greater focus on environmental protection, particularly in relation to natural resources utilization and loss of biodiversity; and to energy production and global warming. Most of the sectoral legislations require the project developer to respect integrity of the environment and recommend that environmental and social impact assessment should be carried out in order to achieve that.

The Zanzibar Environmental Management Act No. 3 of 2015 is the principle Act that establishes and sets out environmental and social management instruments, permitting requirement and bestow enforcement powers and coordinating roles and responsibilities for institutions and bodies at all levels. Authorities relevant to sector specific environmental and social management, aspects are prescribed in the various laws. Zanzibar Environmental Management No. 3 of 2015 supersedes other Acts in this regard with the exception of the National Constitution.

This section presents an outline of selected policies and legal frameworks that are of direct relevance to the project. The sections below describe the constitution, current main

development strategy and then provides summaries of key legislation and policies by topics.

- Environmental management
- Land and resettlement
- Water and biodiversity related aspects
- Labor and employment
- Other E&S topics

3.3 National Policies and Legislation

Table 3-1: Summary of National Policies

Policy	Relevance
Zanzibar Environment Policy, 2013	The Policy focuses on ensuring the maintenance of basic ecological processes upon which all productivity and regeneration, on land and in the sea, depends. It promotes sustainable and rational use of renewable and non-renewable natural resources while advocating for the preservation of terrestrial and marine biological diversity, cultural richness and natural beauty of Zanzibar's lands. Moreover, the Policy ensures that the quality of life of the people of Zanzibar, present and future, is not harmed by destruction, degradation or pollution of their environment and natural resources. It strengthens both institutional mechanisms for protecting the environment and the capacity of relevant institutions involved in environmental enforcement and management. The goal of the policy is to ensure a better quality of life for present and future generations through sustainable management and use of the environment and natural resources. The objectives of the Policy are inter alia to: • Improve coordination between party, government and private institutions on utilization and protection of natural resources. • Adhere to integrated land use plans at national and local level. • Establish permanent programmes for monitoring the status of the environment • Develop a programme of integrated coastal zone management • Develop a wide – ranging, long-term programme of research for resource utilisation and environmental protection. • Increase public knowledge about the environment management • Strengthen conservation of Zanzibar's biodiversity on land and in the sea • Incorporate environmental impact assessment into procedures for the design of development projects Some of the guiding principles in the implementation of the policy include: • Environmental Right: Every person in Zanzibar has a right to a clean and healthy environment and a duty to safeguard and enhance the environment. • Right to Development: The right to development will be exercised taking into consideration sustainability, resource efficiency and economic, social and environmental needs. • Sustainable Resource Use: Environmental resources will be utilized in a manner that does not compromise the quality and value of the resource or decrease the carrying capacity of supporting ecosystems; and

	Public Participation: A coordinated and participatory approach to environmental protection and management will be enhanced to ensure that the relevant government agencies, local governments, private sector, civil society and communities are involved in planning, implementation and decision-making processes. **Relevance** The project during construction and operation will adhere to the policy.
Draft Zanzibar Land Policy (2012)	The Draft Policy facilitates the registration of rights on land to secure investments in land and property development and the means to prevent land grabbing and the attached social and economic consequences. The Policy stresses the protection of the environment, cultural heritage and use of natural resources. Good governance and transparent, affordable and gender-responsive measures of land for the benefit of all, including the most vulnerable groups, are key to the implementation of the policy. The Draft Policy addresses the challenges of climate change and related consequences of natural disasters, and food shortage. It recognizes the trend of rapid urbanization as a major challenge to sustain future living and livelihoods. **Relevance** The project will adhere to this draft policy by practising sustainable land-use planning to reduce degradation of natural resources
Zanzibar Gender Policy (RGoZ, 2012)	The general objective of Zanzibar Gender Policy is to provide a national framework for planning, implementation, coordination, monitoring and evaluation in a wide range of issues that impedes equality and equitable development of women and men in Zanzibar. The policy recognizes the major role women play in matters related with environment and natural resources for sustainable socioeconomic development. The policy addressed the needs for appropriate measures to reduce environmental pollution and degradation. **Relevance** This project shall also ensure that women, will be adequately involved at all levels of project implementation.
Zanzibar Water Policy (2004)	The water policy recognizes the importance of environmental consideration in the development and implementation of water resources and sanitation management in the country. The policy provides guidance on accessing clean and safe water for its people while considering nature conservation **Relevance** The project during construction and operation will adhere to the policy.
Zanzibar Energy Policy (2009)	The main objective of the Energy Policy is to meet the energy needs of the Zanzibar population for social and economic development in an environmentally sustainable manner. The objectives include; • increase the energy efficiency within the energy sector of Zanzibar • increase the supply of energy from indigenous renewable energy sources

	• increase the reliability, affordability and independence of modern energy supply in Zanzibar • implement a regulatory regime for the energy sector in Zanzibar to act as a coherent and coordinated framework for all development efforts within the sector • achieve free market principles within the energy sector, with only well founded transparent regulatory interventions • involve all main stakeholders in coordinated actions while considering related documents regarding the future social and economic development and poverty reduction in Zanzibar **Relevance** The project during construction and operation will adhere to the policy.
Zanzibar Vision 2020	The Zanzibar Vision 2020 encourages; • environmental protection • promotes resource use efficiency • adoption of safe and environment-friendly technologies The vision promotes conservation, protection, and rational and efficient utilization of environment and natural resources. It is envisioned that sustainable economic development should be accompanied by proper environmental management so that Zanzibar's natural resources and natural heritage are passed on to future generations. **Relevance** The project during construction and operation will adhere to the policy.
Zanzibar Agricultural Sector Policy	The agricultural Sector Policy includes crops, fisheries and livestock production. The overall goal of Agricultural Sector Policy is to promote sustainable development of the agricultural sector for economic, social and environmental benefits for Zanzibar people. The policy recognizes that environmental degradation is an issue of major concern in agricultural development attributed to lack of public awareness on the preservation and conservation of environment and natural resources. **Relevance** The project during construction and operation will adhere to the policy.
Zanzibar Occupational Safety Policy (2012)	The main objective of the Policy is to promote the right of workers to a safe and healthy working environment, and to contribute to the improvement of workers' well-being and national productivity. The policy provides general direction for the occupational health and safety stakeholders to adopt a management system that is effective in reducing the incidence of work-related injury and disease. **Relevance** The project during construction and operation will adhere to the policy.
Zanzibar HIV/AIDS Policy (2004)	The goal of the Zanzibar HIV/AIDS Policy is to prevent new HIV infections in the population; treat care for and support those who are infected; and mitigate the impact of HIV/AIDS on the social and economic status of individuals, families, communities of all those living in Zanzibar. **Relevance** The project during construction and operation will adhere to the policy.

Zanzibar Climate Change Strategy (2014)	The objectives of the Zanzibar Climate Change Strategy are: - - To provide a coherent and consistent view on the vulnerability and risks from current climate variability and future climate change on the islands, alongside possible opportunities for reduced emissions and low carbon sustainable development. - To establish a response framework to enhance Zanzibar's economic, social and environmental resilience to address these risks, and to enhance low carbon sustainable development opportunities. - To propose ways to develop and strengthen the institutional and coordination arrangements (including the policy and legal framework) for the effective implementation of the climate change strategy and to develop strategies to mobilize internal and external financial support. - To help build capacity and knowledge, raise awareness, and promote climate aware and sustainable livelihoods practices for all of society, with a particular focus on local communities. - To encourage the transfer, adoption and diffusion of technologies for increasing resilience and promoting low carbon sustainable development. - To guide the integration of climate change in the Zanzibar sustainable development goals, including future development plans. **Relevance** SEBEP shall ensure all strategies are used against climate change such as switching off all idle machines/vehicle and adequate maintenances of the vehicles/machine etc. are in place during implementation of the proposed project
Zanzibar Education Policy (2006)	The goal of this policy is to strive for equitable access, quality education for all and promotion of lifelong learning. The objectives for the policy are; • Expanding access to twelve years of quality basic education to all starting from pre-school up to the end of secondary (ordinary level). • Facilitating access to lifelong learning whether through the traditional channel of education and training or through work-based learning. • Expanding access to technical and vocational education in scope and geographical coverage to meet the needs of individuals and society. **Relevance** The project core aim is to provide vocational training and education and will align with this policy during operation.
Zanzibar Blue economy Policy (2020)	This policy is aimed at promoting sustainable economic growth, environmental stewardship and improved livelihoods through the sustainable utilisation of the sea and other blue resources. Specifically, the policy seeks to: • promote and improve sustainable economic inclusion within the BE priority areas and communities; • strengthen coordination between multiple economic sectors within the BE framework;

	• improve food and nutritional security through the sustainable management of blue resources; • empower local communities, especially women and youth involved in BE activities; • ensure the safety and security of Tanzania's maritime domain in coordination with the national maritime security agencies; and • enhance financing and revenue collection through sustainable BE activities. **Relevance** SEBEP project is focused on developing skills for the youth as a step towards achieving the Blue Economy goals. The project will be guided by this policy.
Tourism Policy (2005)	Tourism in Zanzibar plays a major role in providing the much-needed foreign exchange as well as the economic benefits through various industries that would emerge to cater for the sector. The objective is to enhance the quality of and accessibility to Tourism infrastructure existing and developing infrastructure to cope with the demands of high-class tourism. **Relevance** SEBEP project has a focus on tourism improvement as part of its objectives. The project will be undertaken with guidance from this policy
The Zanzibar Trade Policy (RGoZ, 2006)	The primary objective of the policy is to create a conducive environment, which will be capable of supporting a sustainable growth in the economy in general and the trade sector in particular. The strategies at macro level, which would be utilized are: • Strengthening trade liberalization policies: updating laws rules and regulations and procedures, consolidating and simplifying the functioning of different governmental authorities and taxation regimes • Improving the quality of service rendered to the trading community, increasing the number of skilled and technically competent staff in trade promotion services and encourage use of ICT • Improving infrastructure and facilities at EPZs and free port in Zanzibar • Creating a base of exportable services. • Encouraging increased private sector investment in infrastructural projects including facilities for storage, handling, processing and packaging for export • Liaising on regular basis with stakeholders and establishing effective consultative mechanism; institutions; assisting in establishing business associations and market research services; building a stronger partnership with other stakeholders. **Relevance** The concept of strengthening private sector participation in the trade of goods and services under this policy concurs with the objective of the proposed project.

Zanzibar Disaster Management Policy (RGoZ, 2011)	The focus of this policy is on disaster risk reduction and livelihoods support. The aim is to develop the required national capacity to coordinate and collaborate on comprehensive disaster management programs among the principal players at all inter-sectoral levels. **Relevance** The project will be guided by this policy during construction and operational phases
Zanzibar Local Government Policy (2012)	The objective of the policy is to ensure that an establishment of an accountable local government that has a capacity to provide better and efficient basic services to the people (Health, water, education, roads, agriculture, natural resources, energy, etc.) and safeguard their livelihoods. The policy ensures that any development plan should recognize upholding of community land and ownership rights and that communities are adequately compensated in accordance with laws of Zanzibar and that the right to information is disseminated to the local communities and those who will be directly and indirectly affected by the proposed project. **Relevance** The project proponent is required to coordinate with the Local Government Authorities for local operations (at the district, and Shehia Levels) including security matters related to the safety of the communities and of the operators.
Zanzibar Development Plan (2021/2026)	Among the basic components of ZADEP include Theme, Mission statement, Key result areas, Specific and Defined Outcomes, Flagship programmes, Projects and Initiatives, Key strategic actions and finally ended with Monitoring and Evaluation and Indicators. Theme which was then translated into a clear Mission statement, directs toward Key strategic actions which will help to achieve economic growth and social well-being in Zanzibar through implementation of Sustainable Development Goals (SDGs). **Relevance** Pangatupu Vocational Training centre will produce technical students whose input in developing the country will be immense.
Zanzibar Forest Conservation and Management Policy (1999)	The goal of the Zanzibar Forest Policy is to protect, conserve and develop forest and wildlife resources for the social, economic and environmental benefits of present and future generations of the people of Zanzibar. The Specific Goals of the Zanzibar Forest Policy include strengthening the role of forestry in alleviating poverty and increasing equity in resource management and utilization; strengthening the role of forest resources in promoting economic development, meeting demands for forest products, and creating income generating activities for revenues and efficiency. **Relevance** Under this project, construction and operation of the VTC will be guided by this policy
Zanzibar Health Policy (2010)	The policy envisions a healthy population, with reliable, accessible and equitable health care services. The policy mission is to ensure that all Zanzibarians secure their right to quality health services, rendered in a cost-effective and affordable manner. **Relevance**

	This policy is vital for ensuring adequate health services including medical insurance for the project workers and affected groups.
Zanzibar Employment Policy (2007)	The Policy has been developed to address some of the major constraints in employment and other emerging labour dynamics in Zanzibar. The policy highlights Zanzibar's economic prospects in tandem with employment growth, the labour force situation, key job sectors, and the Government efforts to generate and encourage decent jobs for the citizens. The principal objective of the policy is to increase national productivity while generating gender sensitive and decent jobs for the citizens. **Relevance** SEBEP shall comply with this policy during implementation of the project e.g., by ensuring gender parity in regards to employment.
Zanzibar Transport Policy (2008)	This policy was formulated to articulate a course of action for the development of the maritime, air and land transport sub-sectors. The Policy systematically addresses the transport demand, transport services in response to demand, facilities to provide transport services, and the management of the transport sector including development of transport systems and infrastructure. **Relevance** SEBEP project will ensure that all machines, vehicles and equipment used during project implementation operate in a manner that protects road infrastructure e.g., by adhering to weight standards.
The Zanzibar Vision 2050	Zanzibar Development Vision 2050 is a blueprint for social and economic development of Zanzibar for the next 30 years. The vision puts human development at the forefront of national planning. It is setting the country's sights on the attainment of upper-middle income status by 2050. The vision is shaped by four pillars, each pillar is subdivided into different priority areas, reflecting the layers of Zanzibar's economy and society. The vision has five priority areas for economic transformation namely Agricultural production, Industrialization and Trade, Tourism, Blue Economy, Creative and Digital Economy, Oil and Gas and Finance and Investment. **Relevance** Technical and Vocational Education and Training (TVET) is being considered as a catalyst for industrialization and a key strategy in addressing youth employment.

Table 3-2: Summary of National Legislative and Regulatory Framework

Legislation/Regulation/ Standard	Provisions	Relevance to the Project
Environmental Management Act (2015)	The Act was established to address the environmental management priorities set in the ZEP, 2013. The Act, among other key legal powers, focuses on the implementation of the key environmental management tools namely: Environmental and Social Impact Assessment process, Environmental Audit, Strategic Environmental Assessment, Pollution Prevention and Waste Management,	The project is being implemented within Zanzibar hence it is an obligation to follow the Act. An EIA of the potential interventions should be carried out and EIA License to be acquired before the commencement of development.

	Biodiversity Conservation, Environmental Education and Research, Integrated Coastal Zone Management, Climate Change Adaptation, Non-Renewable Natural Resources, and other matters of environmental emergency. These above management instruments are supposed to be mainstreamed in all pertinent sectors and cross cutting sub-sectors targeted by the ZEP (2013) Zanzibar Environmental Management Act, No. 3 of 2015 states that: "No person shall undertake any activity which is likely to have a significant impact on the environment without an EIA Certificate issued under this Act.	
Environmental Impact Assessment - Guidelines and Procedures' of 2009	The guidelines and its annexes contain detailed guidelines on screening (methods, report contents), scoping (methods, report contents, ToR requirements), reporting (style and format), review (team, type of information, criteria), monitoring (methods, parameters, results presentation), and other relevant topics.	The Pangatupu VTC ESIA report has been prepared following these guidelines
Zanzibar Land Tenure Act, (Act No.12 of 1992)	The Act stipulates that all land within the islands of Zanzibar occupied or unoccupied is public land vested in, and at the disposition of the President, for the use and common benefit, direct or indirect, of the people of Zanzibar. Compensation is to be paid to the persons or communities concerned, the compensation shall be equal to the fair market value of the land. All affected people whose houses, properties or farm plots are to be demolished or converted should be compensated accordingly. In principle the Land Act recognizes four types of Land ownership, namely; the customary ownership, the Government -granted rights of occupancy, the inherited right and the transferred or sale right.	The ministry has acquired the site for proposed VTC from initial owners following a census and inventory of assets. The project will only commence construction when PAPs are confirmed to be compensated fully.
Regional Administration Act (2014)	The Act specifies powers and functions of the Regional, District, and Shehia Government administrators. It covers all matters related to social, economic, and environmental governance in the lower administrative units such as in the Shehia. Section 22 (1) (d) of the Act states that; • regional development committees established under this Act have been	The project will collaborate with the regional, district and Shehia administrations to implement the proposed project's social and environmental safeguards.

	given the responsibility to mobilize people to participate, contribute, and if possible, assist in the use and management of natural resources, protection of the environment for sustainable development and in all activities of national development.	
Local Government Authority Act (Act No.7 of 2014)	This Act specifies the LGA structures with their jurisdictional areas, powers and functions. It covers all matters related to the social, economic, and environmental governance within the defined boundaries of jurisdiction. On environment, the Act emphasizes the local powers of prevention and control public nuisance, maintenance of sanitation, control environmental pollution	The project proponent is obliged to comply with all the requirements of this act.
Zanzibar Constitution (1984)	Whereas the Constitution does not contain specific provisions on environmental protection, Section 13(1) affirms the right to life preservation, and Section 13(2) guarantees the right to live and to life protection by society, implicitly including the right to a safe environment. Section 17 outlines the conditions for property deprivation, allowing it only when necessary for defense, security, health, town planning, or other public interest developments, and providing fair and adequate compensation.	The project will be implemented following the constitution as proposed as it pertains to the protection of fundamental rights and individual freedoms.
Zanzibar Water Act (Act No 4 of 2006)	The act provides for an establishment of the water authority for Zanzibar which has jurisdiction over all matters pertaining to management of water. 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; advising the Government of Zanzibar in the formulation of policies related to the development and conservation of water.	The Act could be the basis of regulating water distribution issues between the project proponent's needs and the community water supply rations. This is important in avoiding any conflict between the project and the users.

The Zanzibar Forest Reserves Management and Conservation Act No. 10 of 1996	The purpose of the Act is to promote the protection, conservation, and development of forest and wildlife resources for the social, economic and environmental benefit of the present and future generations of the people of Zanzibar. The Act contains names of species which are to be protected and which are to be accorded the highest conservation and work priority.	Whereas the proposed site is not a forest reserve or near one, project construction will observe the tenets of this act.
Zanzibar Tourism Act (Act No. 6 of 2009)	The Zanzibar Tourism Act No.6 of 2009 empowers the responsible authority to implement tourism policy and master plan; promote, assist and facilitate efficient development of sustainable tourism planning; promote and develop cultural eco-tourism; preserve heritage and coordinate public-private partnership in the Zanzibar Tourism Industry.	SEBEP project objectives includes improving tourism. The project will be guided by this act during its lifecycle.
Zanzibar Investment Promotion and Protection Act (Act No. 11 of 2004)	The act stipulates fair treatment of investors. That, any investor (whether foreign or domestic) in Zanzibar will be given an equal position or treatment on issues related to investment provided that, the investor has been approved by Zanzibar Investment Promotion Authority and ready to be obey any other law and regulations of Zanzibar.	SEBEP project is part of the Blue Economy initiatives supported by this act. The implementation will follow its guidelines.
Labour Relations Act, (Act No. 1 of 2005)	The Labour Relations Act describes for the fundamental rights at the workplace. It emphasizes establishment of basic employment standards, provision of a framework for collective bargaining, and prevention and settlement of disputes and other labour related matters. Section 5 of the Act prohibits employment of children under the age of 14 years while those aged above 14 years should only be given light work which are not likely to cause harm to the child's health and development, and does not prejudice the child's attendance at school, participation in vocational orientation or training programmes approved by the competent authority or the child's capacity to benefit from the instruction received.	The project supervision team will ensure the contractor adheres to this act during the construction phase of the project. The proponent will also be guided by his act during operation phase.
Zanzibar Employment Act (Act No. 11 of 2005)	The Act applies to all employment in the private and public sectors. The Act prohibits forced labour or child labour. No employer may discriminate, directly or indirectly, against an employee, in any employment policy or practice on any ground, including	The project will be implemented under this act.

	race, gender, colour, religion, social origin or status, age, place of origin, national extraction, political opinion, marital status, pregnancy, disability, and HIV/AIDS status real or perceived The Act prohibits mandatory checks on HIV/AIDS status or any form of sexual harassment in the workplace. On employment of standards and rights, in all establishments, the normal working hours shall not exceed eight hours per day or forty-two hours per week.	
Zanzibar Occupational Safety and Health Act (Act No. 8 of 2005)	The Act empowers the OSHA Authority to enter, inspect and examine any workplace for the safety and health of workers related to any process in that workplace from physical environment, handling and storage, application of appliances and tools, use of explosive or highly inflammable materials, chemicals, or machinery, plant, or appliance and make sure that those facilities, equipment or materials are safety-compliant.	This Act is relevant to the project considering that it will involve construction activities and associated risks.
The Prevention and control of HIV/AIDS Act (Act No. 18 of 2013)	This Act focuses on the prevention, treatment, care, support and control of HIV and AIDS. Sections 8(1) and (2) of the Act describe the necessity for public, private, other actors, in collaboration with government, to ensure that HIV and AIDS education and information and instruction on HIV and AIDS prevention, control and management is shared.	The project will follow this act during implementation especially should there be need for a workers' camp or labour influx.
Zanzibar Electricity Corporation Act (2006)	The Act provides for the regulation of services related to the generation, transmission, supply, connection, and management of all electricity infrastructures in the country.	The project will require electricity power during construction and operations. It will oblige with the requirements of this act.
Road (Amendment) Act (Act No. 17 (2013)	The Act defines a Road as areas that is open to or used by public and is developed for, or has one of its main uses, the driving or riding of motor vehicles, and include any cart way, pathway, track, pedestrian, paved or unpaved and the like.	The construction and operation of the VTC requires access to roads for several purposes including the transport of building materials. Contractor will comply with this act/
Road Transport Act No.7 (2003)	The Act provides for regulation of the road vehicles including road and driver's licenses and their classification. Section 18 (1) of the Act contains provisions pertaining to environmental monitoring and standards for the vehicles' gaseous emissions, waste oils and water disposal, and other wastes.	The project will be required to use the roads for transportation but with consideration of requirements set by the Revolutionary Government of Zanzibar including vehicular registration and drivers licensing

The Workers' Compensation (Amendment) Act No. 5, 2005	The aim of Workers Compensation (Amendment) Act, 2005 is to amend the Workmen's Compensation Act No. 15 of 1996 and provide for compensation to workmen for injuries or diseases suffered in the course of their employment. The Act is a principal legislation that guides all compensation claims to employees who get injured or being affected by work related hazards and is for both employees in private and public sectors in Zanzibar.	The project will be obligated to operate under this act during construction and at operation phases.
Zanzibar Children's Act (Act No. 6 of 2011)	Part IX, section 97 of this act states; For the avoidance of doubt, no person or corporate body shall employ or engage a child in any activity that may be harmful to such child's health, education, mental, physical or moral development Section 98 (1) - A child shall have the right to work, subject to the need to promote and safeguard his best interests Section 98 (2) - For the purposes of subsection (1) of this section, the minimum age for employment or engagement in work of a child shall be 15 years and above.	The contractor will ensure compliance with this act.
The Persons with Disabilities Act (Act No. 8 of 2022)	The Act was enacted to provide provisions relating to persons with disabilities and other related matters in the jurisdiction of Zanzibar. Also, the Act provides legal requirements on mainstreaming and inclusion of issues or special needs of persons with disabilities in policies, laws, guidance, programs, and implementation of different systems.	SEBEP Project will be implemented with this act as guide to ensure equal opportunities to all groups including people with special needs.
Town and Country Decree (Cap 85), Regulations, 1994	The planning decree protect the natural and built heritage through proposing enterprise zones, designing historical or protected as well as housing areas. It directs all excavation works within conservation planning area except in the creek road area to be carried out manually.	The project will follow this regulation during construction.
Zanzibar Fire Brigade Rescue Act (Act No. 7 of 1999)	The Act empowers the fire-fighting authorities to enter and inspect premises, facilities, or any other place to ensure fire safety measures in those premises and facilities, including all standard measures against fire hazards, availability of fire hydrants, and all other safety measures aimed at saving life and property in the event of a fire calamity.	The project will be guided by this act and contractor will be requested to prepare an emergency preparedness and response plan

Zanzibar Penal Act (Act No. 6 2004)	Part of the act states that 'Ignorance of the law does not afford any excuse for any act or omission which would otherwise constitute an offence unless knowledge of the law by the offender is expressly declared to be an element of the offence.'	The project will ensure all regulations are followed in the implementation process.
The Ancient Monuments Preservation Act, (Act No. 11 of 2002)	The Act aim to protect and preserve the ancient monuments in Zanzibar. It provides for the preservation of ancient monuments and objects of archaelogical, historical or artistic interest. The Act empowers the minister responsible to declare any monument or antiquity to be a protected monument or antiquity. Furthermore, it empowers the minister to establish an authority to manage and supervise the ancient monuments or antiquity as he deems necessary. Section 8(1) allows the minister to acquire monument or antiquity for public purposes especially when the protected monument or antiquity is in danger of being destroyed, injured or allowed to fall into decay. For the purpose of protecting heritage sites the Act impose punishment, fine or imprisonment for any person who destroys, removes, injures, alters, defaces or imperils a protected monument or antiquity.	The SEBEP project will follow the requirements of this acts during construction. A 'chance find' procedure will be developed by contractor to support.

Source: Secondary data

3.4 National Air Quality Emission Standards

In undertaking the construction activities described above, the Contractor will comply with the following national regulatory air quality standards and WBG/WHO Air Emission and Ambient Air Quality guidelines, whichever is stringent. Regular monitoring to determine compliance will be done by the Supervision Consultant and corrective/ mitigation measures applied where necessary.

Table 3-3: Permissible weight concentration (Imission Limits) from the atmosphere to a receptor and respective test methods

Pollutant	Guideline	Limit Level	Test Method
Sulphur oxides, SO_x	Annual mean of 40 – 60 µg/Nm^3 (0.05-0.08 mg/kg) or 24 – hour average 100 µg/Nm^3 (0.129 mg/kg)	Daily average of hourly values shall not exceed 0.1 mg/kg 0.5 mg/Nm^3 for 10 minutes	TZS 837 Parts (1, 2, and 4).
Carbon monoxide, CO	Aims at preventing carboxyhemoglobin levels exceeding 2.5-3% in non-smoking people.	1. A maximum permitted exposure of 100mg/Nm^3 for periods not exceeding 15 minutes. 2. Time-weighed exposures at the following levels: ▪ 100 mg/Nm^3 for 15 minutes ▪ 60 mg/Nm^3 for 30 minutes; ▪ 30 mg/Nm^3 for 60 minutes ▪ 10 mg/Nm^3 for 8 hours. or Daily average of hourly values shall not exceed 10mg/kg and average of hourly values in eight consecutive hours shall not exceed 20 mg/kg.	TZS 837 Parts 1,2, and 6
Black smoke and suspended particulate matters (PM 10)	Black smoke 40 to 60 µg/Nm^3 (0.05-0.08 mg/kg) PM 10 60 to 90 µg/Nm^3 (0.05 – 0.116 mg/kg)	Daily average of hourly values shall not exceed 0.10 µg/Nm^3 and hourly values shall not exceed 0.20 µg/Nm^3	TZS 837 Parts 1, 2 and 3.
Nitrogen dioxide. NOx	Annual mean of 0.1 µg/Nm^3	150 µg/Nm^3 for 24-hours average value 120µg/Nm^3 for 8 hours	TZS 837 Part 1, 2, and 5
Lead	Annual mean of 0.5 – 1.0 µg/Nm^3	1.5µg/Nm^3 for 24 – hours average value	ISO 9855:1993
Ozone	Annual mean of 10 – 100 µg/Nm^3	120 µg/Nm^3 for 8 – hours average value	

Table 3-4: Pollutant versus Time Weighted Average

Pollutant	Time Weighted Average			
		Industrial Area	Residential, Rural & Other Areas	Controlled Areas
Ozone	1-Hour	200 µg/m	0.12 ppm	
	8-hour (Instant Peak)	120 µg/m	1.25 ppm	

Table 3-5: Pollutant Levels for Construction Sites

Pollutant	Time Weighted Average	Property Boundary
Particulate matter (PM)	Annual Average	50 µg/m^3
	24 hours	70 µg/m^3
Oxides of Nitrogen (NOX);	Annual Average	80 µg/m^3
	24 hours	150 µg/m^3
Sulphur oxides (SOX);	Annual Average	50 µg/m^3
	24 hours	125 µg/m^3
Hydrogen Sulphide	24 hours	50 µg/m^3
Lead (Pb)	Annual/24 hours	0.5 – 2.0µg/m^3
Ammonia	24 hours	100 µg/m^3

3.4.1 National Noise Emission Guidelines

In undertaking the construction activities described above, the Contractor will comply with the following national regulatory air quality standards and IFC/WBG noise level guidelines, whichever is stringent. Regular monitoring to determine compliance will be done by the Supervision Consultant and corrective/ mitigation measures applied where necessary.

Table 3-6: National Noise Guidelines

FACILITY		NOISE LIMITS dBA (Leq)	
		DAY	NIGHT
A.	Any building used as hospital, convalescence home, home for the aged, sanatorium and institutes of higher learning, conference rooms, public library, environmental or recreational sites.	45	35
B.	Residential building	50	35
C.	Mixed residential (with some commercial and entertainment)	55	45
D.	Residential and industry small–scale production and commerce	60	50
E.	Industrial area	70	60

Table 3-7: Noise Levels for construction sites

Facility	Maximum Noise level limits dB (A)		Time Frame
	Day	Night	
Hospital, schools, Institutions of higher learning, homes for the disabled, etc	60	50	Day time: 6.01am-10.00pm Night time: 10.01pm – 6.00am
Buildings other than those described above	75	65	

Table 3-8: Noise levels from a factory or a workshop (Continuous or intermittent noise)

dB(A)	Daily	Weekly
85	8 hours	40 hours
88	4 hours	20 hours
91	2 hours	10 hours
94	1 minute	5 hours
97	30 minutes	2.5 hours
100	15 minutes	1.25 hours
103	7.5	37.5 minutes
106	3.75	18.75 minutes
109	1.875 minutes	9.375 minutes

N/B: Noise levels should not exceed a level of Factory/Workshops 85 dB (A) Offices 50 dB (A) Factory/Workshop Compound 75 dB (A).

3.5 National Water Quality Standards

In supplying water to the proposed Pangatupu Vocational Training Centre, ZAWA will comply with the following national regulatory drinking water quality standards and WBG water quality guidelines, whichever is stringent. Regular monitoring to determine compliance will be done by ZAWA and corrective/ mitigation measures applied where necessary.

Table 3-9: National Drinking Water Quality Standards

Group	No. Substance	Unit	Lower limit	Upper Limit
	Lead (Pb)	mg/L	-	0.1
	Arsenic (As)	mg/L	-	0.05
	Selenium (Se)	mg/L	-	0.05
	Chromium (6+) (Cr)	mg/L	-	0.05
Toxic	Cyanide (CN)	mg/L	-	0.20
	Cadnium (Cd)	mg/L	-	0.05
	Barium (Ba)	mg/L	-	1.0
	Mercury (Hg)	mg/L	-	0.001
	Silver (Ag)	mg/L	-	n.m
Affecting	Fluoride (F)	mg/L	1.5	4.0
Group	No. Substance	Unit	Lower limit	Upper Limit

Human Health	Nitrate (N03)	mg/L	10.0	75.0
	1. Colour	TCU	1.5	50
	2. Turbidity	NTU	5	25
Organoleptic	3. Taste	-	n.o	-
	4. Odour	-	n.o	-
	1. pH		6.5	9.2
	2. Total Filterable Residue	mg/L	500	2000
	3. Total Hardness	mg/L	500	600
	(CaC03)	mg/L	75	300
Salinity and	4. Calcium Ca	mg/L	50	100
Hardness	5. Magnesium Mg	mg/L	500	1000
	6. Magnesium + Sodium	mg/L	200	600
	S04	mg/L	200	800
	7. Sulphate S04			
	8. Chloride CI			
Less Toxic Metals	1. Iron Fe 2. Manganese Mn	mg/L mg/L	0.3 0.1	1.0 0.5
	3. Copper Cu	mg/L	1.0	3.0
	4. Zinc Zn	mg/L	5.0	15.0
	BOD (5 days at 30°C) PV (Oxygen abs KMN04) Ammonium, (NH3 + NH4+) Total Nitrogen (Excluding N03)	mg/L	6.0	6.0
Organic Pollution of		mg/L	10	20
Natural Origin		mg/L	2.0	2.0
Group	No. Substance	Unit	Lower limit	Upper Limit
Introduced Artificially	Organic Matter (as carbon in Chloroform extract) Phenolic Substances (As Phenol)	mg/L	0.5	0.5
		mg/L	0.002	0.002

Note:
n.o - not objectionable
n.m - not mentioned

3.6 Applicable AfDB Integrated Safeguards Standards

Projects that are receive financial and technical support from the AfDB must undergo environmental and social impacts screening as per the Bank's Environmental and Social Safeguards Policy. In 2013 the AfDB adopted an Integrated Safeguards System (ISS), which established the Bank Group's commitment to sustainable development and has been designed to address environmental and social impacts anticipated from the implementation of development projects. Further, significant updates and revisions to safeguards frameworks have been carried out by AfDB, in order to converge with the safeguards of the other Multilateral Financial Institutions (MFIs) in line with the aim for greater harmonization amongst development partners. The current Integrated Safeguards System (ISS), updated in April 2023, comprises:

-
- The AfDB Group's Vision for Sustainable Development, which sets out the Bank Group's approach and aspirations regarding environmental and social sustainability.
- The AfDB Group's Environmental and Social Policy that sets out the Bank's commitments and the relevant principles and requirements that the Bank must follow regarding projects, activities and initiatives that it supports.
- Ten (10) Environmental and Social Operational Safeguards (OS), together with supporting Annexes, which set out the mandatory requirements that apply to the projects, activities and initiatives of Borrowers.
- Environmental and Social Guidance Notes (ISS Guidance notes) are tools which provide technical guidance for the Bank and its Borrowers on specific methodological approaches, Good International Industry Practice (GIIP) and standards relevant to meeting the requirements of the Operational Safeguards.

The Ten E&S Operational Safeguards (OS) set out the requirements for Borrowers relating to the identification and assessment of environmental and social risks and impacts associated with projects, activities and initiatives supported through Bank financing throughout the life cycle of operations. The E&S Operational Safeguards will support Borrowers:

- In achieving good international practice relating to environmental and social sustainability;
- In fulfilling their national and international environmental and social obligations;
- Enhance non-discrimination, transparency, participation, accountability and governance; and
- Enhance the sustainable development outcomes of projects, activities and other initiatives through ongoing stakeholder engagement.

The AfDB's Environmental and Social (E&S) Operational Safeguards are the following:

- E&S Operational Safeguard 1 (OS1): Assessment and Management of Environmental and Social Risks and Impacts;
- E&S Operational Safeguard 2 (OS2): Labour and Working Conditions;
- E&S Operational Safeguard 3 (OS3): Resource Efficiency and Pollution Prevention and Management;

- E&S Operational Safeguard 4 (OS4): Community Health, Safety and Security;
- E&S Operational Safeguard 5 (OS5): Land Acquisition, Restrictions on Access to Land and Land Use, and Involuntary Resettlement;
- E&S Operational Safeguard 6 (OS6): Habitat and Biodiversity Conservation and Sustainable Management of Living Natural Resources;
- E&S Operational Safeguard 7 (OS7): Vulnerable Groups;
- E&S Operational Safeguard 8 (OS8): Cultural Heritage;
- E&S Operational Safeguard 9 (OS9): Financial Intermediaries;
- E&S Operational Safeguard 10 (OS10): Stakeholder Engagement and Information Disclosure.

Table 3-10: AfDB's ISS OS and their applicability to the project

Performance Standard	Scope and Triggers	Applicable to Project
OS1-Assessment and Management of Environmental and Social Risks and Impacts	OS 1 establishes the importance of: (i) integrated assessment to identify the environmental and social impacts, risks and opportunities of projects (ii) effective community engagement through disclosure of project-related information and consultation with local communities on matters that directly affect them; and (iii) the client's management of social and environmental performance throughout the life of the project.	Yes
OS2-Labor and Working Conditions	OS2 recognizes the need for economic development to be balanced with workers' rights. OS2 aims to: establish, maintain, and improve the worker- management relationship; promote the equal opportunity of workers, and compliance with national labor and employment laws; protect the workforceby addressing child labor and forced labor; protect vulnerable workers; and promote safe and healthy working conditions and the health of workers.	Yes
OS3–Resource Efficiency and PollutionPrevention	OS3 recognizes that economic activity and urbanization often generate increased levels of pollution to air, water, and land, and consume finite resources in a manner that may threaten people and the environment at thelocal, regional, and global levels. OS3 aims to: avoid or minimize adverse impacts on human health and the environment by avoiding or minimizing pollution from project activities; promote more sustainable use of resources including energy and water; and reduce project-related emissions that contribute to climate change.	Yes
OS4–Community Health, Safety and Security	OS4 recognizes that project activities, equipment, and infrastructure can increase community exposure to risks and impacts. OS4 aims to: anticipateand avoid adverse impacts on the health and safety of the affected community during the project life cycle; and ensure that the safeguarding ofpersonnel and property avoids or minimizes risks to the community's safetyand security.	Yes

OS5–Land Acquisitionand Involuntary Resettlement	OS5 recognizes that project-related land acquisition and restrictions on land use can have adverse impacts on communities and persons who use this land. OS5 aims to: avoid or at least minimize involuntary resettlement wherever feasible by exploring alternative project designs; mitigate adversesocial and economic impacts from land acquisition by (i) providing compensation for loss of assets and (ii) ensuring that resettlement activitiesare implemented with appropriate consultation and disclosure; and improveor at least restore the livelihoods, standards of living and living conditions of displaced persons. *The proposed project site has been acquired by MoEVT after compensating initial owners.*	No.
OS6–Biodiversity Conservation and Sustainable Management of LivingNatural Resources	OS6 encourages sustainable development while recognizing that the protection and conservation of biodiversity and sustainably managing living natural resources are fundamental to sustainable development. OS6 aims to:protect and conserve biodiversity; maintain the benefits from ecosystem services; and promote the sustainable management and use of natural resources through practices that integrate conservation and development.	Yes
OS7 - Indigenous Peoples	OS7 aims to: ensure that the development process fosters full respect for Indigenous Peoples; anticipate and avoid, minimize, or compensate adverse impacts of projects on Indigenous Peoples and provide opportunities for development benefits; establish and maintain an ongoing relationship with affected Indigenous Peoples throughout the life of the project; ensure free, prior and informed consent of Indigenous Peoples; and respect and preserve their culture, knowledge and practices.	No
OS8 - Cultural Heritage	OS8 recognizes the importance of cultural heritage for current and future generations. OS8 aims to: protect cultural heritage from the adverse impacts of project activities; support its preservation; and promote equitable sharing of benefits from cultural heritage. *No cultural heritage has been identified in the proposed project site, however a "Chance Find Procedure Protocol" is annexed to this report*	No
OS10 – Stakeholder Engagement and Information Disclosure.	The aim of OS10 is to establish a systematic approach to stakeholder engagement that will help project implementer identify stakeholders, and build and maintain a constructive relationship and channels of communication with them, in particular project-affected parties.	Yes

Source: Based on AfDB OS

3.7 Other Good International Industry Practice Guidelines

Good international industry practice (GIIP) is part of the IFC PS. GIIP is defined as the exercise of professional skill, diligence, prudence, and foresight that would reasonably be expected from skilled and experienced professionals engaged in the same type of undertaking under the same or similar circumstances globally or regionally. Key GIIP guidance which has been considered as part of this ESIA assignment and documentation:

- IFC Good Practice Guidebook on Stakeholder Engagement
- IFC Good Practice Note on Addressing Grievances from Project Affected Communities
- IFC Good Practice Note on Addressing Child Labor in the Workplace and Supply Chain
- IFC Good Practice Note on Addressing the Social Dimensions of Private Sector Projects
- IFC Good Practice Note on HIV/AIDS in the Workplace
- IFC and EBRD Good Practice Note on Workers Accommodation
- IFC Projects and People – A Handbook for Addressing Project-Induced In-Migration
- IFC Environmental and Social Management System Implementation Handbook
- IFC Doing Better Business Through Effective Public Consultation: A Good Practice Manual
- UN Voluntary Principles on Security and Human Rights
- ILO Declaration on Fundamental Principles and Rights at Work
- WHO's air quality guidelines, noise guidelines; and drinking water quality guidelines.

3.8 International Conventions

Relevant international agreements, treaties, and conventions that have a social and/or environmental aspect, to which Zanzibar is a signatory or has acceded to/ratified and which will guide project implementation, are detailed in Table 3-11 below:

Table 3-11: International Conventions

Convention	Relevance
African Convention for the Conservation of Nature and Natural Resources (2003)	Objective: To encourage conservation, utilization and development of soil, water, flora and fauna for the present and future welfare of mankind, from an economic, nutritional, scientific, educational, cultural and aesthetic point of view. The project will adopt the measures necessary to ensure conservation, utilization and development of soil, water, floral and faunal resources in accordance with scientific principles and with due regard to the best interest of the people.
Convention on Biological Diversity (1992)	Objective: The convention has three main objectives: (1) To conserve biological diversity; (2) To sustainably use the components of biological diversity, and (3) To provide fair and equitable access to the benefits of using genetic resources. The project is committed to promoting the objectives of the CBD in every stage of the project implementation.
Convention on the Conservation of Migratory Species of Wild Animals	Objective: Conservation of migratory species of wild animals and their habitats throughout their entire range. Species that are endangered are granted the highest degree of protection.

	This ESIA has considered and mitigate any potential impacts on migratory species.
Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).	Objective is to ensure that international trade (import/export) in specimens of animals and plants included under CITES does not threaten the survival of the species in the wild.
Convention on Wetlands of International Importance especially Waterfowl Habitat (Ramsar Convention, 1971)	Objective: Conservation and wise use of all wetlands. As defined by the convention, wetlands include a wide variety of habitats such as marshes, peatlands, floodplains, rivers and lakes, and coastal areas such as saltmarshes, mangroves, seagrass beds, coral reefs and other marine areas no deeper than six-meters at low tide, as well as human-made wetlands such as waste-water treatment ponds and reservoirs. This ESIA has considered any potential impacts on wetlands as defined by the Ramsar Convention.
Basel Convention on Hazardous Waste (1989)	Objective: To minimize the movements of hazardous waste between nations, and specifically to prevent transport of toxic waste from developed to less developed countries. The project does not anticipate that there will be hazardous waste generated that will be transported or received from a different country. To the extent there is any transfer of hazardous waste, the project will ensure that it complies with the Basel Convention.
Bamako Convention (1991)	Objective: To strictly regulate the transboundary movement of hazardous wastes to and within Africa. Like the Basel Convention, the project does not anticipate that there will be hazardous waste generated that will be transported or received from a different country. To the extent there is any transfer of hazardous waste, the project will ensure that it complies with the Bamako Convention.
Convention concerning the Protection of the World Cultural and Natural Heritage (1972).	Objective: To identify, conserve and protect international cultural and natural heritage sites, especially those that have been determined to possess outstanding universal value. By applying international standards such as World Bank regarding Physical Cultural Resources to any identification and management of cultural heritage aspects during project development, the project will comply with the objectives of the convention. A Chance Finds Procedure has been developed for this project.
United Nations Framework Convention on Climate Change (UNFCCC), 1992	The ultimate objective of this Convention is to achieve, in accordance with the relevant provisions of the Convention, stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system.
Kyoto Protocol to the United Nations Framework Convention on Climate Change, December 1997	the Kyoto Protocol operationalizes the United Nations Framework Convention on Climate Change by committing industrialized countries and economies in transition to limit and reduce greenhouse gases (GHG) emissions in accordance with agreed individual targets. The Convention itself only asks those countries to adopt policies and measures on mitigation and to report periodically.

Abolition of Forced Labour Convention, 1957 (No. 105)	Objective: To suppress the use of forced or compulsory labour independent of the sector or type of work. And to ensure that the use of forced labour is punishable as a criminal offense and that penalties are adequate and strictly enforced. The use of forced or compulsory labour is prohibited in every stage of the project. The project human resource (HR) policies and procedures are developed and implemented to ensure that there is no use of forced, compulsory or coerced labour including compliance with Zanzibar employment laws.
ILO Minimum Age Convention, 1973 (No. 138)	Objective: To regulate the use of child labour by requiring Parties to set a minimum age for admission to employment or work to a level consistent with the fullest physical and mental development of young persons. The project will ensure that employment policies include prohibitions on the employment of children below 14 years and that there is strict adherence to such policies.
ILO Worst Forms of Child Labour Convention, 1999(No. 182)	Objective: To eliminate the worst forms of child labour, including slavery, forced labour and trafficking in human beings. The project will ensure that employment policies include prohibitions on the employment of children. The project will further undertake due diligence to identify and assess risks, including the worst forms of child labour in its supply chains.
ILO Freedom of Association and Protection of the Right to Organize Convention, 1948 (No. 87)	Objective: To protect the rights of employees and employers to establish and join an organization of their choice without prior authorization. The project will ensure that workers' freedom of association and right to organize is protected and will not be interfered with. Workers will not be punished or reprimanded to organize and associate as they choose.
ILO Discrimination (Employment and Occupation) Convention, 1958 (No. 111)	Objective: Requires Parties to enact legislation that prohibits all discrimination and exclusion on any basis including race, colour, sex, religion, political opinion, national or social origin and repeal legislation that is not based on equal opportunities. The project will ensure that there is no discrimination or exclusion, and everyone is guaranteed an equal opportunity in employment.
International Convention on the Elimination of All Forms of Racial Discrimination: 1969.	Objective: To eliminate all forms of racial discrimination and to promote understanding amongst all races. The project will ensure that all workplace racial discrimination is expressly forbidden. All workers will be educated on racial biases and discrimination to ensure compliance with the convention.
Convention on the Elimination of All Forms of Discrimination against Women :1981 (CEDAW)	Objective: To eliminate discrimination against women and girls in all areas and to promote women's and girl's equal rights. The project will ensure that women and girls are not discriminated. The HR policies and practices for the project will forbid any discrimination against women and girls and

	workers will be educated on workplace discrimination against women and girls.
Convention on the Rights of the Child, 1990	Objective: Aims to protect the rights of children worldwide. And defines a child as any human being under the age of 18. It calls on Parties to take appropriate measures to protect the human rights of children. The project will ensure that employment policies include prohibitions on the employment of children in accordance with the employment laws of Zanzibar.
Convention against Torture and Other Cruel, Inhuman or Degrading Treatment or Punishment:1987	Objective: Obligates Parties to the treaty to prohibit and prevent torture and cruel, inhuman or degrading treatment or punishment in all circumstances. The project shall ensure that torture in all workplaces is expressly forbidden.
International Covenant on Economic, Social and Cultural Rights, 1976	Objective: to protect and ensure the enjoyment of economic, social, and cultural rights, including the rights to: education, fair and just working conditions, adequate standard of living, the highest attainable standard of health, and social security. The project will ensure that economic, social, and cultural rights are respected in the implementation.
International Covenant on Civil and Political Rights,1976	Objective: To protect and preserve civil and political rights such as the right to life and human dignity, equality before the law, freedom of speech, assembly and association religious freedom, freedom from torture, ill treatment, and arbitrary detention, gender equality, the right to a fair trial, and minority rights. The project will ensure that all civil and political rights are observed and honored during implementation.
Convention on the Rights of Persons with Disabilities	Objective: To promote and protect the rights and dignity of people with disabilities and ensure that persons with disabilities enjoy full equality under the law. The project is committed to ensuring that there is no discrimination of persons with disabilities in the workplace. The project will also comply with the legal framework for persons with disabilities and will provide any reasonable accommodation to persons with disabilities who are employed by the project.
The African Charter on Human and Peoples' Rights (African Charter)	Objective: To promote and protect human rights and basic freedoms in the African continent. The project will ensure that civil, political and human rights are observed in the implementation.
The African Charter on the Rights and Welfare of the Child	Objective: To promote and protect the rights of children in Africa by setting values underlying the protection of the rights and welfare of children in Africa, and provides for the entitlements of children, the responsibility of children and the duties of African countries to make these entitlements and protections a reality. The project will ensure that the rights of children as provided in the Charter are honored and that no use of child labor is allowed.

The Protocol to the African Charter on the Rights of Women in Africa (Maputo Protocol)	Objective: To protect and promote women rights including the right to political participation, social and political equality with men, improved autonomy in their reproductive health decisions, and an end to child marriage and female genital mutilation. The project will safeguard women rights and will ensure that the rights are observed in the course of project implementation.

3.9 Governance and Administrative Structure

3.9.1 Zanzibar Environment Management Authority

The Environmental Management Act, 2015 gives ZEMA overall responsibility for screening (decide on appropriate level of the impact assessment), undertaking scoping in collaboration with project proponent and reviewing ESIA report of projects. ZEMA has the authority to ensure compliance, review ESIA reports, and coordinate environmental matters. ZEMA approves the ESIA report for its adequacy and issues ESIA certificate. ZEMA has also a function of providing directives as the Environmental Regulator on the proper action to be taken for the effective environmental management in Zanzibar. It oversees enforcement, compliance, review and monitoring of environmental impact assessment, among other functions. The Authority is responsible for ensuring that the ESIA meets all legal requirements.

3.9.2 The National Environmental Advisory Committee

This Act provides for the establishment, mandate and functions of an Environmental Advisory Committee (EAC). This inter-ministerial committee, comprising as a minimum: representatives from institutions such as those responsible for non-renewable natural resources, local government, disaster management, public health and law, as well as the Zanzibar Chamber of Commerce, Industry and Agriculture. The aim of the EAC is to advise the Minister (responsible for the environment) regarding policies, strategies and environmental management plans, as well as to mediate and resolve any disputes between government institutions, private enterprises and the public on environmental matters.

3.9.3 Development Control Unit (DCU)

The DCU is a governmental institution, under the Ministry of Lands, Housing, Water and Energy responsible for enforcing the implementation of Land Use Plan, and Local Planning Schemes; managing development in all planned areas (in any site or heritage areas) in Zanzibar; issuing building permit.

3.9.4 Directorate of Occupational Health and Safety Services

The institution will be task for registration of the construction site as a workplace and enforcing compliance with Occupational Health and Safety Regulations at the construction site.

3.9.5 Zanzibar Utilities Regulatory Authority

ZURA is responsible for among others, licensing, tariff review, monitoring performance and standards with regards to quality, safety, health and environment. With regard to this

project, it will be ZURA's responsibility to issue permit to the contractor for extraction of stone, aggregates, sand and gravel for construction.

3.9.6 Ministry of Lands and Housing Development

The Ministry of Lands and Housing Development is responsible for policy, regulation and coordination of matters pertaining to land and housing in Zanzibar. The Ministry has the following responsibilities:

- Administers the various land acts,
- Conducts Land use planning, management and land delivery activities
- The land surveying and demarcation/parcel/farms, and provision of land ownership and tenancy in both rural and urban areas.

The Land Commission administers most issues related to land allocation, acquisition, registration and land management. Pangatupu VTC project has been allocated land registered under the MoEVT.

3.9.7 District Administration

Kaskazini 'B' District Director is the leader of the Local Government Authority (LGA) while District Commissioner (DC) who is assisted by District Administrative Secretary (DAS) heads the Central Government. The District Commissioner's Office has 12 departments namely; agriculture, health, education, planning, forestry, sports and culture, livestock, fishery, social welfare, water, construction and nutrition. The project will consult with the district administration during project implementation.

3.9.8 Shehia

Shehia is lowest level of administration in Zanzibar headed by Sheha. Shehia is responsible for all matters including law enforcement in the area and reports directly to the district commissioner (DC). Each Sheha has an advisory committee of not less than 12 members, a third of whom are required to be 60 years or above; and Committees on different issues including environment. During implementation of Pangatupu Vocational Training Centre, Sheha will play an important role on disseminating information to the community and community engagement in general. Sheha will also be used as starting point for PAPs to file grievance related to the project.

3.9.9 Ministry of Education and Vocational Training

Ministry of Education and Vocational Training through Project Implementation Unit (PIU) is responsible for the overall management of SEBEP. It provides overall coordination and technical support to all participating institutions. The MoEVT has established a dedicated Project Implementation Team consisting of various specialists for the implementation (including monitoring implementation of ESIA/ ESMP). PIU and respective contractors will be responsible for coordinating and monitoring implementation of ESMP.

3.10 Environmental and Social Management and Permitting

The table below identifies various permits and licenses required for carrying out the proposed project and its operations and maintenance during the life of the project.

Table 3-12: Permits and Licenses required by project

Project phase	Permits, approvals, and charges required	Type of Permit	Relevant Legislation	Issuing Authority
Pre — Construction	Building Permit	Building Permit	Land Tenure Act No12 of 1992 (As amended various times)	Commission for Lands
Environmental and Social Assessment and Approval	Registered/Certified Expert (for undertaking ESIA& Audit)	EIA Expert Recognition	Environmental Management Act No.3 of 2015	Registered/Certified Expert (for undertaking ESIA& Audit)
	Environmental approval for new development projects	EIA Certificate	Environmental Management Act No.3 of 2015. This is backed up by the established ESIA Guidelines and Procedures of 2009	Zanzibar Environmental Management Authority (ZEMA)
Operations Outputs	Emissions into the air	Air Quality Standards	Environmental Management Act No.3 of 2015.	Zanzibar Environmental Management Authority (ZEMA)
	Effluent (wastewater) discharge	Water Quality Standards	Environmental Management Act No.3 of 2015.	Effluent (wastewater) discharge
	Construction debris and Solid waste disposal	Collection, transport and permits. Disposal	• Zanzibar Regional Administration Act No.8. of 2014. • LocalGovernmentAuthorityActNo.7of2014	Zanzibar Municipal Council District, Local Councils.
	Disposal of hazardous substances	Hazardous Waste Disposal Permit.	Environmental Management Act No.3 of 2015	Zanzibar Environmental Management Authority (ZEMA)
	Noise emissions	Environmental Standards Emission on Noise	Environmental Management Act No.3 of 2015	Zanzibar Environmental Management Authority (ZEMA).

	Waste oil collection, transportation and disposal	Waste Oil Collection Permit	Environmental Management Act No.3 of 2015	Zanzibar Environmental Management Authority (ZEMA)
	Sludge collection, transportation and disposal	Sludge Collection Permit	Local Government Authority Act No.7 of 2014	➢ Zanzibar Environmental Management Authority (ZEMA) ➢ Municipality
	Leakage of hazardous substances or chemicals spills on site	Approval of remediation measures and emergency plans.	• Environmental Management Act No.3 of 2015 • Disaster Risk Reduction and Management Act No.1 of 2015 • Fire Brigade and Rescue Act No.7 of 1999	i. ZEMA ii. Disaster Management Commission iii. Fire Brigade and Rescue Department
	Felling of higher trees on site.	Approval from Forestry Institution	The Forest Resources Management and Conservation Act. No.10/1996	Department of Forestry and Non-Renewable Natural Resources
	Quarry pit sand harvesting of Non-Renewable Natural Resources.	The permit from the Department of Forestry and Permit from the Local Council Permit from ZURA	• The Forest Resources Management and Conservation Act, No.10/1996. • The Sustainable Utilization of Non-Renewable Natural Resources Regulations of 2011 • Zanzibar Regional Administration Act No. 8. Of 2014. • Local Government AuthorityActNo.7 of 2014	➢ Department of Forestry and Non-Renewable Natural Resources ➢ Halmashauri
	Labour Standards and Conditions	Work and Labour Permits	• Zanzibar Employment Act No.11(2005) • Workers' Compensation Act (2005)	Labour Commission

3.10.1 Environmental Impact Assessment

Zanzibar's Environmental Management Act No.3 of 2015 deals with environmental and social impact assessment. Under this Act, any building work requires an environmental impact assessment license. Part IX, Section 39 of the Act states that: "A person shall not carry out or cause to be carried out; any activity which is likely to have significant impact on the environment and society without Environmental Impact Assessment Certificate issued by the Authority under this Act."

As per the definition of the term "environment" in the Act, the scope of an environmental impact assessment extends beyond environmental considerations and includes considerations of social, cultural, and economic impacts of a proposed project. Therefore, the term ordinarily adopted to describe the assessment is **environmental and social impact assessment** (ESIA).

Additionally, the assessment should consider not just potentially negative impacts, but also possible positive benefits of a proposed project. For instance, increased employment opportunities that a proposed project is likely to offer or the potential of the project to address an existing socio-economic problem. Therefore, the assessment should be wholistic in scope assessing both benefits and potentially negative impacts.

Under Section 41, the statutory responsibility to secure an ESIA license for the project is on the "project proponent." The ESIA is required to provide measures to mitigate potential adverse impacts of the project that have been identified in the study in a mitigation plan annexed to the study report.

Implementation of the mitigation measures outlined in an ESIA plan is an ongoing activity, undertaken throughout the life of the project, and often extending into the operational phase of the project. The project proponent will also be obligated to **undertake environmental audits** on a regular basis as required by Part IX, section 46 of the ESIA regulations.

ESIA studies may only be undertaken by qualified environmental experts registered with Zanzibar Environmental Management Authority (ZEMA).

The process of securing an EIA license involves public participation. Therefore, the project proponent is required to undertake public consultations, including by advertising in the local media and inviting comments.

ESIA studies are site-specific. Indeed, a copy of the title deed of the plot of land is part of the documents annexed to this ESIA study report. The ESIA license, when issued, is also specific to a plot of land, and indicates the land reference number of the plot of land on which the development is to be implemented.

4 ENVIRONMENTAL AND SOCIAL BASELINE

This chapter provides a description of the current baseline conditions in the Project Area of Influence (AoI). The baseline characteristics of the biophysical and socio-economic conditions are used as the basis of prediction of possible effects and to monitor changes during construction and operation.

4.1 Overview of Field Survey

A baseline study defines the 'pre-implementation exposure' condition for the set of indicators that will be used to assess impacts of construction activities in the area. When compared with the condition of the same indicators at some point during and post-implementation, the baseline study forms the basis for a 'before and after' or 'change over time' assessment. Without baseline, data to establish pre-operation conditions for outcome and impact indicators it is difficult to establish whether change at the outcome level has in fact occurred.

4.2 Bio-Physical Baseline Studies

Under the scope of the biophysical components, field visits were undertaken in order to survey the baseline conditions and identify the main potential impacts of the mentioned project. In order to better systematize the data collection and subsequent analysis, in view of the description of the ecosystems to be crossed and vulnerability and accessibility, all sections of the site were assessed. Before the survey, a literature review was undertaken on the vegetation cover of the area under assessment, this information was used as a basis for the fieldwork. After the desktop analysis, field visits were held in order to collect data for ground-truthing.

4.3 Social Baseline Studies

The main sources of data are:

- The 2022 Population and Housing Census. Most of the data reported for the socioeconomic baseline is from this source.
- Community socioeconomic survey conducted.
- Community consultations conducted on 12/02/2025.

As such, the socioeconomic information presented in the baseline focuses to the extent possible on the Study Area based on a combination of data collected during the field visits and additional secondary sources. Information is provided at a higher level (region and national) as applicable when local level information is not available or when the general information applies at the local level. It should be noted that specific information relative to land affected households (land ownership status, asset inventories, etc.) was not included in the scope of the ESIA fieldwork. This information has been collected as part of the compensation preparation process.

4.4 Kaskazini "B" District, North Region

4.4.1 Administrative Location and Size

Zanzibar is an archipelago formed by two main islands, Unguja (also called Zanzibar) and Pemba, plus several smaller islands. It is a semi-autonomous region of Tanzania, a major African country just south of the Equator.

The proposed project is located in Kaskazini "B" district in the North region, Unguja, Zanzibar. Kaskazini "B" district covers an area of 234.4 Km^2. Kaskazini "B" district lies between latitudes 5°50'00" and 6°0'00" South of the Equator and between longitudes 39° 20'00'' East of Greenwich Meridian. The proposed project site is located in Pangatupu area of Kaskazini "B" district.

The district is divided into 8 wards which are further divided into 32 Shehias. Pangatupu is located in Kidanzini Shehia. The shehia shares borders with Makoba, Mahonda, Zingwezingwe and Mangapwani shehias. Figures 5-1 and 5-2 below depict the project area and administrative units.

Figure 4-1: Map of Kaskazini "B" district within Zanzibar

Figure 4-2: Administrative units of Zanzibar
Source: Consultant

Table 4-1: Wards Kaskazini "B" District

Misufini
Vijibweni
Mkataleni
Kiwengwa
Mbaleni
Fujoni
Mahonda
Mafufuni

Table 4-2: Shehia in Kaskazini "B" District

1. Donge Mchagani	2. Fujoni	3. Kiwengwa	4. Muwanda
5. Donge Karange	6. Kidazini	7. Kwagube	8. Njia ya Mtoni
9. Donge Kipange	10. Kinduni	11. Mbaleni	12. Pangeni
13. Donge Mbiji	14. Kiombamvua	15. Mafufuni	16. Upenja
17. Donge Mnyimb	18. Kilombero	19. Mgambo	20. Zingwezingwe
21. Donge Mtambile	22. Kiongwe Kidogo	23. Misufini	24. Mahonda
25. Donge Vijibweni	26. Kinduni	27. Mkadini	28. Mgambo
29. Majenzi	30. Makoba	31. Mkadini	32. Zingwezingwe
33. Mkataleni	34. Mangapwani		

4.5 Biophysical Baseline

4.5.1 Climatic Conditions

Unguja Island's climate is tropical and mainly oceanic, predominantly warm and humid. The island has over 2,000 hours of sunshine per year with annual mean temperatures ranging from 25°C to 29°C. The maximum annual temperature variation is 19°C to 30°C. Lower temperatures occur between June and August and the higher temperatures between December and February. The relative humidity is high, with a monthly average ranging from 76% in November (Vuli) to 87% in April (Masika), and a minimum at 60% during the dry season. With 80% humidity, daily temperatures can be as high as 40°C particularly at night when the land experience hot breezes. Unguja receives between 1000 and 2200 mm of rainfall per year. Rainfall is strongly seasonal, typically with dry and hot weather during January and February, heavy rains from March to May, a dry season during June to September and light rains during October to December. The average monthly precipitation ranges from 30 mm to 300 mm.

The length of the day in Zanzibar does not vary substantially over the course of the year, staying within 29 minutes of 12 hours throughout. In 2025, the shortest day is June 21, with 11 hours, 46 minutes of daylight; the longest day is December 21, with 12 hours, 29 minutes of daylight.

The project is not likely to contribute much to climate change effects, due to the project site is location. However, the project will utilize climate change information in the design of building structures. The project will also contribute to the reduction of GHG emissions by prohibiting the use of ozone depleting substances during construction and operation.

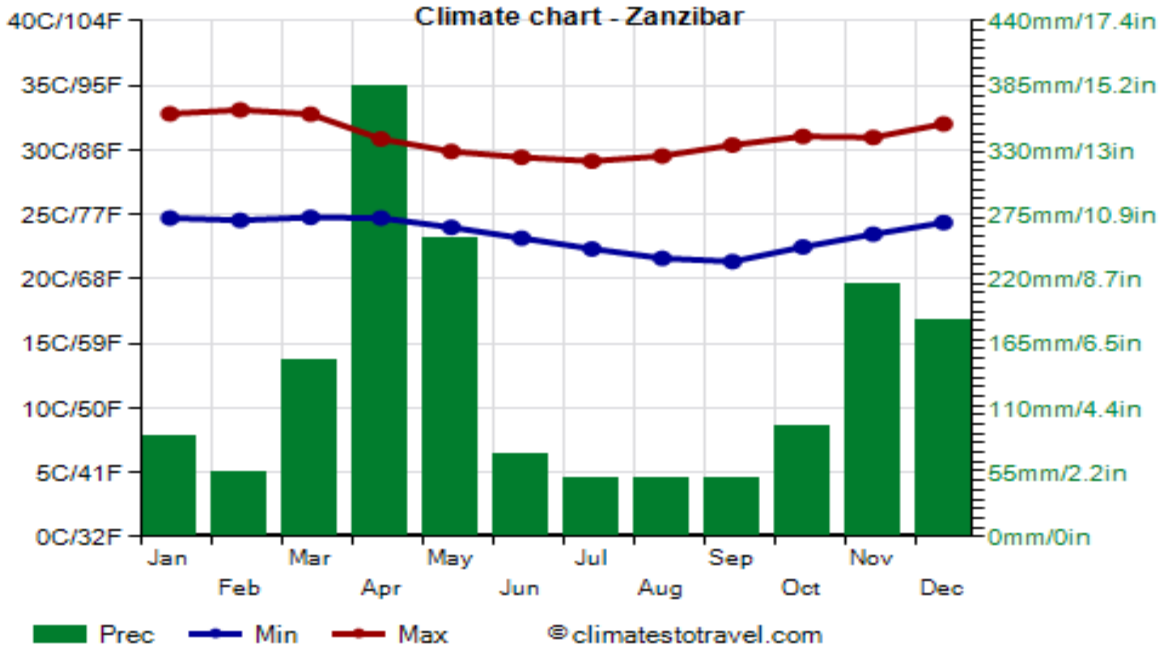

Figure 4-3: Zanzibar Temperature and Rainfall
Source: climatestotravel.com

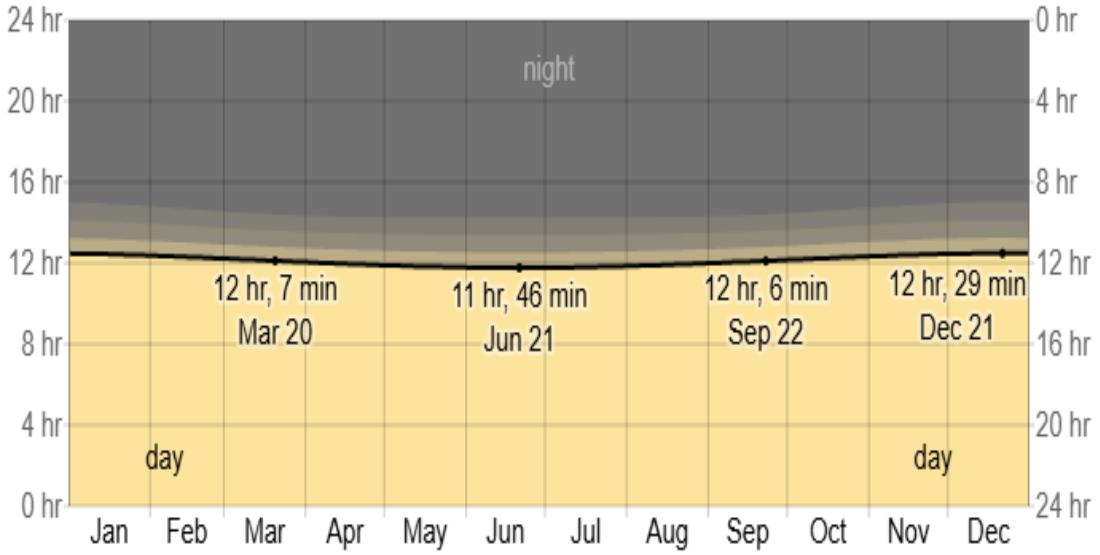

Figure 4-4: Sunshine hours
Source: WeatherSpark

The general location of the proposed vocational training centre is sparsely populated. However, the site is in close proximity to two (2) sensitive receptors i.e., Pangatupu primary school and Pangatupu district hospital that are approximately 200 metres to away from the site. These receptors may be adversely affected by the air and noise emissions from the project.

Table 4-3 below shows the ambient noise levels in the project area of influence based on emission measurements undertaken as part of the ESIA study.

Table 4-3: Ambient Noise Levels

Location	GPS Coordinates	Proxy	Time	LAEq	LAMax	LAMin
Project Site	5°58'33.9''S 39°13'25.0''E	MP1	16.00hrs	28.4	39.7	32
Sunlight		Sunny				
Precipitation		None				
Wind		15 km/h				
Temperature		28 Degrees Celsius				
Date		12th February 2023				
Duration of Measurements		1hour				

Source: Field Data

4.5.2 Soils and Topography

Soils in Zanzibar are categorized into two main classes: the shallow, infertile, rocky coral rag soils in the east, and the deep, fertile soils in the west. In the coral rag, shifting cultivation is the dominant farming system, whereas the deep soils support permanent agriculture and plantation crops.

The soils in the project area are categorized as Sand-silt (Kichanga) and Coraline Limestones (Maweni) soils. Kichanga and Maweni soil is in the coralline limestone that forms the

extensive eastern and southern parts of the island. This soil covers more than 40% of arable land and supports traditional shifting cultivation. The site is generally flat.

Figure 4-5: Soils in the project site
Source: Field data

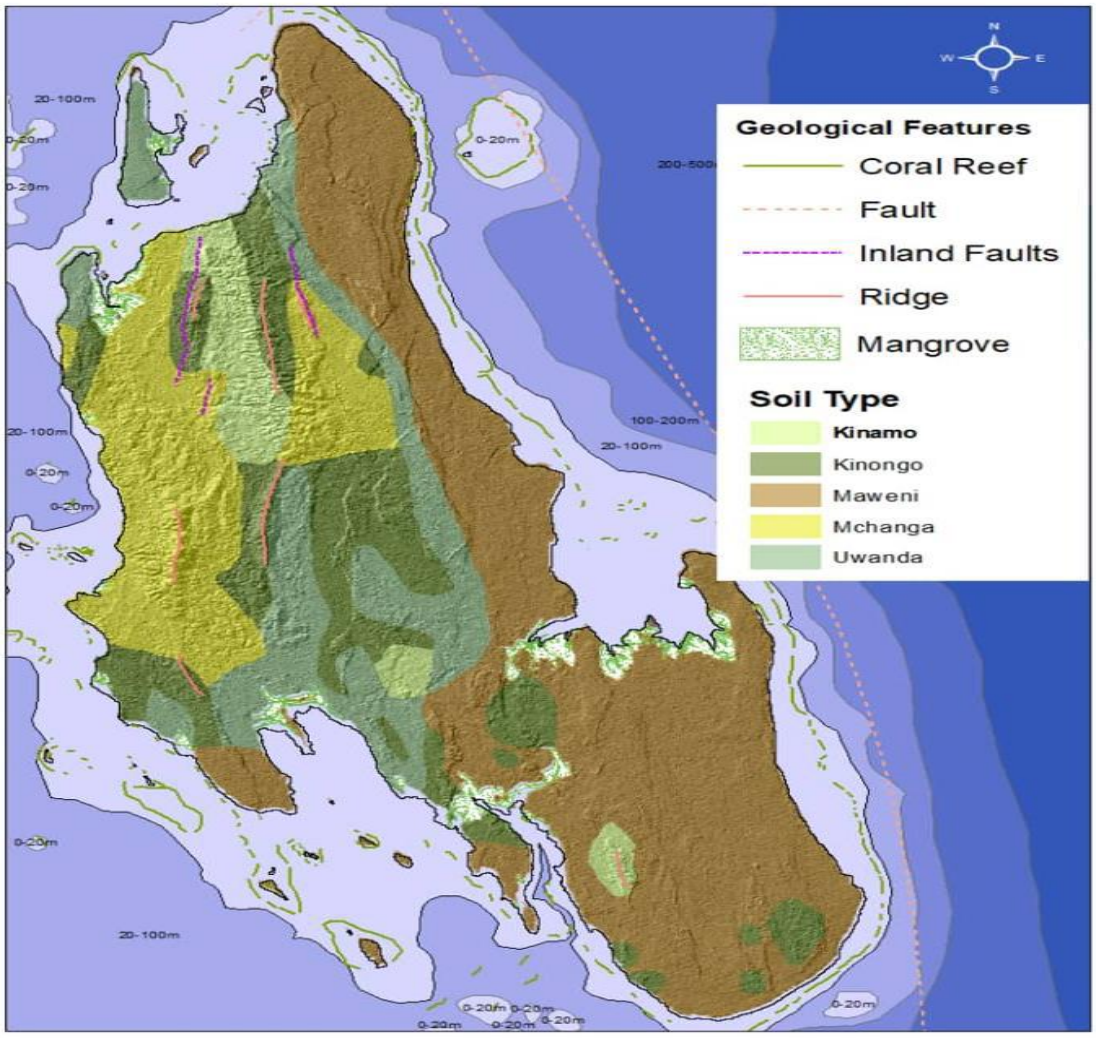

Figure 4-6: General Topography and soils of Zanzibar
Source: Secondary data

4.5.3 Groundwater

Zanzibar is dependent upon groundwater for freshwater needs. Annual water abstracted is approximately 30.6 million cubic meters and serves 80% of the urban and 60% of the rural demand. Fifty per cent of the water abstracted is used for domestic purposes, whereas the other half is divided among commercial, institutional and industrial activities. Zanzibar's natural groundwater quality is quite good. However, over abstraction has led to increased salinity in some areas. Furthermore, surface and groundwater sources face contamination due to encroachment into water catchment areas, deforestation and wastewater. ZAWA produces 80,000,000 L/day, or 117 L/day per 725,000 inhabitants of Zanzibar City. The proposed vocational training centre will be connected to ZAWA water distribution system upon completion of construction.

4.6 Biological Environment

The project area is fairly sparsely populated. It is mostly surrounded by farmland and a sugar plantation. No wildlife was noticed apart from smaller species of birds, rodents but the whole range of organisms could not be established under this assessment. Kiwengwa Pongwe forest (situated about 30km to the north) has a nature influence on the animal species in Kaskazini "B" district and its surroundings, though this situation has been changed by social and economic interests.

Figure 4-5: Forest reserves in Unguja
Source: Consultant

4.6.1 Flora

The flora in project area of influence and Kaskazini "B" district is characterized by various species including Coconut palm (*Cocos nucifera*), Clove Tree (*eugenia aromatica*) Flamboyant Tree *(dalonix regia***)** Zanzibar Palm (*chrisalidocarpus pembanus***)** Mango Tree (*Mangifera indica*), among other species.

The project area is rural in nature with and the proposed site is a mixture of cultivated land and natural trees. The tree species identified in the project site are;

- Coconut Palm (*Cocos nucifera*)
- Mango trees (*Mangifera indica*)

Other lesser agricultural plants noted includes cassava, isolated food crops i.e., maize and beans planted for subsistence consumption. Most of the land in the area is covered with grass species. The biodiversity assessment carried out revealed that there were no endangered or protected species present within the site.

Figure 4-6:Vegetation on site

4.6.2 Fauna

Human habitation and agricultural activities have had an impact on terrestrial habitats in the Project area. There is no terrestrial wildlife observed in the Project area considering that project site is in close proximity to human populated neighbourhood. However, limited information and secondary data review indicate presence of fauna including like squirrels, bushbaby, Sykes Monkey and lizards in the general vicinity of the Project site.

4.6.2.1 Mammals

Large or small mammals were not encountered in the proposed Project site or the vicinity.

4.6.2.2 Reptiles

Reptiles in Unguja include monitor lizards and snakes, including pythons and sea snakes. At the time of study, none of these were observed at the Project site or in Project area of influence.

4.6.2.3 Amphibians

Amphibians in Unguja include the Zanzibar Reed frog, *Kassina Jozani*. During the study none of the mentioned amphibians were sighted at the proposed project site.

4.6.2.4 Insects

The insect activity generally observed in the study sites included common house flies, grasshoppers and butterflies.

4.6.2.5 Avifauna

Avian population dominant in the Unguja including the Project area for the proposed Vocational Training Centre include; Indian house crows, Fischer's Turaco, Zanzibar sombre greenbul, House sparrows, crowned hornbill and white-browed coucal, Rock Pigeon, Helmeted Guineafowl, Lesser Jacana Eastern Crested Guineafowl, Red-chested Flufftail Broad-billed Sandpiper.

4.7 Socio-Economic Baseline

4.7.1 Population and Demography

Zanzibar has a population of 1,889,773 persons and is the second most populous Island in Eastern Africa after Madagascar. Slightly above fifty percent (51.6%) of this population are females (974,281 persons) and 48.4 percent (915,492 persons) are males according to the PHC carried out in 2022.

The North region of Unguja is divided into two districts namely Kaskazini "A" and Kaskazini "B" districts. The proposed Project is located in Kaskazini "B" district. The district is further divided into 8 wards namely Misufini, Mafufuni, Vijibweni, Mkataleni, Kiwengwa, Mbaleni, Fujoni and Mahonda and 32 Shehia.

Kaskazini "B" district which is largely considered peri-urban in context and is characterized by a sparse fairly distributed population. The district's population according to the 2022 PHC stood at 99,921. The **table 4-4** below shows the population density by gender in each region of Zanzibar.

Table 4-4: Population and density by gender and region

Region	Male	Female	Total
Kaskazini Region Unguja	126,341	130,949	257,290
Kusini Region Unguja	98,367	97,506	195,873
Mjini Magharibi Unguja	427,927	465,242	893,169

Source: NBS population and housing census data 2022.

4.7.2 Ethnicity

Zanzibar is composed largely of the Swahili. Other ethnicities in the archipelago include Arabs, Somali and Indians.

4.7.3 Religion

Zanzibar's population is almost entirely Muslim, with a small Christian minority. Other religious groups include Hindus.

4.7.4 Gender Parity

In Zanzibar over three-quarters (76.3 per cent) of households are headed by males, while over one out of five of all households (22.8 per cent) are headed by a woman, with similar breakdowns in both urban and rural areas (Table 3) In addition, Kaskazini "B" district had the highest proportion of male-headed households (83.8 per cent), while the proportion of female-headed households was highest in Mjini district (29.6 per cent).

The labour market in Zanzibar employs 62,804 workers, out of whom 34,988 (55.7 per cent) are male and 27,816 (44.3 per cent) are female. At least 51.5 per cent of all workers are engaged in the government sector, 38.2 per cent in the private sector, and 10.3 per cent in parastatals. Women are more likely to be employed in the government sector (54.9 per cent women versus 45.1 per cent men), while the share of men is double that of women in both the parastatal and

private sectors. Majority of the women depend on petty trade and low-income jobs. Low representation of women in decision making organs (civic and development committees) is also a major gender issue.

4.7.5 Settlement Patterns

Zanzibar's settlement patterns are primarily characterized by a concentrated urban population in Zanzibar City, with a significant portion residing in informal settlements, alongside a dispersed rural population concentrated along the coast with fishing villages, and a growing trend of new rural towns developing in areas like Kilimani, Bambi, and Chaani; this pattern is largely due to historical factors like the clove trade, recent urbanization, and land reforms that redistributed agricultural land after the 1964 nationalization. Population distribution and settlement patterns in the district are influenced by proximity to vital social and physical infrastructure networks such as roads, housing, water, and electricity. Other factors that influence settlement patterns include accessibility to employment opportunities, availability of cheap housing and security.

Due to the influence of National Development Plan – construction of an Oil and Gas Port in Kaskazini "B" district where the proposed project is located, there is potential for rapid increase in settlement within the area. Currently the proposed area is sparsely populated.

Figure 4-7: Residential structures in the project area
Source: Field data

4.7.6 Land Ownership and Land Uses

In Zanzibar, land is considered public and ownership is controlled by the government. The government grants 'a right of occupancy' which allows individuals to use and develop the land while the government retains control. Land ownership status is categorised based on the population in the private households owning land alone; jointly; both alone and jointly; or do not own land as per the 2022 PHC. The 2022 PHC indicates that 16.2 percent of persons aged 15 years and above own land. The proportion of males owning land is double (22.4%) that of females (10.8%). Similar pattern is also observed in both rural and urban areas.

The 2022 PHC result**s f**urther show that proportion of persons who do not own land is 82.8 percent, while those own land is 16.2 percent and those who do not know is one percent. Out of all persons who own land, the proportion is higher for males (22.4%) than females (10.3%). Proportion of land ownership in rural areas is higher (17.1%) than in urban areas (15.3%).

Regardless of whether a person lives in rural or urban area, both males and females of age group 65 and above own more land than any other age group. Furthermore, results show that, more than one third (35.5%) of persons aged 65 and above years own land. It is observed that proportion of persons aged 65 and above years who own land in rural areas is higher (37.8 %) than those living in urban areas (32.6%).

Pangatupu, part of Kaskazini "B" district is located in a peri-urban section of the region. Land use in the project area of influence is largely for subsistence farming and animal husbandry. Zanzibar Sugar Factory Ltd is the largest land owner in the project area of influence with sugar plantations in close proximity to the proposed project site. The proposed project site is owned by the MoEVT under title deed registered as **CRO/Z.504/2024/0773155**. However, the field study noted presence of dwellers within the site. Further consultations with project implementation team and community noted that a compensation process has been initiated by the project including valuation of assets and that the affected persons are awaiting the compensation package and thereafter will relocate from the site. Currently a section of the site is under cassava crop and also used for grazing livestock.

Figure 4-8: Livestock grazing on a section of project site
Source: Field data

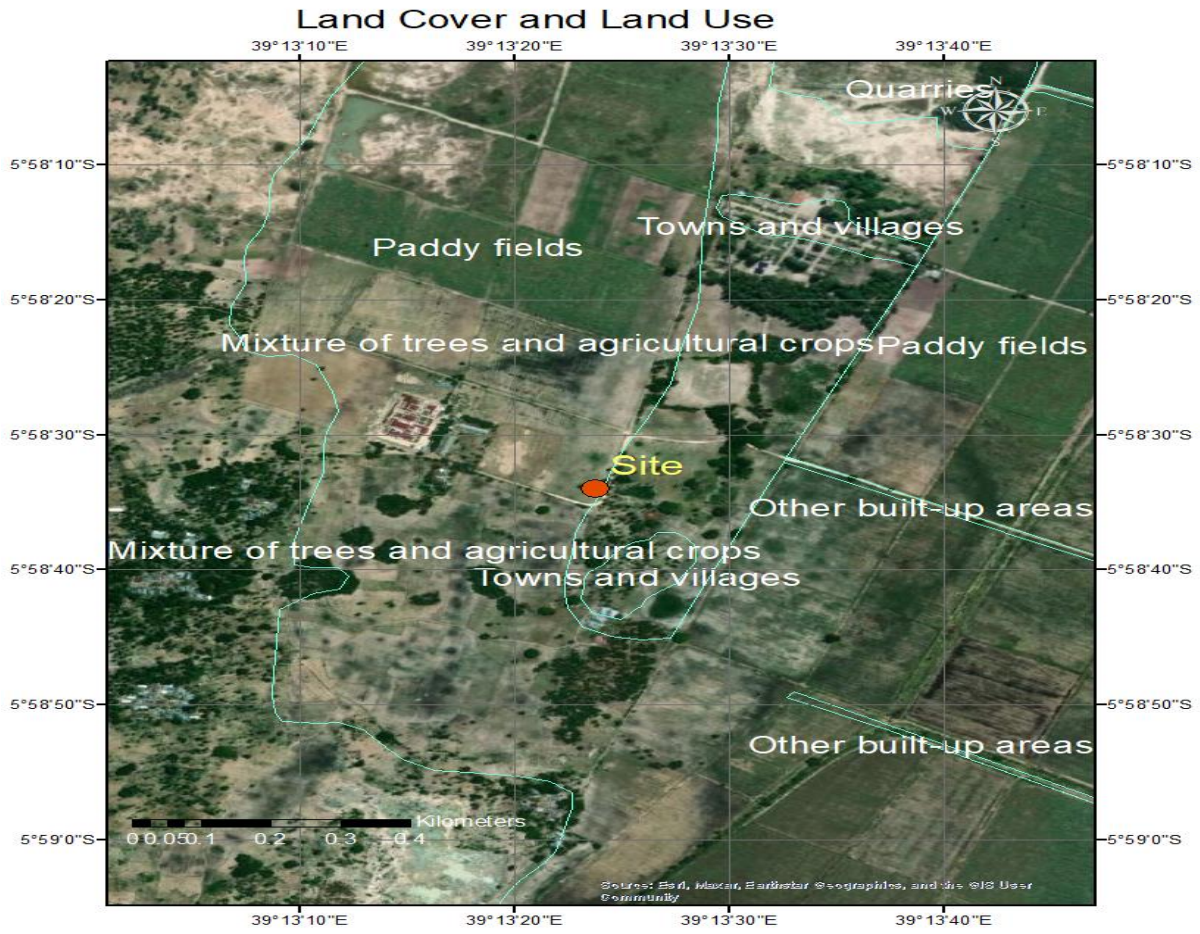

Figure 4-9: Land use in the Project Area of Influence
Source: Consultant

4.7.7 Education

Currently the Government of Zanzibar provides free education for all citizens from Standard 1 to Form 2. In accordance with the 2006 Education Policy, the Government is transitioning to the system of compulsory education from pre-primary until Form 4. Zanzibar has made significant progress in increasing the number of students attending basic education. There has been a 100% increase in Primary education in the past 9 years, from 247,352 in 2013 to 826,191 according to the 2022 PHC.

The PHC indicates net enrolment rate for primary schools (NER) is 96.9 percent. It is higher (98.1%) in urban areas than in rural areas (95.9%) and it is higher for females (97.7%) than males (96.2%) (Table 8.19). NER varies across regions ranging from 93.9 percent in Kaskazini Pemba Region to 98.2 percent in Mjini Magharibi Region. This is an improvement in net enrolment rates from 2002 to 2022 Censuses. The overall NER in primary schools increased from 71.4 percent in 2002 to 96.9 percent in 2022 Census. Improvement is more pronounced among males (from 69.5 to 96.2%) compared with females (from 73.4% to 97.7%).

The primary school Gross Enrolment Rate (GER) is 149.4 percent. It is higher (153.7%) in urban areas than in rural areas (145.8%). GER is higher for females (152.3%) than males (146.4%). A gross rate exceeding hundred percent could be due to over age and underage enrolment of children. This indicates an increase from 106.3 percent in the 2012 to 149.4 percent in 2022. The difference is higher among females (from 106.2% to 152.3%) compared with males (from 106.5% to 146.3%) (source-NBS PHC 2022). Pangatupu primary school is located 200 metres from proposed project site.

Figure 4-10:Pangatupu Primary School
Source: Field data

4.7.8 Health

In a bid to increase access to quality healthcare services, Zanzibar's Ministry of Health recently launched its digital health strategic plan. The Plan aims at improving the provision of safer, equitable, accessible, efficient, and effective health services at all levels through proper use of affordable digital health technologies. Among public health facilities, there is one tertiary hospital (Mnazi Mmoja Hospital) with maternal and mental health services located in Zanzibar City, one hospital in Pemba, four district hospitals (Kivunge located in Unguja and Micheweni, Wete, and Chake Chake located in Pemba), two primary health care centers (also called cottage hospitals, one each in Unguja and Pemba), 32 primary health care units plus (13 in Pemba and 19 in Unguja), and 132 primary health care units (76 in Unguja and 56 in Pemba). There are 162 registered private health facilities in Zanzibar (19 in Pemba and 143 in Unguja), of which six are faith-based, one charitable, and 155 private for-profit, as well as many private laboratories and other diagnostic services and pharmacies. On average, more than 90 percent of the population in Zanzibar is within a 5-km radius to the nearest health facility, and there is a facility for every 5,000people (Source: U.S President's Malaria Initiative Tanzania-Zanzibar). The newly constructed and commissioned Pangatupu District Hospital is located less than 500 meters from the proposed project site.

Figure 4-11: Pangatupu District Hospital
Source: Field data

4.7.9 Livelihoods and Income

Economic activity status refers broadly to economically active population which includes employed and unemployed populations. It also includes inactive population covering all persons who were without work during the reference period and were not available for work.

The 2022 PHC findings indicate that, there are 1.1 million persons aged 15 years and above in Zanzibar, with more females (577,908 persons) than males (507,574 persons). Out of these, 709,112 persons are in employment, 171,721 persons are unemployed and 204,649 persons are economically inactive. The current unemployment rates are based on the relaxed international definition of unemployment. It reveals that the overall unemployment rate is 19.5 percent. Unemployment rate is higher among females (25.7%) than males (13.1%). The population and housing census show that, agriculture, forestry and fishing industry have the highest proportion (36.1%) of the total employment followed by other services activities (14.4%). On the other hand, the industry of water supply sewage waste management and remediation has the lowest proportion (0.2%) of the total employment. The private sector is the main employer at (39.2%) followed by household activities with 23.1 percent and public sector with 19.6 percent.

The community living in the project area of influence derive their livelihood from subsistence farming and informal sector activities.

4.7.10 Energy

The 2022 PHC indicates that the majority (46.9%) of households use firewood as the main source of energy for cooking followed by charcoal (28.9%). Seven out of ten (71.6%) of households in rural areas and 21.2 percent in urban areas use firewood for cooking. About half (49.5%) of female headed household and 45.7 percent of male headed household use firewood for cooking. Three quarters of households in Kaskazini Pemba, Kaskazini Unguja and Kusini Pemba Regions use firewood for cooking (76.7%, 73.9% and 72.6% respectively). One household out of five (18.9) use firewood in Mjini Magharibi Region. Results show that the

percentage of households using charcoal for cooking is 28.9. It is higher in urban areas (43.0%) than in rural areas (15.3%) Across regions, households using charcoal for cooking ranges from 11.5 percent in Kaskazini Unguja to 44.0 percent in Mjini Magharibi.

The main source of energy for lighting is electricity from the national grid distributed by ZECO. The project area is served by the national grid and it is expected that proposed Pangatupu Vocational Training centre will be connected to this source during operation.

Figure 4-12: Sources of energy – Lighting and cooking
Source: Field data

4.7.11 Water and Sanitation

Sources of drinking water are categorised into improved and unimproved sources. Improved sources of water include piped water, tube well/borehole, protected dug well, protected spring, rainwater, bottled water, carts with small tank/drum and tanker truck. On the other hand, unimproved sources include unprotected dug well, unprotected spring and surface water. Results show that 92.6 percent of households use improved sources of drinking water while 7.4 percent use unimproved sources of drinking water. Across regions, three regions Mjini Magharibi, Kaskazini Unguja and Kusini Pemba have high percentage of households using improved sources of drinking water (97.3%, 93.1% and 92.2% respectively) while Kaskazini Pemba region has low proportion (81.5%) of household using improved sources as revealed by the 2022 PHC. About three quarters (74.7%) of households have piped water as the main source of drinking water. There is slight difference of the household using improved sources of water in rural (75.3%) and urban (74.1%) areas. Percentage of households using piped water ranges from 67.3 percent in Kusini Unguja Region to 85.5 in Kusini Pemba Region.

The proposed project site is currently undeveloped. As part of project implementation, designs will include integrating the project to ZAWA water supply system.

4.7.11.1 Sanitation

The 2022 PHC collected information on toilet facilities used by households. Toilet facilities are categorised into two groups of improved and unimproved. Improved facilities include flush or pour flush toilet that flushes water and waste to a piped sewer system, septic tank, covered pit or unknown destination; Ventilated Improved Pit (VIP) latrine, pit latrine with washable slab and with lid, pit latrine with washable slab without lid and pit latrine without washable slab (soil slab). Unimproved facilities include pit latrine without slab (open pit) and bucket. About nine out of ten (89.9%) of households use improved toilet facilities.

The most common toilet facilities used by households are flush/pour flush to covered pit (39%). A higher proportion of households using flush/pour flush to covered pit are in urban (44.8%) than rural areas (33.4%). Another common toilet facility is pit latrine with Washable Slab and with lid (12.5%). There is no much difference between Male and female headed household in all types of toilet facility. Mjini Magharibi Region has the highest percentage (98.0%) of improved toilet facilities. Kaskazini Pemba Region has the highest percentage (30.9%) of households without toilet facilities (open defecation) followed by Kusini Pemba (19.8%), whereas only 0.3 percent in Mjini Magharibi. The proposed project site and area of influence does not have a sewerage system in operation.

4.7.12 Infrastructure

Roads: According to available information, Zanzibar has approximately 1,200 kilometers of roads. The RGoZ though relevant agencies is currently in the process of constructing new roads and upgrading existing ones to bitumen standards. Road projects currently being undertaken in Unguja include rebuilding of 103.5 kilometers of roads across three major stretches: Kisauni-Fumba, Tunguu-Makunduchi, and Chakechake-Mkoani.

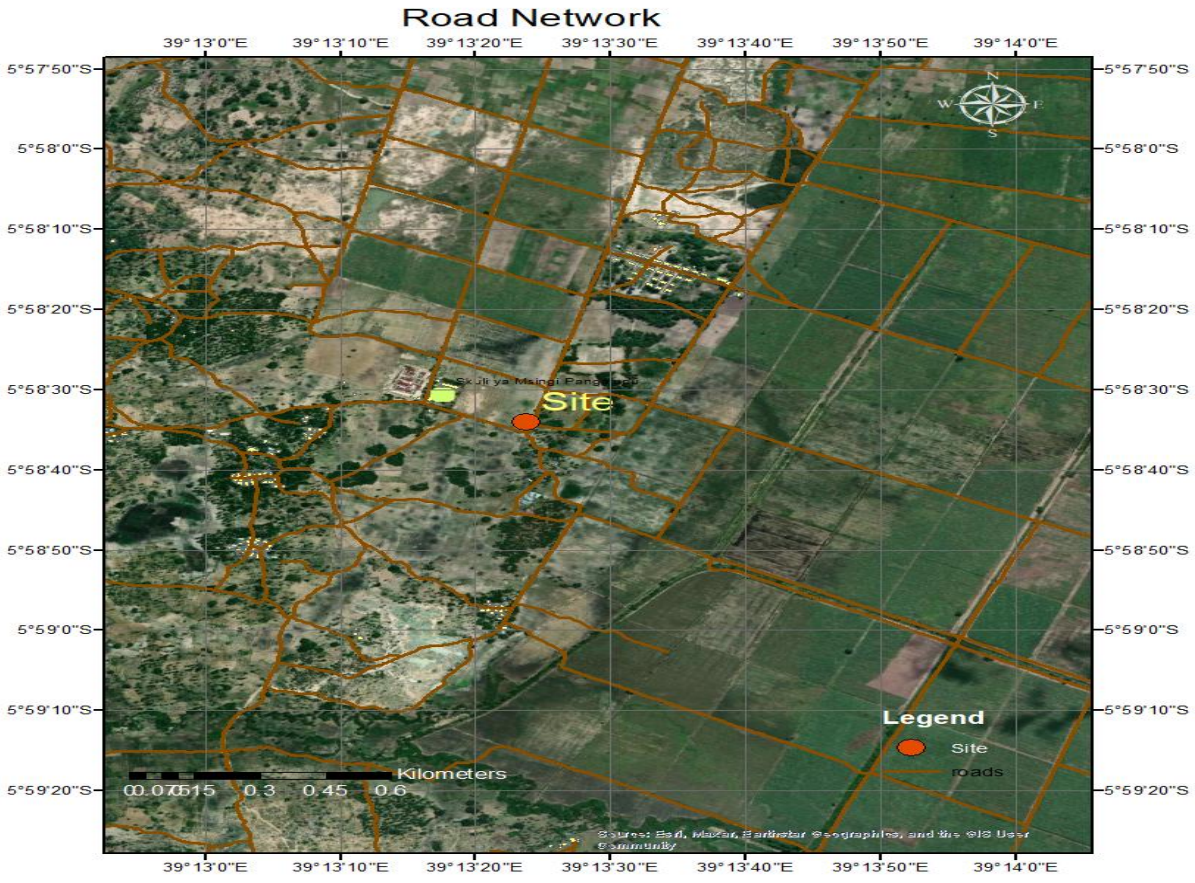

Figure 4-13: Road network in Unguja, Zanzibar
Source: Secondary data

The proposed Pangatupu Vocational Centre is accessed from the turn-off of the main Bububu – Mahonda – Nungwi tarmac road. The road to the site is an all-weather road.

Figure 4-14: Road to project site with sign post for the hospital
Source: Field data

Ferries: The archipelago is linked to mainland Tanzania by ferries plying the Zanzibar channel. The crossing takes approximately 3 hours depending on the craft selected. Ferries are priced differently depending on choice and ability.

Port: The port of Zanzibar is also a key resource and the gateway to the East and Central African region, as it serves the entire region's export and import needs. Zanzibar Port Cooperation (ZPC) is the governing authority responsible for the management, development, and operations of Zanzibar's ports and maritime services.

Airports: Zanzibar has one international airport, the Ali Abeid Karume International Airport in the city. It is about 5 kilometres (3.1 mi) south of the city, and has flights to East Africa, Europe, and the Middle East and domestic flights. The airport is essential in the promotion of tourism and investment opportunities in the archipelago.

5 STAKEHOLDER CONSULTATION

This chapter provides a description of the main stakeholders of relevance to the Project and a summary of stakeholder engagement activities undertaken during the preparation of the ESIA.

5.1 Stakeholder Engagement Principles

MoEVT understands that effective stakeholder engagement and public consultation is a cornerstone of successful Project development, and is committed to free, prior, and informed engagement with stakeholders throughout the Project lifecycle. The key principles guiding approach to stakeholder engagement on this Project are:

Box 5-1: Stakeholder Engagement Principles

- To be open and transparent with stakeholders.
- To be accountable and willing to accept responsibility as a corporate citizen and to account for impacts associated with the Project activities.
- To have a relationship with stakeholders that is based on trust and a mutual commitment to acting in good faith.
- To respect stakeholders' interests, opinions and aspirations.
- To work collaboratively and cooperatively with stakeholders to find solutions that meet common interests.
- To be responsive and to coherently respond in good time to stakeholders.
- To be pro-active and to act in anticipation of the need for information or potential issues.
- To engage with stakeholders such that they feel they are treated fairly, and their issues and concerns are afforded fair consideration.
- To be inclusive and accessible to stakeholders so that they feel able to participate; to receive and understand information; and to be heard.

5.2 Stakeholder Engagement Objectives

The objectives of this stakeholder engagement are as shown in **Box 5-2** below.

Box 5-2: Stakeholder Engagement Objectives

- To identify and map all relevant stakeholders, their context, interests and concerns;
- To establish a two-way dialogue to understand concerns, management options and external perspectives;
- To promote and secure participation of PAPs by building their capacity for informed participation with special attention given to vulnerable PAPs in key decision making;
- To build and maintain trust between stakeholders;
- To support the resolution of emerging tension and maintain the project's social license to operate;
- To manage stakeholders' expectations;
- To facilitate the collection of quality primary and secondary information relevant; to the project processes including monitoring;
- To triangulate data collected and analysis done to inform decision making;
- To document information disclosed and public consultation efforts;
- To comply with regulations and requirements on disclosure and consultation;

- To provide information about the project and its potential impacts to those interested in or affected by the project, and solicit their opinion in this regard;
- To identify additional impacts/issues and possible mitigation measures;
- To inform the process of developing appropriate mitigation measures and facilitate consideration of alternatives and trade-offs (if any);
- To reduce chances of conflict through early identification of contentious issues;
- To ensure transparency and accountability of decision-making; and to increase public confidence
- To increase public confidence in the project.

5.3 Stakeholder Mapping and Identification

Stakeholders include individuals or groups that may influence or be impacted by the Project, as described in **Box 5-3** below.

Box 5-3: Definition of a Stakeholder

Stakeholders are persons or groups who are directly or indirectly affected by a project, as well as those who may have interests in a project and/or the ability to influence its outcome, either positively or negatively. Stakeholders may include locally affected communities or individuals and their formal and informal representatives, national or local government authorities, politicians, religious leaders, civil society organizations and groups with special interests, the academic community, or other businesses."

The level of interest and impact of any given group of stakeholders is dependent on a number of factors including level of authority, socio-economic context, influence, education and cultural factors. Stakeholder identification began at Project inception and planning and has continued through the various stages of the Project development.

Stakeholders identified to date represent the organizations and individuals who may be directly or indirectly (positively or negatively) affected by the Project or who may have an effect on how the Project is implemented. Stakeholders identified for inclusion in engagement activities meet one of the following criteria:

1. Have an interest in the Project;
2. Would potentially be impacted by or have an influence on the Project (negatively or positively); and/or,
3. Could provide commentary on issues and concerns related to the Project.

5.4 Approach and Methods of Stakeholder Engagement

Below is a summary of the approaches and strategies adopted throughout the stakeholder consultation exercise.

5.4.1 Mobilization

- **Introduction letters:** MoEVT, through SEBEP implementation unit provided the consulting team with official letters of introduction informing all stakeholders about the proposed project, introducing the ESIA consultant, informing about the planned

consultation activities and requesting them to support the consultants wherever possible.

- **Mobilization through local administration:** The consultant accompanied by SEBEP team visited the offices of the mapped government agencies and administrators to inform them about the proposed project and the upcoming consultation activities. Other than information sharing, the meeting with District Commissioner was aimed at requesting the administrators to further mobilise the concerned stakeholders at the project area of influence.
- **Mobilization by phone and emails:** The local communities were invited through their local leaders e.g., the chiefs, village elders etc. Other key stakeholders who were not available due to conflicting obligations were contacted either through email or by phone. This mainly applied to custodians of relevant data and literature for the ESIA study.
- **Confirmation of appointments:** Prior to the appointment dates, the ESIA consultant reconfirmed the appointments by contacting the focal persons at each venue at least one day prior to the meeting to verify whether the proposed schedule was still valid for the expected audience.

5.4.2 Interviews and Questionnaire application

Information was gathered regarding potential positive and adverse impacts the Project could have on the economic and social environment in the locality of the project. This information was gathered through administration of semi-structured questionnaire.

5.4.3 Public meeting

A public consultation was held with community members residing in the project area of influence. The views and recommendations expressed during the consultation meeting were incorporated in the ESIA report. Generally, the result of the participation showed support for the proposed project, with the community looking forward to the anticipated socio-economic developments associated with the project.

Figure 5-1: Consultations at District Commissioner's office and at ZECO

Table 5-1: Overview of Stakeholder Groups

Stakeholder Category	Stakeholder Group	Connection to the project	Stakeholders
National Government	Key National Regulatory bodies Government Agencies	National governments are responsible for establishing policy, granting permits or other approvals for the Project, and monitoring and enforcing compliance with Zanzibar Law throughout all stages of the Project life	- District Commissioner of Kaskazini 'B' District, North Region - Sheha of Kidanzini Shehia
Government Agencies	Government funded agencies in charge of managing specific activities.	Government agencies may have land or other assets which could be affected by the Projects.	- Zanzibar Commission of Lands - Zanzibar Environment Management Authority - Zanzibar Disaster Management Authority - Zanzibar Water Authority - Zanzibar Fire Brigade - Zanzibar Directorate of Occupational Safety and Health - Zanzibar Vocational Training Authority - Zanzibar Ministry of Trade and Industrial Development - Zanzibar Ministry of Education and Vocational Training - Zanzibar Electricity Corporation - Pangatupu District Hospital - Pangatupu Primary School
Communities or Settlements	Project affected communities in close proximity to the project site including: Landowners and users; Community members who use access roads to access nearby natural resources; Social/public infrastructure and services. acquisition and restrictions to land, to participate in the finalization of agreements around compensation and livelihood restoration and take active ownership of the resulting implementation of these measures.	Households and communities that may be directly or indirectly affected by the proposed Project and its activities. This includes people living on land affected by the Project, through displacement or by social and environmental impacts, and other people who visit or use land or resources that may be affected. Primary stakeholders include those dwelling on the site and land users. These communities need to be engaged around Project impacts (construction and operations). Land affected households will need to be	- Directly and indirectly affected community members from: Households losing access to land. Households losing access to livelihood resources. Households with houses at risk of displacement

		informed about displacement and restrictions to land, to participate in the finalization of agreements around compensation and livelihood restoration and take active ownership of the resulting implementation of these measures.	

Table 5-2: SEBEP Project Stakeholder Consultations Venues, Dates and Participants

Date	Venue	Participants	Males	Females
02/02/2025	Zanzibar Water Authority (ZAWA) Offices	5	3	2
03/02/2025	Zanzibar Electricity Corporation (ZECO) offices	6	4	2
03/02/2025	Ministry of Agriculture, Irrigation, Natural Resources and Livestock	5	3	2
03/02/2025	Zanzibar Commission for Lands	6	3	3
04/02/2025	District Commissioner's Office – Kaskazini "B" District	11	9	2
06/02/2025	Pangatupu District Hospital	8	3	5
06/02/2025	Zanzibar Fire Brigade Headquarters	5	3	2
06/02/2025	Directorate of Occupational Safety and Health offices	5	2	3
11/06/2025	Zanzibar Environment Management Authority	9	6	3
Total		**60**	**36**	**24**

Table 5-3: SEBEP - Public Consultations, Date and Number of Participants

Date	Venue	Participants	Males	Females
07/02/2025	Pangatupu Primary School Hall	59	26	33
Total		**59**	**26**	**33**

The comments and concerns raised by the community during stakeholder consultation and the responses given by both the consultants and the client are highlighted **table 5-4 below.**

Table 5-4: Summary of Concerns raised by the Project-Affected Person/ Other Stakeholders

Theme	Stakeholder(s) concerned	Comments and Issues	Response
Waste	Zawa, DOSH, and community	Stakeholders were concerned about waste generation and methods of waste disposal during project implementation.	The consultants informed community members that the ESIA report will recommend a waste management plan and implemented during construction and operation. All waste will also be handled and transported by ZEMA certified waste handlers.
Noise and Vibration	DOSH and Pangatupu community	Questions concerning potential air and sound pollution arising from excessive noise and vibration also arose from community members	The consultants informed community members that the ESIA report will recommend a noise quality management plan and will be implemented during construction and operation. The Consultants informed the stakeholders that the project will be using up to date technologies to improve efficiencies to reduce noise and vibrations and further mitigation measures will be recommended in the ESMP.
Water Quality	ZAWA Pangatupu community members	The community and ZAWA raised concerns on impact of the project on water quality. They stated that water resources may be contaminated by project waste rendering it unfit for human consumption.	The contractor and management of the Project will be advised to use the resource efficiently in order to minimize wastage and also maintain quality.
Vegetation	ZEMA and Pangatupu community members	Stakeholders wanted to know whether the project proponent had taken into account the impact of cutting down trees on the site.	Project area has vegetation comprising mostly coconut and Mango trees. The area is also peri-urban meaning that with time it would be turned into a mixed-use area. Contractor will be advised to only cut down trees in the working area and avoid those that are not. Contractor will also be advised to offset trees cut. The designs for the VTC will utilize green technology in order to reduce harm to the environment and to reduce resource depletion.

Air Pollution	DOSH and Pangatupu community members	Some of the stakeholders feared that the project will generate fugitive emissions and dust that may be harmful to the community and lead to air pollution.	The consultants informed community members that the ESIA report will recommend air quality management plan and be implemented during construction and operation. The consultants informed the members that the project will be using up to date technologies to improve efficiencies to reduce emissions and mitigation measures will be put in place to reduce emissions in line with national air quality regulations and international best practice.
Employment	Pangatupu community members	Community members inquired whether there will be employment opportunities and what would be the criteria for gaining access to such opportunities. They decried an ongoing pattern of contractors hiring persons who don't reside in their localities to carry out tasks that locals are capable of doing and requested that, in this project, they be given first priority whenever employment opportunities arise. Female participants were especially concerned that they would not be given opportunities to work in the project because of societal perceptions that they are physically weak and are exclusively responsible for domestic affairs. In addition to this, they foreshadowed possibility of rise in incidences of children dropping out of school to take up paid labor in the project.	The consultants informed stakeholders that they will include of a Labor Recruitment Plan in the ESIA. These plans will cover all employment issues ranging from recruitment, dismissal, hours of work, non-discrimination, child labor, fair remuneration and grievance management. Stakeholders were however cautioned that where specialist skills are required for the project and the skills are not locally available, specialist would be hired from other jurisdictions through a competitive process.

Land use and Compensation	Commissioner of Lands and Pangatupu community members	The members noted that they would incur loss of dwelling place and property since residents may be required to relocate. They inquired about the displacement process.	As a response, the project team indicated that the process for compensating PAPs losing land due to project impacts, the compensation process was on going and would be complete in the near future. Construction process would not commence before this process is finalized.
Social impacts	Pangatupu community members	It was a concern of the community members that the proposed project will increase the population in the project area and its surroundings which could lead to socio-cultural diversification and cultural contamination. There were fears that with the increase in population, there will be an increase in the spread of HIV and AIDS, teenage pregnancies, drug and alcohol abuse and prostitution. Further they stated that enhanced economic status particularly among the women and youth would lead to increased occurrences of Sexual and Gender Based Violence (SGBV). Concerns were also raised about competition for limited resources due to population influx. This would particularly manifest in inadequate housing and shortage of water supply. The community also raised concerns about their safety in relation to increased traffic especially during construction process.	The consultant and the clients' team informed the community that it will put in place sufficient safeguards to mitigate such incidences. The ESIA report will include among others: ■ Traffic Management Plan ■ Gender Based Violence Protection Plan ■ HIV/AIDS Prevention and Awareness plan The proponent will also work closely with other government agencies, in particular law enforcement and social protection offices to curb increase in crime in the project area.

5.4.4 Post ESIA Consultations

SEBEP is aware that public consultation is a key component of project implementation and will therefore put in place a Stakeholder Engagement Plan (SEP). The overall aim of SEP will be to address the concerns and opinions of the stakeholders with the ultimate view to assuring a smooth project implementation. SEBEP shall welcome suggestions and information from relevant stakeholders, contractors, visitors, and the general public. A Community Liaison Officer (CLO) will be appointed by the contractor and will address complaints and suggestions from the community. Further, consultations, which began during the ESIA process, will continue throughout the project life cycle in line with the SEP.

5.4.5 ESIA Study Report Disclosure

This ESIA study report will be disclosed in accordance with Zanzibar's disclosure requirements. The report upon approval by ZEMA will be disclosed in MoEVT website and AfDB website.

6 ANALYSIS OF PROJECT ALTERNATIVES

The Chapter examines the alternatives to developing the project, including the 'do nothing' option.

6.1 No Project Alternative

This option will mean that the site will be left in its current state. From an extreme perspective this will be the most environmentally beneficial option as this would maintain existing habitats and ecosystems and ensure non-interference with the existing conditions. This option will have negative impacts though as it will mean the loss of opportunities for economic and social advancement on a large scale, meaning a loss of opportunity for growth and development of the local community, and the country as a whole.

The do-nothing option is considered to be the least preferred option due to the following socio-economic reasons: -

- The economic status of Zanzibar and the local people will remain unchanged, realization of Zanzibar vision 2050 and Blue Economy policy under which SEBEP operates will not achieve intended goals;
- The local skills will remain underutilized;
- Reduced business development;
- Reduced vocational training advancement in the district and Unguja at large;
- Lack of employment opportunities.

6.2 Alternative Project Site

This would involve relocation of the proposed project to another site other than the present proposed site. Such a move would have several implications both to the Proponent and the recipient environment. The Proponent already owns the proposed site. Change of site would mean the Proponent has to purchase an alternative piece of land. The result would be an increase in time and resources required. Some of the implications may include: -

- Additional cost of purchasing land; and
- Destruction of the new environment should the alternative site be pristine

Preferred Site

The site is identified as the preferred location for the development due to: -

- The site is owned by the MoEVT and the ministry has allocated it for the SEBEP supported project;
- Good existing and future transport links.

6.3 Project Development

This sub-section discusses project development options identified and considered for the proposed vocational training centre.

6.3.1 Project Development Options

6.3.1.1 Energy Alternatives

6.3.1.1.1 Preferred Option

The principal source of energy during operational phase of the project will be from Zanzibar Electricity Corporation (ZECO). The electricity main is picked as a major source of power as it provides the clean and less costly power alternative which is also environmentally friendly.

6.3.1.1.2 Other Energy Options

The use of a generator was analyzed against but was only considered for use during periods of power outages (back up). Other alternatives would be the use of renewable sources of energy such as solar and wind energy. However, these would require a substantial capital investment for the project and was therefore not considered.

6.3.1.2 Solid Waste Management Alternatives

6.3.1.2.1 Preferred Option

During construction waste from project construction activities will include, debris, human related wastes, worn out tires and plastic containers. There may also be waste petroleum products from the equipment and office wastes. Stone waste and loose soil be heaped together and sold for footpath construction and a reserve for use in landscaping the site. All other wastes will be collected by a ZEMA licensed waste disposal handler. Pangatupu TVET management will ensure there is a waste collection, segregation and disposal system actively deployed during operational phase of the Project.

6.3.1.3 Liquid and Effluent Waste Management

6.3.1.3.1 Preferred Option-Connection to the sewer system

The possibility of a connection to the ZAWA sewer system was explored, as it will solve the wastewater management issue at a very minimal cost and in an environmental efficient manner. However, the project area is not connected to this system. The study recommends that the proponent should seek a connection with the ZAWA sewer line **in the event that this is installed in future** as it presents the least risks to the environment in terms of liquid waste management.

6.3.1.3.2 Septic Tanks

The study team examined the option of constructing septic tanks for the proposed new cancer centre in the absence of connection to trunk sewer line connection. This option requires regular monitoring and record keeping ensuring timely exhaustion in order to avoid leaks and spills. This system has challenges especially with inadequate monitoring and maintenance even though it is the most effective option in the absence of an installed and operating trunk sewer system in the project locality.

6.3.1.3.3 Bio-Digesters

Biodigesters are a relatively new system of effluent management and is an alternative option that the proposed project can incorporate. Biodigesters work by using anaerobic bacteria and enzymes to break down waste. Biodigesters typically are slightly more compact than septic tanks i.e., require less space.

7 ASSESSMENT OF POTENTIAL RISK IMPACTS

This chapter presents the assessment of the issues likely to arise as a result of implementation of the proposed project. For each issue, the analysis is based on its nature, the predicted impact, extent, duration, intensity and probability, and the stakeholders and/or values affected. In accordance with best practice, the analysis includes issues relating to the project's environmental and social sustainability. The anticipated positive and negative impacts associated with the different phases of proposed project are outlined below.

7.1 Classification of Impacts

The significance of impacts has been determined by combining the perceived frequency of occurrence of the source of the impact, the duration, severity, and spatial extent of the impact and the sensitivity of the area being impacted upon. The analysis was aided by using the classification of impacts shown in Table 7-1.

Table 7-1: Classification of Impacts

		Classification of Effects	
Impact criterion	**Effect on environment**	**Expression**	**Effect description**
Positive or negative	Will impact be positive or negative?	Positive	A positive impact
		Negative	**A negative impact**
Likelihood of occurring	What certainty of occurrence is associated with impact?	Unlikely	Probably will not occur
		Possible	May not occur
		Certain	Will not occur
Duration	What timeframe or period is effect to be felt or last?	Short Term	Will last up to end construction activity
		Medium Term	Will last as long as operational activity
		Long Term	Will last beyond project operation
		Permanent	Will last a lifetime
Timing	At what stage will the impact occur or be felt?	Immediately	Will occur upon starting project activities
		Near Future	Will occur during project operation
		Distant Future	Will occur beyond project operation
Significance	How severe will the impact be?	Minor	Little impact
		Moderate	Moderate impact
		Significant	High Impact
Extent	What is the real extent or coverage of impact?	Project area	Effect confined to project area
		Environs	Effect to be felt by surrounding areas
		Beyond environs	Effect to be felt within surroundings and beyond environs
Overall rating	How important is impact in	Insignificant	Impact not substantial, needs no mitigation/enhancement
		Minor	Impact of little importance, needs limited mitigation/enhancement

		Moderate	Impact has influence and requires mitigating/enhancing
		Significant	Impact of great importance, mitigation/enhancement a must

The assessment conducted in this chapter is based on the methodology presented in section 2 Approach and Methodology. The prescriptive approach assesses pre-mitigation and residual impacts on VECs using the following parameters:

- Intensity of the impact indicates the degree to which the VEC will be disturbed.
- Geographic extent of the impact refers to the spatial area of influence affected.
- Duration of the impact refers to the period during which the impacts will be felt.
- Magnitude of the impact reflects the overall degree of disturbance considering the intensity, the geographical extent, and the duration.

The following subsections describe the Project-related impacts on VEC's of the physical, biological, and human environments. Considering the similitude of the activities in the pre-construction and construction phases and the relative importance of the impacts associated with the construction activities compared to the pre-construction activities, both phases will be treated jointly in this chapter.

The nature of the impact source associated with the operation phase is composed of activities that will require a specific environmental impact assessment evaluation prior to their realization. The resulting impacts and mitigation measures will be similar to those of the Project's Pre-construction and Construction phases presented in the following sections. They will however be of a lesser scale since they will be associated with one or few of the construction activities related to the Project. For these reasons, these impacts and mitigation measures are not considered in the current ESIA to allow for a stronger focus on the immediate impacts and mitigation measures associated with the main operation phase activities, and presence/operation of the project.

Unless otherwise specified, pre-mitigation impacts that are of minor magnitude will only be assigned general mitigation measures.

Finally, it must be underlined that the implementation of the mitigation measures proposed in this chapter will be ensured through monitoring and follow-up actions presented in chapter 9.

7.2 Potential Beneficial/ Positive Impacts

7.2.1 Compensation Benefits

The development of Pangatupu Vocational Training centre will lead to cash or in-kind compensation for the loss of land, structures and livelihood located within the Project site.

7.2.2 Vocational Training Facility

TVET is considered as a key catalyst for industrialization and a significant strategy in addressing the challenge of youth unemployment in the country. Construction and

operation of the proposed vocational training centre will achieve SEBEP's aim for providing technical skills to youth.

7.2.3 Expected Impact on Poverty Alleviation

With the development of the project, there will be opportunities to conduct businesses e.g., supply of building materials by the locals, selling food to workers at the VTC among others. This will assist in alleviating poverty in the project area of influence.

7.2.4 Employment

The development of the vocational training centre including operation and maintenance activities will provide employment opportunities–directly and indirectly–to skilled as well as unskilled work force and primarily to local labor including women. The income, thus enhanced, of the local skilled and unskilled work force would also bring out a multiplier effect to other sectors of the economy.

7.2.5 Knowledge/Skills Transfer

Local workers will benefit in terms of knowledge transfer especially from external skilled workers who when paired with the local workers will transfer on-the job skills to them. Further, local workers may undergo certain training as part of skill enhancement prior to employment.

7.2.6 Local Material Supplies

Another positive impact of the project involves local material sourcing mainly sale of materials for use in the project. Some of these can be expected to be sourced locally and the rest through importation. It is expected that the project will generate new income revenues for the local population across the district in harvesting and transportation of sand, ballast, stones, and other construction materials. The new income revenues received will create demand for other goods and services causing a trickledown effect to the entire economy.

7.2.7 Revenue

The RGoZ will benefit from revenue accrued from payment of taxes and levies while state agencies will benefit from revenue charged for permits such as Water Permits, EIA License, registration with OSHA, electricity connection among others.

7.3 Impact Assessment and Mitigations

7.3.1 Physical Environment

This subsection describes Project-related impacts on Valued Ecosystem Components (VECs) of the physical environment, including ambient air quality, GHG emissions, ambient noise, surface water quality and management, groundwater quality and quantity, soil stability/erosion, soil quality and sediment quality.

7.3.1.1 Atmospheric Environment

Assessment of atmospheric environment considers two VECs, ambient air quality and GHG emissions.

7.3.1.1.1 Ambient Air Quality

The ambient air quality will be impacted at the Pre-Construction, Construction and Operation phases. Information relating to the ambient air quality baseline conditions are presented in the Environmental and Social Baseline chapter.

The following describes the main Project-related sources of impacts, proposed mitigation measures, and resulting residual impacts for this VEC.

Pre-Construction and Construction Phases

Considering the baseline situation when the sampling activities were conducted during the dry season, particulate matter standards were not exceeded at the sampling areas for the PM10 and PM2.5. In conclusion, air quality in the project area is generally good with regards to atmospheric emission of gases and particulate matters.

Main Sources of Impacts and Anticipated Effects

The proposed Project includes several Pre-Construction and Construction activities that may affect ambient air quality:

- Operation of mechanical equipment and machinery that will contribute to the release of various air contaminants.
- Transportation of equipment, workers and truck traffic required to move fill material, granular material, asphalt, concrete and prefabricated elements to the site and unsuitable excavated material from the site will contribute to the emission of various atmospheric pollutants.
- Operations at quarries, including mining activities and stone crushing, which will generate dust and various atmospheric pollutants.
- Handling large quantities of granular material on the work site for filling works that may generate dust.
- Trucks leaving the work site with muddy tires may transfer this mud to local roads, which, once dried, could generate dust from regular traffic.

Table 7-2 summarizes the pre-mitigation impacts and presents the impact assessment for ambient air quality.

Table 7-2: Pre-Construction and Construction Phases Impact Assessment for Ambient Air Quality

Assessment of Pre-mitigation Impacts	These activities will alter ambient air quality without being the cause of a significant degradation but will contribute to the existing particulate matter problem. Thus, the intensity of the impacts caused by the project is considered medium. Impacts will occur during specific work phases or during the full construction period (trucking and operation of machinery and equipment) and therefore would be characterized as having a medium-term duration. The impacts should mainly be felt at the AoI level, that is within the work site and in its immediate surroundings, thus resulting in an impact of moderate magnitude.	
Direction	☐ Positive	☒ **Negative**

Intensity	☐ Low	☒ **Medium**	☐ High
Geographic Extent	☐ Limited (PDA)	☒ **Local (AoI)**	☐ Regional (RAA)
Duration	☐ Short-term	☒ **Medium-term**	☐ Long-term
Magnitude	☐ Minor	☒ **Moderate**	☐ Major

Recommended Mitigation Measures

- Avoid leaving mechanical equipment, machinery, trucks, and vehicles idling unnecessarily at the work site.
- Ensure all vehicles, equipment and machinery are in good working order with a particular attention to motor combustion efficiency and antipollution systems.
- Limit vehicle and machinery speed within the work site to minimize dust generation. Authorized speeds on the work site should be specified and enforced by the contractor.
- Use water bowsers as dust abatement to limit excessive dust emissions from granular material handling and piling, and vehicle movements.
- Ensure trucks transporting fine granular (sand) material and asphalt are equipped with a tarpaulin to cover the material during travel between material site source and work site.
- Drop granular material as close to the ground possible to reduce generation of airborne particles.
- Ensure implementing the Traffic management plan as approved by proponent, for the transportation of granular material from quarries to the work site.
- If ambient air quality-related grievances are received, develop, and implement an ambient air quality monitoring program to verify construction-related emission levels, identify the main sources, and develop potential actions for improvement.

Determination of Residual Impacts

The Project's residual impacts on ambient air quality at the Pre-Construction and Construction phases, following the implementation of the general and specific mitigation measures recommended above, are assessed in Table 7-3.

Table 7-3: Determination of the Project's Residual Pre-Construction and Construction Phases Impacts on Ambient Air Quality

Assessment and Justification of Residual Impacts	Implementation of the proposed mitigation measures has the capacity to reduce impacts, resulting in the overall lowering of dust and particle emissions within the Project area and by limiting air emissions through proper maintenance and good operating practices of equipment and machinery. The intensity of the residual impact associated with the project is thus considered low. However, residual impacts will still be felt at the scale of the AOI and for the duration of the Project (medium-term duration). The resulting magnitude of impacts becomes minor.		
Direction	☒ Positive	☒ **Negative**	
Intensity	☒ **Low**	☐ Medium	☐ High
Geographical Extent	☐ Limited	☒ **Local**	☐ Regional
Duration	☐ Short-Term	☒ **Medium-Term**	☐ Long-Term

Magnitude	☒ **Minor**	☐ Moderate	☐ Major

Operation Phase

An air dispersion assessment is recommended to be carried out before commencement of operations in the project site. This will evaluate the potential impact of the Project's emissions on the surrounding area.

The proposed Project includes activities that may affect ambient air quality during the operation phase:

- Motorized traffic on the along the project site, including light vehicles and heavy goods vehicles that will contribute to the release of various air contaminants.
- Operation of mechanical equipment and machinery that will contribute to the release of various air contaminants.

General operation and maintenance activities will have some negative effects on local air quality. Table 7-4 summarizes the pre-mitigation impacts assessment for those activities associated with operating and maintaining the VTC.

Table 7-4: Operation Activities Impact Assessment for Ambient Air Quality

Assessment of Pre- mitigation Impacts	Activities associated with operating and maintaining the project investments will only slightly alter local ambient air quality thus resulting in an overall low intensity. Impacts will occur during operation and therefore would be characterized as having a short-term duration. The impacts should mainly be felt at the AoI level, that is within the work site and in its immediate surroundings, thus resulting in an impact of minor magnitude.		
Direction	☒ **Positive**	☒ **Negative**	
Intensity	☒ **Low**	☐ Medium	☐ High
Geographic Extent	☐ Limited (PDA)	☒ **Local (AOI)**	☐ Regional (RAA)
Duration	☒ **Short-term**	☐ Medium-term	☐ Long-term
Magnitude	☒ **Minor**	☐ Moderate	☐ Major

Recommended Mitigation Measures

Although the effect of the following measures is expected to be limited, they would at least ensure the magnitude of the impact remains minor.

- Avoid leaving mechanical equipment, machinery, trucks, and vehicles idling unnecessarily at the work site.
- Ensure all vehicles, equipment and machinery are in good working order with a particular attention to motor combustion efficiency and antipollution systems.

Determination Of Residual Impacts

The implementation of the proposed mitigation measures recommended above will ensure that the Project's residual impacts of operation and maintenance activities on ambient air quality remain minor as they will help reduce further the intensity while the extent and duration remain the same.

GHG Emissions

GHG emissions will be impacted at the Pre-Construction, Construction and Operation phases. Current Greenhouse gas emissions in Zanzibar are low (0.6tCO2 e/capita) and is expected to increase in the coming years. However, the RGoZ has put in place strategies to mitigate this.

Pre-Construction and Construction Phases

The proposed Project includes multiple Pre-Construction and Construction phases activities that may affect GHG emissions:

- The implementation of temporary construction facilities, site preparation, use of borrow pits and quarries, structural work will require the operation of mechanical equipment and machinery that will contribute to the emission of GHGs.
- The manufacturing of cement used in concrete for structural work will contribute to the emission of GHGs.
- The transportation and circulation (of materials, equipment, and workers) will also contribute to the emission of GHGs.

Direct emissions associated with the project activities include the gas oil used for all construction activities, including the production of concrete, bituminous mixture, and crushed gravel.

The indirect emissions associated with the Project come from the production of cement used for the concrete. The GHG emissions for asphalt and bitumen are negligible.

Table 7-5 summarizes the anticipated impacts and presents the impact assessment for GHG emissions.

Table 7-5: Pre-Construction and Construction Phases Impact Assessment for GHG Emissions

Assessment of Pre- mitigation Impact	Considering the Project's very small GHG emissions compared to the country's total or construction-related yearly emissions, the intensity of the impact is considered low. The GHG emissions will mostly be emitted in the local area at the work sites or ancillary sites. The impacts will occur during the Pre-Construction and Construction phases (medium-term). The resulting magnitude of impacts is thus minor.		
Direction	☐ Positive	☒ **Negative**	
Intensity	☒ **Low**	☐ Medium	☐ High
Geographical Extent	☐ Limited	☒ **Local**	☐ Regional
Duration	☐ Short-Term	☒ **Medium-Term**	☐ Long-Term
Magnitude	☒ **Low**	☐ Moderate	☐ Major

Recommended Mitigation Measures

Standard and specific mitigation measures applicable for GHG are included in those proposed for the Pre-Construction and Construction phases for ambient air quality. Although their effect is expected to be limited, they would at least ensure the magnitude of

the impact remains minor.

In addition, to have a perceptible effect on GHG emissions, the following mitigation opportunities should be considered by the Project proponents:

- Implement an Eco-driving attitude program that will help better manage heavy equipment and fuel consumption.
- When practically possible, use alternative technologies, energy sources and materials.

Determination of Residual Impacts

The implementation of the proposed mitigation measures recommended above will ensure that the Project's residual impacts on ambient air quality remain minor as they will help reduce further the intensity while the extent and duration remain the same.

Operation Phase

The proposed Project includes the following activities that may affect GHG emissions during the operation phase:

- Motorized traffic on the roads along the project site, including light vehicles and heavy goods vehicles that will contribute to the emission of GHGs.
- Operation of mechanical equipment and machinery that will contribute to GHG emissions.

The main sources of GHG emissions during the operation phase are the consumption of fuel by the O&M fleet and the electricity needed to run the facility. The vocational training centre is not expected to be a high emitter of GHGs.

7.3.1.1.2 Ambient Noise

Pre-Construction and Construction Phases

At this stage of the project, it is difficult to estimate the noise levels that will be perceived in the vicinity of the construction work sites. Indeed, these can vary according to several factors, including the distance between noisy equipment and sensitive areas, the duration of noise emissions, the type and amount of equipment operating simultaneously, etc. In addition, details of the construction methods or equipment and machinery that will be used during the work are not yet known specifically.

Nevertheless, it will be important to respect the noise levels set in the noise permit to be obtained from ZEMA when working in the vicinity of sensitive areas including residential, institutional and/or educational components.

Base line data for ambient noise was collected at a point within the Project Area of Influence. Results from sampling indicated noise levels ranged between 28 and 35 dBA. This indicates that noise levels were within allowed limits by national regulations and IFC/WB guidelines.

Main Sources of Impacts and Anticipated Effects

The proposed Project includes Pre-Construction and Construction phase activities that may affect ambient noise:

- Movement and operation of heavy vehicles and machinery used to implement temporary construction facilities, for site preparation and other construction work requirements.
- Operation of borrow pits and quarries (extraction sites);
- Construction of structural work

Table 7-6 summarizes the anticipated impacts and presents the impact assessment for noise.

Table 7-6: Impact Assessment for Ambient Noise

Assessment of Pre-mitigation Impact	The noise from the pre-construction and construction works should only be perceptible locally around the project site and extraction sites. Construction noise sources will be felt for the entire duration of the construction period. The same for extraction sites which will be in full operation until all investors have completed their structures where applicable. Thus, duration of impact is considered short-term. The expected impact magnitude will thus be moderate.		
Direction	☐ Positive	☒ **Negative**	
Intensity	☐ Low	☐ Medium	☒ **High**
Geographical Extent	☐ Limited	☒ **Local**	☐ Regional
Duration	☒ **Short-Term**	☐ Medium-Term	☐ Long-Term
Magnitude	☐ Minor	☒ **Moderate**	☐ Major

Recommended Mitigation Measures

- Maintain equipment and machinery including brakes, mufflers, catalyzers and silencers in good running condition, clean (power washed), free of leaks, excess oil and grease.
- Prohibit idling of vehicles on site or near sensitive receptors. Generators and machinery should be shut down when not in use.
- Inform drivers to limit speed in sensitive areas and to limit noise from the rear panel of dumpster truck.
- Drivers should be sensitized on noise reduction measures through an Eco-driving attitude program.
- Equip the compressors and generators used on site with an acoustic enclosure, a noise barrier or placing them in a soundproof box. This is particularly important for such equipment that requires round-the-clock operation in areas with sensitive receptors.
- If blasting is required at quarry sites, ensure noise and vibration mapping has been realized, limit load of explosives accordingly and advise local population in advance to prevent nuisances.
- Installation of temporary noise barriers where necessary.
- Implement a regular noise survey program to document, on a regular basis, noise levels on the various work sites.

- If ambient noise-related grievances are received, develop, and conduct a specific noise monitoring program to verify existing problems and evaluate additional actions required.

DETERMINATION OF RESIDUAL IMPACTS

Considering the recommended mitigation measures, the Project's residual impacts on ambient noise are assessed in Table 7-7 below.

Table 7-7: Determination of the Project's Residual Impacts on Ambient Noise

Assessment and Justification of Residual Impacts	Considering the implementation of the proposed mitigation measures, the intensity of the residual impact will be medium. As for the extent and duration, they will both remain the same that is respectively local and short-term. The magnitude of the residual impact thus remains moderate.		
Direction	☐ Positive	☒ **Negative**	
Intensity	☐ Low	☒ **Medium**	☐ High
Geographical Extent	☐ Limited	☒ **Local**	☐ Regional
Duration	☒ **Short-Term**	☐ Medium-Term	☐ Long-Term
Magnitude	☐ Low	☒ **Moderate**	☐ Major

Operation Phase

The main source of impact is associated with construction and operation works by investors. Operation activities could also generate increased noise levels temporarily and in limited areas of the project site.

Recommended Mitigation Measures

- Maintain equipment and machinery including brakes, mufflers, catalyzers and silencers in good running condition, clean (power washed), free of leaks, excess oil and grease.
- Prohibit idling of vehicles on site or near sensitive receptors. Generators and machinery should be shut down when not in use.
- Drivers should be sensitized on noise reduction measures through an Eco-driving attitude program.
- If ambient noise-related grievances are received for a section of the project site where no noise reduction measures have been implemented, develop, and conduct a specific noise monitoring program to verify existing problems and evaluate additional actions required.

Associated With Operational Phase and Activities

- Respect the noise levels set in the noise permit to be obtained from ZEMA when working in the vicinity of sensitive areas including residential, institutional and/or educational components.
- If ambient noise-related grievances are received, develop, and conduct a specific noise monitoring program to verify existing problems and evaluate additional actions required.

Determination Of Residual Impacts

Considering the recommended mitigation measures, the Project's residual impacts on noise and vibrations are assessed in Table 7-8.

Table 7-8: Determination of the Project's Residual Impacts on Ambient Noise

Assessment and Justification of Residual Impacts	The impact extent and duration remain unchanged with respective local and long-term effects. Resulting impact residual magnitude should be moderate for all construction work		
Direction	☒ **Positive**	☒ **Negative**	
Intensity	☒ **Low**	☒ **Medium**	☐ High
Geographical Extent	☐ Limited	☒ **Local**	☐ Regional
Duration	☐ Short-Term	☐ Medium-Term	☒ **Long-Term**
Magnitude	☐ Low	☒ **Moderate**	☐ Major

7.3.1.1.3 Water Resources

Assessment of water resources considers four VECs, hydrology, surface water quality, groundwater quality and groundwater quantity.

Hydrology

Hydrology will be impacted at the Pre-Construction, Construction and Operation phases. Information relating to the hydrology baseline conditions are presented in the Environmental and Social Baseline chapter.

Pre-Construction and Construction Phases

The proposed Project includes Pre-Construction and Construction phases activities that may affect hydrology:

- The earthworks associated with the implementation of temporary construction facilities and site preparation activities may result in the deposition of materials in watercourses possibly obstructing them or affecting the water flow. These works may also modify existing surface water run-off patterns.
- The replacement or implementation of new drainage and stormwater management installations may cause the temporary obstruction or encroachment of watercourses.

Table 7-9 summarizes the anticipated impacts and presents the impact assessment for hydrology.

Table 7-9: Impact Assessment for Hydrology

Assessment of Pre-mitigation Impact	Considering there are no existing watercourses in the project are the intensity of the impact is considered low. It is anticipated that impacts of watercourse obstruction may be felt up to a local extent (AOI). Impacts will occur during specific work and therefore would be characterized as

	having a short-term duration. Consequently, the magnitude of the impact is considered moderate.		
Direction	☐ Positive	☒ **Negative**	
Intensity	☒ Low	☐ Medium	
Geographical Extent	☐ Limited	☒ **Local**	☐ Regional
Duration	☒ **Short-Term**	☐ Medium-Term	☐ Long-Term
Magnitude	☐ Low	☒ **Moderate**	☐ Major

Recommended Mitigation Measures

- Define vehicle and machinery movement routes within the work site and ensure they are respected to limit the creation of ruts.
- Where possible, run-off water from the work area and adjacent lands should be captured through ditches and redirected appropriately.
- As much as possible, conduct work that may impact local hydrology during the dry seasons to minimize the risks associated with watercourse obstruction or encroachment.
- Ensure adequate water flow during work by diverting flood prone watercourses for the duration of the work if it needs to be done during rain seasons.
- Except where specifically required, avoid storage of granular or any other material within, on the shore of or near (less than 30 m) of a water course to limit the risks of such material impeding water flow.

Determination of Residual Impacts

Considering the recommended mitigation measures, the Project's residual impacts on hydrology are assessed in Table 7-10.

Table 7-10: Determination of the Project's Residual Impacts on Hydrology

Assessment and Justification of Residual Impacts	Implementation of the proposed mitigation measures has the capacity to reduce inadequate water flows within the Project boundaries. The intensity of the residual impact is thus considered low. Moreover, the mitigation measures should also result in more localized impacts restricted to the AoI. Impacts will still occur during specific work and therefore would be characterized as having a short-term duration. The resulting magnitude of impacts becomes minor.		
Direction	☐ Positive	☒ **Negative**	
Intensity	☐ Low	☒ **Medium**	☐ High
Geographical Extent	☒ **Limited**	☐ Local	☐ Regional
Duration	☒ **Short-Term**	☐ Medium-Term	☐ Long-Term
Magnitude	☒ **Low**	☐ Moderate	☐ Major

Operation Phase

The main sources of impacts that may affect hydrology at operation phase includes:
The presence of the new investments which should have:

- On one side, a positive effect on surface water management since overall water management will be revised in the Project's design to ensure:
  - efficient capture and redirection of stormwater flowing from the site toward existing water courses or municipal storm sewers;
  - adequate sizing of culverts where necessary, to minimise risk of upstream flooding during rainy season.
- Operation activities which include culverts and drainage network cleaning which should ensure high-level water management over the whole operation phase.

Overall, the Project is expected to have a positive impact on current local hydrology as it will improve management of water flowing through the site. In addition, the regular maintenance planned within the day-to-day operation and management of the Vocational Training Centre will also be beneficial as it will ensure proper functioning of the drainage network and infrastructure.

The negative impacts magnitude analysis for this VEC are summarized in Table 7-11.

Table 7-11: Impact Assessment of Operation Activities for Hydrology

Assessment of Pre-mitigation Impact	Perturbations caused by these activities would be felt locally while duration would be short-term as it would occur only for a limited period of the operation phase. The resulting magnitude of impacts is minor.		
Direction	☒ **Positive**	☒ **Negative**	
Intensity	☒ **Low**	☐ Medium	☐ High
Geographical Extent	☐ Limited	☒ **Local**	☐ Regional
Duration	☒ **Short-Term**	☐ Medium-Term	☐ Long-Term
Magnitude	☐ **Minor**	☐ Moderate	☐ Major

Recommended Mitigation Measures

- Conduct regular inspection and cleaning of culverts to remove encumbrances and maintain the efficiency of the drainage system.

Determination of Residual Impacts

Considering the recommended mitigation measures, the Project's residual impacts on hydrology are positive for the presence of the project.

Table 7-12: Determination of the Project's Activities Residual Impacts on Hydrology

Assessment and Justification of Residual Impacts	Implementation of the proposed mitigation measures will ensure that the intensity of the operation impacts remains low. Any remaining perturbation would be felt locally while duration would be short-term as it would occur only for a limited period of the operation phase. The resulting magnitude of impacts remains minor.

Direction	☒ **Positive**	☒ **Negative**	
Intensity	☒ **Low**	☐ Medium	☐ High
Geographical Extent	☐ Limited	☒ **Local**	☐ Regional
Duration	☒ **Short-Term**	☐ Medium-Term	☐ Long-Term
Magnitude	☒ **Minor**	☐ Medium	☐ Major

7.3.1.1.4 Surface Water Quality

Surface water quality will be impacted at the Pre-Construction, Construction and Operation phases. Information relating to the surface water quality baseline conditions are presented in the Environmental and Social Baseline chapter. Information on baseline conditions for hydrography is also relevant to surface water quality and are presented in the Environmental and Social Baseline chapter.

Pre-Construction and Construction Phases

The proposed Project includes Pre-Construction and Construction phases activities that may directly affect surface water quality:

- The removal of existing vegetation may encourage soil run-off to watercourses, thus affecting the surface water quality.
- Heavy vehicle, equipment, and machinery traffic on the work sites may disturb surface soils that could be carried by surface water run-off to watercourses, contributing to the modification of surface water quality.
- Temporary stockpiling of granular material or soil may result in increased suspended solids in nearby surface water as part of this material may be carried to watercourses by run-off during rainy periods.
- The cleaning of concrete trucks at work sites may cause the release of contaminants that can be carried by surface water run-off to watercourses.
- Wastewater generated by concrete mixing plants at site may cause the degradation of surface water quality.
- Accidental spills or leaks of contaminants potentially directly or indirectly (carried by surface water run- off) reaching surface water, resulting in contamination of these bodies.
- The use of ground water wells to supply water for staff and maintenance activities, which may impact groundwater quantity.
- Improper storage of fuel at the site.
    - improper storage of hazardous products and waste, including storage of cement powder bags.
    - inadequate maintenance of trucks, vehicles, machinery, and motorized equipment
    - inappropriate fueling practices and location for vehicles, machinery, and other motorized equipment.

Overall, the pre-construction and construction activities could essentially affect water

quality through the introduction of suspended particles and some chemical contaminants mainly petroleum based.

Taking into consideration these observations, Table 7-13 summarizes the anticipated impacts and presents the impact assessment for surface water quality.

Table 7-13: Impact Assessment for Surface Water Quality

Assessment of Pre-mitigation Impact	Considering the number of pre-construction and construction activities that can affect surface water quality, the sensitivity of many watercourses in proximity to the Project, the intensity of the impact is considered high. Since contaminants reaching watercourses will be transported by them, the extent of the impact is regional. Generated impacts could be felt during the construction period for each investor and therefore would be characterized as having a medium-term duration. Consequently, the magnitude of the impact is major.		
Direction	☐ Positive	☒ **Negative**	
Intensity	☐ Low	☐ Medium	☒ **High**
Geographical Extent	☐ Limited	☐ Local	☒ **Regional**
Duration	☐ Short-Term	☒ **Medium-Term**	☐ Long-Term
Magnitude	☐ Low	☐ Medium	☒ **Major**

Recommended Mitigation Measures

- Ensure vehicles, equipment and machinery are in good working order to minimize leak of contaminants.
- Remove existing vegetation as late as possible as soon as possible to avoid leaving soils bare for longer than necessary to limit getting swept in water runoff.
- Keep terrestrial and aquatic spill kits at the work site to accelerate intervention to confine and recuperate any occurring accidental spills or leaks.
- Ensure the development of a strong Environmental Management Plan, including but not limited to, a Spill Prevention and Response Plan and a Waste Management Plan that should consider the following recommendations:
    - Hazardous waste and hazardous material (including cement powder bags) storage facilities should be built on an impermeable surface offering confinement capacity in the event of a spill or release. These storage facilities should offer protection against weather conditions, be access limited and secured, clearly identify content, and present the names and coordinates of resources to contact in the event of spill or release.
    - Store all waste in distinct closed containers to allow for some segregation (recyclables and waste) and adequate confinement.
    - The fuel trucks that will ensure fueling of machinery at the work sites should carry a spill kit. Except for fixed water works equipment that cannot be moved, all machinery should be moved away from water side before fueling (at least 30 m). All fuel storage tanks should be equipped with adequate and required confinement capacity.
    - Ensure some of the personnel trained are available to intervene in the event

of accidental spills or leaks.

- ♦ Contacts of firms (names and phone numbers) specialized in spill intervention must be kept on-site in the event of a spill or leak that cannot be handled with on-site spill kits alone.
- ♦ Ensure material used for construction comes from known clean sources to avoid chemical contamination. If soils from a non-certified site are accepted, characterization prior to use is recommended.

- After confirming with the Zanzibar Environment Management Authority (ZEMA) of existing options, all waste should be properly stored on site in appropriate containers and regularly disposed off-site by certified companies.
- Use adequate wastewater capture and/or treatment installations for wastewater from concrete production and surface waters from quarries in order to respect selected applicable criteria for release in the environment.
- Ensure dedicating a specific area for the cleaning of concrete trucks. Capture the resulting wastewater and proceed to adequate treatment or disposal.
- If surface water contamination-related grievances are received, develop, and conduct a surface water quality monitoring program to verify existing problems and evaluate action requirements.

Determination Of Residual Impacts

Considering the recommended mitigation measures, the Project's residual impacts on surface water quality are assessed in Table 7-14 below.

Table 7-14: Determination of the Project's Residual Impacts on Surface Water Quality

Assessment and Justification of Residual Impacts	Implementation of the proposed mitigation measures has the capacity to reduce impacts resulting in the overall lowering of contaminants and soils transported to watercourses or wetlands. The intensity of the residual impact is thus considered medium. However, residual impacts will still be felt at the regional scale and for the duration of the Project (medium-term duration). The resulting magnitude of impacts remains moderate.		
Direction	☐ Positive	☒ **Negative**	
Intensity	☐ Low	☒ **Medium**	☐ High
Geographical Extent	☐ Limited	☐ Local	☒ **Regional**
Duration	☐ Short-Term	☒ **Medium-Term**	☐ Long-Term
Magnitude	☐ Low	☒ **Moderate**	☐ Major

Operation Phase

The proposed Project activities that may affect surface water quality during the operation phase are linked with operation activities, but also with the presence of the new infrastructure. The main impacts include:

- Accidental spills or leaks of contaminants potentially directly or indirectly (carried by surface water run-off) reaching surface water, resulting from:
  - ▪ inadequate maintenance of vehicles transporting material to the site, machinery, and other motorized equipment used during operation activities.

Table 7-15: Impact Assessment for Surface Water Quality

Assessment of Pre-mitigation Impact	Considering that the Project is not located near a close proximity to a sensitive water body, the intensity of the impacts is considered low. The impacts will occur during the whole Operation phase (medium-term). As for the potential perturbations to water quality associated with inspection and cleaning of the water crossing infrastructures, the intensity of the impact is also considered to be low with a local extent. However, the duration will be short-term as the associated work will be very limited in time. The resulting magnitude of impacts is for both impacts minor.		
Direction	☒ **Positive**	☒ **Negative**	
Intensity	☒ **Low**	☐ Medium	☐ High
Geographical Extent	☐ Limited	☒ **Local**	☐ Regional
Duration	☒ **Short-Term**	☒ **Medium-Term**	☐ Long-Term
Magnitude	☒ **Minor**	☐ Moderate	☐ Major

Recommended Mitigation Measures

- Ensure vehicles, equipment and machinery used for maintenance activities are in good working order to minimize leak of contaminants.
- Develop and implement an emergency preparedness and response plan in case of accidental pollution.
- Keep terrestrial and aquatic spill kits on construction vehicles to accelerate intervention in the event of a spill due to an accident.
- Ensure the development of a strong Environmental Management Plan, including but not limited to, a Spill Prevention and Response Plan and a Waste Management Plan that should consider the following recommendations:
    - Hazardous waste and hazardous material storage facilities should be built on an impermeable surface offering confinement capacity in the event of a spill or release. These storage facilities should offer protection against weather conditions, be access limited and secured, clearly identify content and present the names and coordinates of resources to contact in the event of spill or release.
    - Store all waste in distinct closed containers to allow for some segregation (recyclables and waste) and adequate confinement.
    - Ensure that some of the personnel trained are available to intervene in the event of accidental spills or leaks.
    - Contacts of firms (names and phone numbers) specialized in spill intervention must be kept on-site in the event of a spill or leak that cannot be handled with on-site spill kits alone.
    - Ensure material used for maintenance comes from known clean sources to avoid chemical contamination. If soils from a non-certified site are accepted, characterization prior to use is recommended.
- After confirming with Zanzibar Environment Management Authority (ZEMA) of existing options, all waste should be properly disposed off-site by certified companies.

Determination of Residual Impacts

Considering the recommended mitigation measures, the Project's residual impacts on surface water quality are assessed in Table 7-16.

Table 7-16: Determination of the Project's Residual Impacts on Surface Water Quality

Assessment and Justification of Residual Impacts	The proposed mitigation measures will ensure that the positive impacts are enhanced and that the negative impact of the Project on surface water quality remains low therefore the intensity remains low. Similarly, the extent of the impacts should only be felt locally and for a short period or the whole of the operation phase (short to medium-term). The magnitude of the impact becomes minor.		
Direction	☒ **Positive**	☒ **Negative**	
Intensity	☒ **Low**	☐ Medium	☐ High
Geographical Extent	☐ Limited	☒ **Local**	☐ Regional
Duration	☒ **Short-Term**	☒ **Medium-Term**	☐ Long-Term
Magnitude	☒ **Minor**	☐ Medium	☐ Major

7.3.1.1.5 Groundwater Quality

Information relating to the groundwater quality baseline conditions is presented in section of the description of Baseline Conditions chapter. Groundwater quality will be impacted at the Pre-Construction, Construction and Operation phases.

Pre-Construction and Construction Phases

The proposed Project includes Pre-Construction and Construction activities that may affect groundwater quality:

- The implementation and use of temporary construction facilities (including borrow pits and quarries) and the construction of Project infrastructure may result in accidental spills or leaks of contaminants. These could reach groundwater through soils (when near the surface) through nearby existing wells or through existing natural surface connections (wetlands), thus potentially affecting its quality. The problem may result from accidental spills and leaks over a long period of time coming from:
  - Improper location of storage sites;
  - improper storage of hazardous products and waste, including storage of cement powder bags;
  - inadequate maintenance of trucks, vehicles, machinery, and motorized equipment (e.g., motorized tools).
- The construction of ground water boreholes may result in accidental spills or leaks of contaminants through inadequate maintenance of drilling equipment which could potentially reach groundwater and affect its quality.

Table 7-17 summarizes the anticipated impacts and presents the impact assessment for groundwater quality for the Pre-Construction and Construction phases.

Table 7-17: Pre-Construction and Construction Phases Impact Assessment for Groundwater Quality

Assessment of Pre-mitigation Impacts	The project impacts on ground water may be of high intensity. Impacts will be of local (AoI) extent. If contamination reaches groundwater, repercussions may be felt for the duration of construction phase of investments and longer, thus duration is considered long-term. The overall magnitude of the impact is considered major.		
Direction	☐ Positive	☒ **Negative**	
Intensity	☐ Low	☐ Medium	☒ **High**
Geographic Extent	☐ Limited (PDA)	☒ **Local (AoI)**	☐ Regional (RAA)
Duration	☐ Short-term	☐ Medium-term	☒ **Long-term**
Magnitude	☐ Minor	☐ Moderate	☒ **Major**

Recommended Mitigation Measures

- Ensure vehicles, equipment and machinery are in good working order to minimize leaks of contaminants.
- Keep terrestrial and aquatic spill kits at the work site to accelerate intervention in the event of a spill or leak during the Pre-Construction activities.
- Ensure the development of a strong Environmental Management Plan, including but not limited to, a Spill Prevention and Response Plan and a Waste Management Plan that should consider the following recommendations:
    - Hazardous waste and hazardous material (including cement powder bags) storage facilities should be built on an impermeable surface offering confinement capacity in the event of a spill or release. These storage facilities should offer protection against weather conditions, be access limited and secured, clearly identify content and present the names and coordinates of resources to contact in the event of spill or release.
    - Store all waste in distinct closed containers to allow for some segregation (recyclables and waste) and adequate confinement.
    - The fuel trucks that will ensure fueling of machinery at the work sites should carry a spill kit. Except for fixed water works equipment that cannot be moved, all machinery should be moved away from water side before fueling (at least 30 m). All fuel storage tanks should be equipped with adequate and required confinement capacity.
    - Ensure personnel trained are available to intervene in the event of accidental spills or leaks.
    - Contacts of firms (names and phone numbers) specialized in spill intervention must be kept on-site in the event of a spill or leak that cannot be handled with on-site spill kits alone.
    - Ensure material used for construction comes from known clean sources to avoid chemical contamination. If soils from a non-certified site are accepted, characterization prior to use is recommended.
    - After confirming with Zanzibar Environment Management Authority (ZEMA) of existing options, all waste should be properly disposed off-site by certified companies.
- If groundwater contamination-related grievances are received, develop and conduct

a groundwater quality monitoring program to verify existing problems and evaluate action requirements.

Determination of Residual Impacts

Considering the recommended mitigation measures, the Project's residual impacts on groundwater quality for the Pre-Construction and Construction phases are assessed in Table 7-18 below.

Table 7-18: Determination of the Project's Residual Pre-Construction and Construction Phases Impacts on Groundwater Quality

Assessment and Justification of Residual Impacts	Implementation of the proposed mitigation measures has the capacity to significantly reduce the risk of contaminants reaching groundwater within the Project area through efficient spills or leaks control. The intensity of the residual impact is thus considered low. However, residual impacts will still be felt at the scale of the AoI and will occur during the full operation period and longer and therefore would be characterized as having a long-term duration. The resulting magnitude of impacts becomes moderate.		
Direction	☐ Positive	☒ **Negative**	
Intensity	☒ **Low**	☐ Medium	☐ High
Geographical Extent	☐ Limited	☒ **Local**	☐ Regional
Duration	☐ Short-Term	☐ Medium-Term	☒ **Long-Term**
Magnitude	☐ Minor	☒ **Moderate**	☐ Major

Operation Phase

The proposed Project activities that may affect groundwater quality during the operation phase is linked with the operation activities, but also with the presence of the new infrastructure. The main impacts include:

- accidental spills or leaks of contaminants potentially directly or indirectly (carried by surface water run-off) reaching surface water, resulting from:
  - Accidents occurring on the site;
  - Inadequate maintenance of vehicles, trucks, machinery, and other motorized equipment used during operational phase activities.

Recommended Mitigation Measures

Recommended mitigation measures concerning groundwater quality for the operation phase are the same as for the Pre-Construction and Construction phases.

Determination of Residual Impacts

Considering the recommended mitigation measures, the Project's residual impacts on groundwater quality for the operation phase are assessed in Table 7-19.

Table 7-19: Determination of the Project's Residual Operation Phase Impacts on Groundwater Quality

Assessment and Justification of Residual Impacts	Implementation of the proposed mitigation measures has the capacity to significantly reduce the risk of contaminants reaching groundwater within the Project area through efficient spills or leaks control. The intensity of the residual impact is thus considered low. However, residual impacts will still be felt at the scale of the AOI and will still occur sporadically therefore would be characterized as having a short-term duration. The resulting magnitude of impacts becomes minor.		
Direction	☒ **Positive**	☒ **Negative**	
Intensity	☒ **Low**	☐ Medium	☐ High
Geographical Extent	☐ Limited	☒ **Local**	☐ Regional
Duration	☒ **Short-term**	☐ Medium-term	☐ Long-Term
Magnitude	☒ **Minor**	☐ Moderate	☐ Major

7.3.1.2 Soil

Assessment of soil and sediments considers three VECs, soil stability/erosion, soil quality and sediment quality. The soil and sediments will be impacted at the Pre-Construction and Construction phases.

7.3.1.2.1 Soil Stability/Erosion

Pre-Construction and Construction Phases

The proposed Project includes Pre-Construction and Construction activities that may affect soil stability and erosion:

- The implementation of temporary or preliminary site investigations or staging areas may result in the disturbance of vegetation and or the concentration of rainwater runoff, both resulting in potential soil erosion. The problem will typically result from clearing of vegetation for detailed surveys prior to construction.
- Site preparation (e.g., clearing of vegetation).
- Modification of slopes (cut and fill operations).
- Direct and indirect soil disturbance.
- Concentrating rainwater flows prior to adequate stormwater system creation.
- Creation of borrow pits.

Table 7-20 summarizes the anticipated impacts and presents the impact assessment for soil stability/erosion for the Pre-Construction phase.

Table 7-20: Pre-Construction and Construction Impact Assessment for Soil Stability/Erosion

Assessment of Pre-mitigation Impact	Soil erosion and stability impacts are typically irreversible (even if stopped) and as such, high intensity impacts are likely. Activities will remain within the Project area resulting in limited extents. This combined with a long-term duration result in a moderate magnitude impact.		
Direction	☐ Positive	☒ **Negative**	
Intensity	☐ Low	☐ Medium	☒ **High**

Geographical Extent	☐ Limited	☒ **Local**	☐ Regional
Duration	☐ Short-Term	☐ Medium-Term	☒ **Long-Term**
Magnitude	☐ Minor	☒ **Moderate**	☐ Major

Recommended Mitigation Measures

- Ensure the development of a strong Environmental Management Plan, including but not limited to, site assessment requirements prior to disturbances and availability of soil erosion protection systems.
- Detailed slope stability assessments should be done where required for in areas of cut and or fill operations within the final route alignment. Final designs are to include suitable mitigation measures based on the findings of such studies. Soil stability and erosion should be monitored prior to the installation of such final mitigation measures.
- Areas disturbed indirectly as part of construction activities (e.g., temporary access routes, temporary vegetation clearing) should be protected from erosion and returned to a protected state after disturbing activity is removed.
- Temporary runoff and erosion control management plans should be created and implemented during construction phases.

Determination of Residual Impacts

Considering the recommended mitigation measures, the Project's residual impacts on soil stability/erosion for the Pre-Construction phase are assessed in Table 7-21.

Table 7-21: Determination of the Project's Residual Pre-Construction Impacts on Soil Stability/Erosion

Assessment and Justification of Residual Impacts	Implementation of the proposed mitigation measures should allow for a substantial reduction of significant impacts related to soil erosion or stability. The intensity of the residual impact is thus considered low. The impacts remain limited and long-term thus resulting in a minor magnitude of impacts.		
Direction	☐ Positive	☒ **Negative**	
Intensity	☒ **Low**	☐ Medium	☐ High
Geographical Extent	☒ **Limited**	☐ Local	☐ Regional
Duration	☐ Short-Term	☐ Medium-Term	☒ **Long-Term**
Magnitude	☒ **Minor**	☐ Moderate	☐ Major

Operation Phase

There are no anticipated project impacts on soil stability/erosion during the operation phase under the assumption that the stormwater system is adequately designed, constructed and is well maintained. As a minimum these aspects should be confirmed during an audit during the first rain season after construction and a stormwater maintenance and management plan should be created to reassess the system on a regular basis during the operational stage.

7.3.2 Biological Environment

This subsection describes the effects on biodiversity VECs.

7.3.2.1 Habitat And Flora

Pre-Construction and Construction Phases

The main sources of impacts on vegetation are:

- Implementation of temporary construction facilities;
- Site preparation;
- Transportation and circulation;
- Use of borrow pits and quarries;
- Waste and hazardous materials management.

The site preparation works will involve removal of vegetation and felling of trees present within the site. The implementation of temporary construction facilities and new borrow pits and quarries will also lead to vegetation loss. Soil compaction and sealing of soil surface will also reduce the 'availability' of land for vegetation. Overall, the habitat loss is expected to be high as the site is undeveloped. Construction traffic, earthworks and management of hazardous waste material can also have an indirect impact on vegetation from dust, particles; oil/fuel. Impacts will be limited to the project site.

Construction activity can promote the spread of invasive species in a number of ways, e.g., by providing them a foothold in disturbed ground where they tend to flourish, by bringing in seeds or propagules with building materials, or by moving them to new sites through earth-moving operations. The use of earth-moving equipment and other transport vehicles during construction activities can result in the dispersal of alien plant material to other localities.

Table 7-22 summarizes the anticipated impacts and presents the impact assessment for habitat and flora.

Table 7-22: Impact Assessment for Habitat and Flora

Assessment of Pre-mitigation Impact	Considering the existing condition of vegetation to be affected, the intensity of the impact is considered medium. Since most impact on vegetation will be within the project site, the geographical extent is considered limited. Vegetation loss will last throughout the project lifetime and is thus long term. Consequently, the magnitude of the impact is considered moderate.		
Direction	☐ Positive	☒ **Negative**	
Intensity	☐ Low	☒ **Medium**	☐ High
Geographical Extent	☒ **Limited**	☐ Local	☐ Regional
Duration	☐ Short-Term	☐ Medium-Term	☒ **Long-Term**
Magnitude	☐ Minor	☒ **Moderate**	☐ Major

Recommended Mitigation Measures

- Avoid unnecessary clearance of vegetation.
- Preserve existing vegetation where no construction activity is planned.
- Protect small patches of natural and regenerated habitat located at the limit of the work site, such as clumps of trees etc. These areas must be designated as sensitive, and staff and contractors must be formally made aware that these areas are not to be destroyed.
- Maximise the use of vegetation resources from areas that are cleared for construction activities as specified by ZEMA or Zanzibar department of Forests directives.
- Remove and keep topsoil to be reused in the same area for revegetation needs. Revegetate temporally disturbed areas once the work is completed with indigenous flora species.
- In order to limit the propagation of invasive species, all such invasive species within the area of impact shall be removed/cleared and replanted with local species.
- Inspect construction vehicles and heavy machinery before first mobilization on site to ensure they are free of soil or viable segments of invasive alien species.
- Do not use soils potentially contaminated with invasive alien species as a covering material on site or elsewhere.
- Ensure the development of a strong Environmental Management Plan, including but not limited to, a Spill Prevention and Response Plan and a Waste Management Plan.
- Rehabilitate burrow pits using indigenous vegetation when works are completed, or in accordance with landowner agreement.
- Implement a construction closure plan in which rehabilitation measures are defined and budgeted.
- All construction material and waste must be removed from the construction sites and the area rehabilitated once works are completed.
- Conduct a pre-construction walkover tree survey within the project site, quarry sites and other temporary construction facilities to identify the locations of tree species of conservation interest or of use value if any. Mark and leave undisturbed to the extent feasible.
- Undertake compensatory plantations either along the project perimeter or at places identified by the Zanzibar Forestry Department, in order to compensate for the tree felled.
- When possible, plant suitable indigenous trees along the perimeter of the site that will not only act as shade or resource but help in creating suitable habitat in improving connectivity to other surrounding natural areas. Creating an interconnected greenbelt by planting roadsides with suitable, indigenous vegetation that will improve biodiversity. Trees planted will also act as atmospheric pollution barriers.

Determination of Residual Impacts

Considering the recommended mitigation measures, the Project's residual impacts on habitat and flora are assessed in Table 7-23.

Table 7-23: Determination of the Project's Residual Impacts on Habitat and Flora

Assessment and Justification of Residual Impacts	The proposed measures will ensure some indigenous species remain within the road reserve and will limit loss of sensitive habitat, reducing the intensity of the impact to low. The geographical extent is still considered limited. Vegetation loss will last throughout the project lifetime and is thus long term. Consequently, the magnitude of the residual impact on habitat and flora is considered minor.		
Direction	☐ Positive	☒ **Negative**	
Intensity	☒ **Low**	☐ Medium	☐ High
Geographical Extent	☒ **Limited**	☐ Local	☐ Regional
Duration	☐ Short-Term	☐ Medium-Term	☒ **Long-Term**
Magnitude	☒ **Minor**	☐ Moderate	☐ Major

Operation Phase

The main source of impact during the operation phase is the presence of new infrastructure in the locality.

During operation, and in general, periodic maintenance of a site limits the growth of trees within the locality. By modifying the conditions of wind, temperature, humidity and insolation, the presence of the opening created by constructions has an edge effect which results in modifications to the vegetation in the natural habitats in the project area of influence. Also, the dust generated by automobile traffic can deposit on vegetation and thus affects photosynthesis, respiration, and plant transpiration, resulting in a loss of productivity. Invasive alien plants can also take advantage of the disturbances created by the works and the existence of this dissemination corridor to colonize the road edges.

An indirect impact of the project is the increased accessibility to the project area of influence, which can spur changes in local land use and lead to the conversion of natural areas to residential areas, pasture, or cropland. Opportunities provided by the vocational training centre, will result in increased traffic and settlement opportunities along the project area of influence. The influx will further attract traders, their employees and families and the net result will be an increase in the number of people living in the area and of land conversion. The population growth and easier access can further lead to increased pressure on the natural resources of the area, which can cause habitat degradation and depletion of some use-value flora species. Due to the sparse nature of vegetation in the project area, the impacts of additional loss of habitat through the influx of people to the area is expected to be limited.

Table 7-24 summarizes the anticipated impacts and presents the impact assessment for habitat and flora.

Table 7-24: Impact Assessment for Habitat and Flora

Assessment of Pre-mitigation Impact	The expected direct impacts during the operation phase on habitats and flora is judged medium. The duration is throughout the project lifetime, hence long-term. The result will be an impact of moderate magnitude.		
Direction	☐ Positive	☒ **Negative**	
Intensity	☐ Low	☒ **Medium**	☐ High
Geographical Extent	☐ Limited	☒ **Local**	☐ Regional
Duration	☐ Short-Term	☐ Medium-Term	☒ **Long-Term**
Magnitude	☐ Minor	☒ **Moderate**	☐ Major

Recommended Mitigation Measures

- Implement an alien plant control and monitoring programme aimed at removing new populations and preventing them from spreading to other natural areas.

Determination of Residual Impacts

Considering the recommended mitigation measures, the Project's residual impacts on habitat and flora are assessed in Table 7-25.

Table 7-25: Determination of the Project's Residual Impacts on Habitat and Flora

Assessment and Justification of Residual Impacts	Implementation of the proposed mitigation measures should allow the reduction of invasive alien species spread during operation and protect sensitive habitats in forest reserves or protected areas. The intensity of the residual impact will be reduced to low and the geographical extent will be limited while duration remains long-term. The resulting impact magnitude will be minor.		
Direction	☐ Positive	☒ **Negative**	
Intensity	☒ **Low**	☐ Medium	☐ High
Geographical Extent	☒ **Limited**	☐ Local	☐ Regional
Duration	☐ Short-Term	☐ Medium-Term	☒ **Long-Term**
Magnitude	☒ **Minor**	☐ Moderate	☐ Major

7.3.2.2 Fauna

The general impacts of construction on fauna include:

- Barrier or filter to the movement of wildlife, reducing accessibility to food and shelter on a daily basis, and preventing or limiting dispersal and annual migrations of wildlife over longer time frames;
- loss of habitat due to clearing for road construction and maintenance, and subsequent loss of habitat to clearing beyond the footprint of the road due to facilitated access;
- habitat fragmentation as patches of habitat is divided into smaller patches;
- degradation of habitat due to noise, light and chemical pollution, weed invasion, altered hydrological regimes, etc.

The amount of habitat being cleared for this project is relatively small because the site is sparsely vegetated. Some vegetation removal within the site is required, however this is

often low-quality regrowth.

7.3.2.3 Birds

Pre-Construction and Construction Phases

The sources of impact for bird populations include:

- Implementation of temporary construction facilities
- Transportation and circulation
- Site preparation
- Use of borrow pits and quarries

The potential impact emanating from the construction process will include:

- Loss of habitat and the potential displacement of bird taxa.
- Habitat degradation due to noise and vibrations, leading to temporary displacement of birds.
- Machinery and vehicle collisions with birds during construction, especially ground birds, can occur from vegetation clearing and soil excavation work.
- Changes to the inundation levels and water chemistry at proximal waterbodies systems due to ineffective stormwater management and or increased surface run-off, thereby resulting in the displacement of congregatory bird species of international importance.
- Increased alien plant encroachment at recently disturbed habitat (after construction), thereby resulting in changes to the floristic structure and composition of natural habitat and ultimately resulting in changes to the bird composition (resulting in the loss of avifaunal richness and increased colonization by generalist bird species).

Because the amount of habitat being cleared for this project is relatively small and the low quality of habitat to be affected, the probable level of bird habitat loss is low.

Table 7-26 summarizes the anticipated impacts and presents the impact assessment for birds.

Table 7-26: Impact Assessment for Birds

Assessment of Pre-mitigation Impact	The loss of bird habitat from construction is minimal, however, some species will be disturbed by construction noise and vibration and by the degradation of water quality. For this reason, the intensity of impact is medium, and the extent is local. The impacts will be mostly limited to the construction period; hence the duration is short-term. Consequently, the magnitude of the impact is considered moderate.		
Direction	☐ Positive	☒ **Negative**	
Intensity	☐ Low	☒ **Medium**	☐ High
Geographical Extent	☐ Limited	☒ **Local**	☐ Regional
Duration	☒ **Short-Term**	☐ Medium-Term	☐ Long-Term
Magnitude	☐ Minor	☒ **Moderate**	☐ Major

Recommended Mitigation Measures

- Implement measures to reduce Noise and Vibrations.
- Implement measures identified to mitigate impacts on hydrology and water quality such as effective stormwater dissipating systems in order to maintain integrity of habitats important to congregatory species.
- Implement measures identified to mitigate impact on habitat and flora.
- Conduct a pre-construction walkover tree survey within the road reserve to identify any active nests of hollow-nesting and canopy-nesting birds. If a threatened bird species is nesting, consult a local avifauna specialist for guidance on actions to be taken.
- Ensure that the directives of the noise permit to be obtained from ZEMA will also be applied in areas of high-quality habitat for birds.

Determination Of Residual Impacts

Considering the recommended mitigation measures, the Project's residual impacts on birds are assessed in Table 7-27.

Table 7-27: Determination of the Project's Residual Impacts on Birds

Assessment and Justification of Residual Impacts	The proposed mitigation measures will reduce the level of disturbance of birds during construction and avoid important impacts on breading. The intensity is thus reduced to low, the geographic extent remains local, and the duration is short term, resulting in a minor magnitude of impacts.		
Direction	☐ Positive	☒ **Negative**	
Intensity	☒ **Low**	☐ Medium	☐ High
Geographical Extent	☐ Limited	☒ **Local**	☐ Regional
Duration	☒ **Short-Term**	☐ Medium-Term	☐ Long-Term
Magnitude	☒ **Minor**	☐ Moderate	☐ Major

Operation Phase

The main source of impacts on birds during the operation phase is the:

- Presence of new infrastructure.

During operation, artificial lighting and noise are likely to lead to habitat degradation for birds. Vehicle noise has also been shown to interfere with communication essential for reproduction. An increase in traffic noise due to the VTC infrastructure may impact birds' ability to maintain territories, attract mates and maintain pair bonds and possibly lead to a decrease in mating success. Table 8-28 summarizes the anticipated impacts and presents the impact assessment for birds.

Table 7-28: Impact Assessment for Birds

Assessment of Pre-mitigation Impact	The intensity of impacts on birds is deemed medium. The increased barrier effect will mostly affect terrestrial bird species. The extent of the impact is local and the duration long-term. The magnitude of impacts is moderate.		
Direction	☐ Positive	☒ **Negative**	
Intensity	☐ Low	☒ **Medium**	☐ High
Geographical Extent	☐ Limited	☒ **Local**	☐ Regional
Duration	☐ Short-Term	☐ Medium-Term	☒ **Long-Term**
Magnitude	☐ Minor	☒ **Moderate**	☐ Major

Recommended Mitigation Measures

- Implement measures to reduce Noise and Vibrations.
- Implement measures identified to mitigate impacts on hydrology and water quality
- Implement measures identified to mitigate impacts on habitat and flora.

Determination Of Residual Impacts

Considering the recommended mitigation measures, the Project's residual impacts on birds are assessed in Table 7-29.

Table 7-29: Determination of the Project's Residual Impacts on Birds

Assessment and Justification of Residual Impacts	The mitigation will further reduce the intensity of the impacts which will be reduced to low. The extent of the impact remains local, and the duration remains long-term. The magnitude of impacts remains moderate.		
Direction	☐ Positive	☒ **Negative**	
Intensity	☒ **Low**	☐ Medium	☐ High
Geographical Extent	☐ Limited	☒ **Local**	☐ Regional
Duration	☐ Short-Term	☐ Medium-Term	☒ **Long-Term**
Magnitude	☒ **Minor**	☐ Moderate	☐ Major

7.3.2.4 Reptiles and Amphibians

Pre-Construction and Construction Phases

The main sources of impact for reptiles and amphibians include:

- Implementation of temporary construction facilities
- Transportation and circulation
- Site preparation
- Use of borrow pits and quarries
- Drainage and stormwater management
- Structural work

The project site is noted to be sparsely populated and mostly under vegetation. These include, trees, bush clumps, etc. Some of the habitat will be lost or transformed during construction work. In addition, construction activities can potentially contaminate

terrestrial habitat. Finally, reptiles and amphibians can be killed during the earthwork activities.

Table 7-30 summarizes the anticipated impacts and presents the impact assessment for reptiles and amphibians.

Table 7-30: Impact Assessment for Reptiles and Amphibians

Assessment of Pre-mitigation Impact	Construction work on the site can lead to the permanent and temporary loss of some herpetofauna habitat. Amphibians are sensitive to pollution of wetlands and water contamination that may be caused by construction work. The intensity of the impact is judged Medium, and the extent is limited. Although some losses will be permanent, most impacts will be limited to the construction period, hence the duration is medium-term. Consequently, the magnitude of the impact is considered moderate.		
Direction	☐ Positive	☒ **Negative**	
Intensity	☐ Low	☒ **Medium**	☐ High
Geographical Extent	☒ **Limited**	☐ Local	☐ Regional
Duration	☐ Short-Term	☐ Medium-Term	☒ **Long-Term**
Magnitude	☐ Minor	☒ **Moderate**	☐ Major

Recommended Mitigation Measures

- Implement measures to reduce Noise and Vibrations.
- Implement measures identified to mitigate impacts on hydrology and water quality.
- Implement measures identified to mitigate impacts on habitat and flora.
- No hunting or fishing by the contractor's crew should be allowed.

Determination of Residual Impacts

Considering the recommended mitigation measures, the Project's residual impacts on reptiles and amphibians are assessed in Table 7-31.

Table 7-31: Determination of the Project's Residual Impacts on Reptiles and Amphibians

Assessment and Justification of Residual Impacts	The protection of some of the existing herpetofauna habitats within the project site will reduce the intensity of the impact to low and limit the geographical extent of impacts on reptiles and amphibians. The duration is still medium-term, and the magnitude of the residual impact is thus minor.		
Direction	☐ Positive	☒ **Negative**	
Intensity	☒ **Low**	☐ Medium	☐ High
Geographical Extent	☒ **Limited**	☐ Local	☐ Regional
Duration	☐ Short-Term	☒ **Medium-Term**	☐ Long-Term
Magnitude	☒ **Minor**	☐ Moderate	☐ Major

Operation Phase

The main sources of impacts on reptiles and amphibians during the operation phase are the:

- Presence of new infrastructures.
- Operational activities may cause temporary perturbations (people working with machinery removing material/wastes causing obstruction) may disturb normal reptile and amphibian activities using water courses and drainage ditches.

Table 7-32 summarizes the anticipated impacts and presents the impact assessment for reptiles and amphibians.

Table 7-32: Impact Assessment for Reptiles and Amphibians

Assessment of Pre-mitigation Impact	The herpetofauna is likely to be affected by the project. The intensity is medium. The geographical extent is local. The duration is long-term because it will last throughout the project's lifetime and beyond. As for perturbation the impact magnitude is moderate.		
Direction	☐ Positive	☒ **Negative**	
Intensity	☐ **Low**	☒ **Medium**	☐ High
Geographical Extent	☒ **Limited**	☒ **Local**	☐ Regional
Duration	☒ **Short-Term**	☐ Medium-Term	☒ **Long-Term**
Magnitude	☐ **Minor**	☒ **Moderate**	☐ Major

Recommended Mitigation Measures

- Implement measures to reduce Noise and Vibrations.
- Implement measures identified to mitigate impacts on hydrology and water quality.
- Implement measures identified to mitigate impacts on habitat and flora.

Determination of Residual Impacts

Considering the recommended mitigation measures, the Project's residual impacts on reptiles and amphibians are assessed in Table 7-33.

Table 7-33: Determination of the Project's Residual Impacts on Reptiles and Amphibians

Assessment and Justification of Residual Impacts	The mitigation measures should reduce barrier effect and collision risks. The intensity of the impact is reduced to low. The geographical extent and duration remain the same. The magnitude of the residual impacts is moderate. As for the magnitude of the impact associated with the inspection and cleaning of the water crossing and drainage structure, it remains minor with a low intensity, limited extent and short- term duration.		
Direction	☐ Positive	☒ **Negative**	
Intensity	☒ **Low**	☐ Medium	☐ High
Geographical Extent	☐ Limited	☒ **Local**	☐ Regional
Duration	☐ Short-Term	☐ Medium-Term	☒ **Long-Term**
Magnitude	☐ Minor	☒ **Moderate**	☐ Major

7.3.2.5 Mammals

Pre-Construction and Construction Phases

The main sources of impact for small mammals include:

- Transportation and circulation
- Site preparation
- Use of borrow pits and quarries
- Presence of workers and influx of job seekers.

Small mammals could suffer mortality from construction traffic and earthwork activities. Also, the presence of workers and influx of job seekers may increase hunting pressure on some mammal species, although this should be limited as hunting is illegal.

No small mammals were noted at the site during the field study.

Table 7-34 summarizes the anticipated impacts and presents the impact assessment for small mammals.

Table 7-34: Impact Assessment for Small Mammals

Assessment of Pre-mitigation Impact	Construction work within the site can lead to the permanent and temporary loss of some mammal habitat. The intensity of the impact is judged Medium. The extent is however limited. Although some losses will be permanent, most impacts will be limited to the construction period, hence the duration is medium-term. Consequently, the magnitude of the impact is considered moderate.		
Direction	☐ Positive	☒ **Negative**	
Intensity	☐ Low	☒ **Medium**	☐ High
Geographical Extent	☒ **Limited**	☐ Local	☐ Regional
Duration	☐ Short-Term	☒ **Medium-Term**	☐ Long-Term
Magnitude	☐ Minor	☒ **Moderate**	☐ Major

Recommended Mitigation Measures

- Implement measures to reduce Noise and Vibrations.
- Implement measures identified to mitigate impacts on hydrology and water quality.
- Implement measures identified to mitigate impacts on habitat and flora.
- No hunting by the contractor's crew should be allowed.

Determination of Residual Impacts

Considering the recommended mitigation measures, the Project's residual impacts on mammals are assessed in Table 7-35.

Table 7-35: Determination of the Project's Residual Impacts on Small Mammals

Assessment and Justification of Residual Impacts	The mitigation measures will avoid some mammal habitat loss. The intensity of the impact is reduced to low. The extent remains limited, and the duration is medium-term. The resulting magnitude of the residual impact is minor.		
Direction	☐ Positive	☒ **Negative**	
Intensity	☒ **Low**	☐ Medium	☐ High
Geographical Extent	☒ **Limited**	☐ Local	☐ Regional
Duration	☐ Short-Term	☒ **Medium-Term**	☐ Long-Term
Magnitude	☒ **Minor**	☐ Moderate	☐ Major

Operation Phase

The main source of impacts on mammals during the operation phase is the:

- Presence of new infrastructure.

The main anticipated effects on small mammals will be barrier effect and road mortality. Small mammals are generally less affected by barrier effect than larger mammals, with impacts increasing with size in mammals and size of movement range and depending on whether their predators have been affected.

Table 7-36 summarizes the anticipated impacts and presents the impact assessment for small mammals.

Table 7-36: Impact Assessment for Mammals

Assessment of Pre-mitigation Impact	The construction will have an impact on mammals. The intensity of this is medium and the geographical extent is local. The duration is long-term because it will last throughout the project's lifetime and beyond. The impact magnitude is moderate.		
Direction	☐ Positive	☒ **Negative**	
Intensity	☐ Low	☒ **Medium**	☐ High
Geographical Extent	☐ Limited	☒ **Local**	☐ Regional
Duration	☐ Short-Term	☐ Medium-Term	☒ **Long-Term**
Magnitude	☐ Minor	☒ **Moderate**	☐ Major

Recommended Mitigation Measures

- Implement measures to reduce Noise and Vibrations.
- Implement measures identified to mitigate impacts on hydrology and water quality.
- Implement measures identified to mitigate impacts on habitat and flora.

Determination of Residual Impacts

Considering the recommended mitigation measures, the Project's residual impacts on mammals are assessed in Table 7-37.

Table 7-37: Determination of the Project's Residual Impacts on Small Mammals

Assessment and Justification of Residual Impacts	The mitigation measures should reduce barrier effect and collision risks for mammals. The intensity of the impact is reduced to low. The geographical extent and duration remain the same. The magnitude of the residual impacts is moderate.		
Direction	☐ Positive	☒ **Negative**	
Intensity	☒ **Low**	☐ Medium	☐ High
Geographical Extent	☐ Limited	☒ **Local**	☐ Regional
Duration	☐ Short-Term	☒ Medium-Term	☒ **Long-Term**
Magnitude	☐ **Minor**	☒ **Moderate**	☐ Major

7.3.3 Human Environment

This subsection describes the effects on the human environment VECs.

7.3.3.1 Land Development, Use and Occupation

Pre-Construction and Construction Phases

The Project, as defined in Chapter 5 of this ESIA, has very little effect on the land development, use and occupation VEC. The project site is owned by MoEVT. However, during the EIA field study, it was noted that there are people occupying sections of the site. It is recommended that a Resettlement Action Plan be prepared and implemented before construction commences.

Considering the information above, the main potential sources of impacts for this VEC are associated with:

- Opening of new quarry or borrow pit sites for the supply of the granular material required by the Project.

Ensure that leased land (Quarries/ borrow pits) is rehabilitated, after work is completed, as per agreement with owner and, if any, regulatory requirements.

Table 7-38 summarizes the anticipated impacts and presents the impact assessment for population and land tenure.

Table 7-38: Impact Assessment for Land Development, Use and Occupation

Assessment of Pre-mitigation Impact	Very limited area of leased land will be required in association with the new quarries. The anticipated impact intensity is considered low. The extent will be on land around project so it will be local, while duration will be medium-term for leased land. The magnitude of the impact will be minor.		
Direction	☐ Positive	☒ **Negative**	
Intensity	☒ **Low**	☐ Medium	☐ High
Geographical Extent	☐ Limited	☒ **Local**	☐ Regional
Duration	☐ Short-Term	☒ **Medium-Term**	☐ Long-Term

Magnitude	☒ Minor	☐ Moderate	☐ Major

Recommended Mitigation Measures

- Ensure that leased land is rehabilitated, after work is completed, as per agreement with owner and, if any, regulatory requirements.

Determination of Residual Impacts

Considering the recommended mitigation measures, the Project's residual impacts on population and land tenure are assessed in Table 7-39.

Table 7-39: Determination of the Project's Residual Impacts on Land Development, Use and Occupation

Assessment and Justification of Residual Impacts	The rehabilitation as per agreement with owner and/or regulatory requirements will ensure the impact intensity remains low. The duration of impact becomes short-term as compensation will have been completed during the acquisition process. The extent will remain local as acquisition occurs outside the project's existing right-of-way. Residual impact magnitude will then be minor.		
Direction	☐ Positive	☒ **Negative**	
Intensity	☒ **Low**	☐ Medium	☐ High
Geographical Extent	☐ Limited	☒ **Local**	☐ Regional
Duration	☒ **Short-Term**	☐ Medium-Term	☐ Long-Term
Magnitude	☒ **Minor**	☐ Moderate	☐ Major

Operation Phase

There is no foreseeable impact on the land use and occupation VEC for the operation phase.

7.3.3.2 Community Well-Being and Safety

7.3.3.2.1 Health And Safety

The Project carries some health risk for the surrounding population, which are presented below.

Pre-Construction and Construction Phases

The proposed Project includes several Pre-Construction and Construction activities that may affect health and safety:

- Construction workers may be exposed to the risk of injury and health problems.
- Dust and contamination generated by pre-construction and construction activities may affect the health of local communities especially if they are vulnerable to respiratory issues.
- Pre-construction and construction activities will disrupt circulation by diverting traffic, when necessary, which may make access to certain key destinations for community and individual health more difficult.
- Increased transportation and circulation, traffic management and the presence of temporary construction facilities and construction work sites may represent a safety risk for work site employees and local workers and residents through the following:

- Jeopardize the safety of pedestrians (civil or employees) and road users;
- Increase the risk of vehicle collision and

- Earthworks may produce holes where stagnant water can pool, creating an environment conducive to the proliferation of disease-carrying insects, including dengue and malaria. Risk is present year-round with peak transmission occurring during the rainy season.
- The influx of workers and job seekers carries the following risks:
  - Increased crime in surrounding communities either through crimes directly perpetrated by newcomers (e.g., assault, theft, etc.) or indirectly through their engagement in illicit activities such as drug use and prostitution.
  - Increased transmission of sexually transmitted infections (STIs) and HIV/AIDS; and
  - Becoming a source of communicable diseases.

Table 7-40 summarizes the anticipated impacts and presents the impact assessment for community health and safety.

Table 7-40: Impact Assessment for Community Use of the project, Well-Being, and Safety

Assessment of Pre-mitigation Impact	The impact of increased transportation and circulation, traffic management and the presence of temporary construction facilities and construction work sites of the project are considered to be of medium intensity because they may result in accidents. Indeed, the presence of the work site and activities and diversion of traffic, may cause distractions resulting in accidents (involving either other road users, workers, pedestrians or livestock). The extent will be limited to the project site and the impact will last for the duration of construction (medium-term). Considering the seriousness and epidemiology of dengue and malaria, the proliferation of disease-carrying insects is considered to be of high intensity and of local extent. While the consequences of an outbreak on community health and resources could be long-term, the increased risk posed by the Project will only last during the construction phase and is thus considered to be medium-term. Respiratory problems caused by increased dust and contaminants could be of medium intensity; these will be of local extent, and last throughout the construction phase (medium-term). Finally, the risk caused by the influx of workers of increased crime, and prevalence of HIV/AIDS and STIs is of high intensity. The risk that workers become a source of communicable diseases is considered to be of medium intensity as they will not be established in worker camps. The extent of these impacts will be regional as workers may interact with communities and individuals throughout the surrounding counties and social and health problems such as crime and HIV/AIDS and STIs are likely to require resources at the local government level. These increased risks posed by the Project will last during the construction phase and are thus considered to be Medium-term. Overall, the impact magnitude on this VEC will be moderate.		
Direction	☐ Positive	☒ **Negative**	
Intensity	☐ Low	☒ **Medium**	☐ High
Geographical Extent	☒ **Limited**	☒ **Local**	☒ **Regional**

Duration	☐ Short-Term	☒ **Medium-Term**	☐ Long-Term
Magnitude	☐ Minor	☒ **Moderate**	☐ Major

Recommended Mitigation Measures

- Implement soil management measures (dust reduction and contamination)
- Implement atmospheric environment mitigation measures (dust reduction and contamination).
- Ensure all drivers working for the project have a valid driver's license, are certified for driving the vehicle they are responsible for and have successfully followed a recognized driving course covering road safety measures and the importance of sharing the road with pedestrians and other types of vehicles.
- Control driver activities to avoid exceeding normal work shifts and to ensure they have enough rest periods.
- Ensure the development of a Traffic Management Plan that considers the distinctive features of the Project area in order to provide maximum safety and traffic flow and that includes, among others, the following measures:
    - Control access to work areas to ensure that only necessary personnel and machinery are present.
    - Develop and implement specific access routes to and within the work site that are optimized to reduce travel distances by vehicles and machinery and ensure all drivers working for the project are aware of the established routes.
    - Ensure implementing the Traffic management plan as approved by project implementing team, for the transportation of granular material from existing quarries to the work site.
    - Provide safe and convenient pedestrian paths and crossing points along the construction areas.
    - Ensure installation and maintenance of speed control and traffic control systems at pedestrian crossing areas.
    - Ensure installation and maintenance of appropriate road signs, signals, markings, and other traffic regulation devices related to pedestrian facilities and to regular local and regional vehicular traffic.

- Develop and implement a strong Code of Conduct detailing the guidelines on expected engagement with local communities and penalties for failure to adhere to regulations, and closely monitor its application and effectiveness. The Code of Conduct should include among others:
    - A strict prohibition of GBV (including harassment, exploitation and abuse) and sexual intercourse with partners younger than 18 years of age (underage sex).
    - The requirement to immediately report any suspected case of GBV or underage sex to construction supervising engineer.
    - A strict prohibition for engaging in illicit or criminal activities.
- If diversion of traffic is necessary, take into account key locations of health and safety services in planning alternate routes.
- Establish partnerships with social and health services at project level.

- The migrant workers should undergo a pre-hiring and annual medical checkup and should be supported to find and obtain adequate treatment if sick. They should also be trained on disease prevention and recognition to avoid spreading.
- Organize education campaigns, including a STI and HIV/AIDS prevention program, for the workers and surrounding communities to facilitate interactions between workers and communities.
- Avoid the formation of open holes, or ensure these are covered as much as possible, especially during the rainy season.

Determination of Residual Impacts

Considering the recommended mitigation measures, the Project's residual impacts on community health and safety are assessed in Table 7-41.

Table 7-41: Determination of the Project's Residual Impacts on Community Health and Safety

Assessment and Justification of Residual Impacts	Mitigation measures addressing community and livestock safety will reduce the risk and seriousness of accidents, resulting in a reduced impact intensity of medium. The extent will remain limited to the project site and the impact will last for the duration of construction (medium-term). The proposed mitigation measures will also greatly reduce the risk of increased crime, of workers becoming a source of communicable diseases, and increased prevalence of STIs and HIV/AIDS. The intensity of the increase of these risks as a result of the Project is thus considered to be medium to low after mitigation. The extent and duration will remain regional and medium-term. Limiting as much as possible the creation of environments conducive to the proliferation of disease-carrying insects will greatly reduce the risk of spreading diseases. The intensity of the increase of this risk as a result of the Project is thus considered to be medium to low after mitigation. The extent and duration will remain local and medium-term. Limiting dust and contamination as much as possible will reduce the intensity of impact to low intensity, with the extent and duration remaining local and medium-term. Overall, the residual magnitude of impact will range from minor to moderate.		
Direction	☒ Positive	☒ **Negative**	
Intensity	☒ **Low**	☒ **Medium**	☐ High
Geographical Extent	☒ **Limited**	☒ **Local**	☒ **Regional**
Duration	☐ Short-Term	☒ **Medium-Term**	☐ Long-Term
Magnitude	☒ **Minor**	☒ **Moderate**	☐ Major

Operation Phase

During operation, there will be increased traffic movements of workers reporting to their duty and is expected to increase the risk of road traffic accidents and potential injuries or fatalities to other road users or pedestrians. The increase in movement of vehicles during the operation phase may result in greater disturbance and decreased wellbeing for those

communities closest to the project site working areas and along transportation routes and access roads.

Table 7-42 summarizes the anticipated impacts and presents the impact assessment for community health and safety.

Table 7-42: Impact Assessment for Community Health and Safety

Assessment of Pre-mitigation Impact	The increased safety risk posed by theft and vandalism is considered to be of medium intensity, limited in extent and medium-term.		
Direction	☒ **Positive**	☒ **Negative**	
Intensity	☐ Low	☒ **Medium**	☒ **High**
Geographical Extent	☒ **Limited**	☒ **Local**	☐ Regional
Duration	☒ **Short-Term**	☒ **Medium-Term**	☐ Long-Term
Magnitude	☐ Minor	☒ **Moderate**	☒ **Major**

Recommended Mitigation Measures

- Design safety awareness campaign in collaboration with local administrations and governmental agencies aimed at local populations.
- Monitor the use of pedestrian crossings and conduct specific awareness campaign to encourage their use.
- Consider, as much as possible, the likelihood of vandalism and theft when designing investments.
- Ensure that Vocational Training Centre is fenced and that signs are put up around advising people of the risks associated with trespass and employ security guards from the local community to prevent trespass.
- SEBEP will extend the Worker Code of Conduct to include guidelines on worker – community interactions and will provide training on the worker code of conduct to all employees including contractors and subcontractors as part of the induction process.
- SEBEP will implement a Community Grievance Mechanism.

Determination of Residual Impacts

Considering the recommended mitigation measures, the Project's residual impacts on community health and safety are note as below.

Table 7-43: Determination of the Project's Residual Impacts on Community Well-Being and Safety

Assessment and Justification of Residual Impacts	By limiting vandalism and theft, the impact intensity on safety will be reduced to low. It will remain limited in extent and medium-term. The extent and duration remaining limited and medium-term. Overall, the resulting residual impact for the operation will range from minor to moderate.		
Direction	☐ **Positive**	☒ **Negative**	
Intensity	☐ **Low**	☒ **Medium**	☐ High
Geographical Extent	☐ **Limited**	☒ **Local**	☐ Regional

Duration	☐ **Short-Term**	☒ **Medium-Term**	☐ Long-Term
Magnitude	☐ **Minor**	☒ **Moderate**	☐ Major

7.3.3.2.2 Other Well-Being Aspects

This section covers all other aspects to health and safety related to physical, relational and subjective well-being. These include impacts on livelihoods, mobility, community relations and cohesion, and social justice (e.g., inequitable distribution of benefits and increased marginalization of vulnerable groups).

Pre-Construction and Construction Phases

The proposed Project includes several Pre-Construction and Construction activities that may affect other well- being aspects:

- Pre-construction and construction activities will affect the community and the individual well-being by positively (creation of jobs) and negatively (affecting some work activities) impacting livelihoods.
- The population in the vicinity of the Project will be negatively affected by nuisance (such as noise, smell, dust, vibrations, and lights) during pre-construction and construction activities.
- Pre-construction and construction activities will disrupt circulation by:
  - Preventing community and livestock from accessing the site as normal.
  - Affecting Livelihoods
  - Affecting Sociocultural activities
- Pre-construction and construction activities will have differentiated impacts on individual well-being and may negatively affect more those considered vulnerable such as women and Indigenous Peoples
- Community relations and cohesion may be degraded by:
  - Tensions and conflicts over the awarding of jobs and contracts
  - Increased inequities that risk further marginalizing vulnerable groups
  - Inadequate communication with communities and stakeholders.
  - The influx of workers and job seekers carries the following risks:
  - Tensions and conflicts with local communities;
  - Increased pressure on local natural resources and services (e.g., social, health, etc.);

Table 7-44: Impact Assessment for Community Well-Being

Assessment of Pre-mitigation Impact	Overall, the impact magnitude on this VEC will vary from moderate to major.		
Direction	☒ **Positive**	☒ **Negative**	
Intensity	☒ **Low**	☒ **Medium**	☒ **High**
Geographical Extent	☐ **Limited**	☒ **Local**	☒ **Regional**
Duration	☒ **Short-Term**	☒ **Medium-Term**	☒ **Long-Term**
Magnitude	☐ Minor	☒ **Moderate**	☒ **Major**

Recommended Mitigation Measures

- Implement mitigation measures on livelihoods, gender aspects, and labor conditions.
- Regarding nuisance:
  - Implement noise mitigation measures.
  - Implement soil management measures (dust reduction and contamination).
  - Implement atmospheric environment mitigation measures (dust reduction and contamination).
  - Limit work activities to normal work hours (8 h to 18 h) as much as possible;
  - Respect the noise levels set in the noise permit to be obtained from ZEMA when working at night;
  - Ensure the development and implementation of a Waste Management Plan that should allow for safe and quick disposal of waste.
  - After confirming with the Zanzibar Environment Management Authority (ZEMA) of existing options, all waste should be properly stored on site in appropriate containers and regularly disposed off-site by certified companies.
- Ensure the development of a Traffic Management Plan that considers the distinctive features of the Project area in order to provide maximum safety and traffic flow and that includes, among others, the following measures:
  - Control access to work areas to ensure that only necessary personnel and machinery is present.
  - Develop and implement specific access routes to and within the work site that are optimized to reduce travel distances by vehicles and machinery and ensure all drivers working for the project are aware of the established routes;
  - Ensure implementing the Traffic management plan as approved by project management unit for the transportation of granular material from existing quarries to the work site.
  - Ensure installation and maintenance of appropriate road signs, signals, markings, and other traffic regulation devices related to pedestrian facilities and to regular local and regional vehicular traffic on roads leading to the project site.
  - Around work areas where significant interactions with pedestrians are likely, install barriers and buffer zones to deter pedestrian access to the roadway, and reorient them towards designated crossing points and protect them from potential hazards.
- Develop and implement a Stakeholder Engagement Plan (SEP) to keep communities informed of work site evolution, planned activities and any potential risk that may arise from the work site. The SEP should include, among others, the following components:
  - A list of Project stakeholders derived from the present ESIA as well as any other relevant information;
  - Identification of methods of communication and information disclosure for specific groups; and
  - Action plan for stakeholder information and engagement during project construction.

- Plan and conduct at least one yearly stakeholder engagement session to inform, in one session, all interested and influential stakeholders on the activities. Subjects to be covered include a summary of activities held, upcoming projects, ESMP implementation results, HSE aspects, and a discussion pertaining to the main grievances received and how to resolve them. Sometime should be allowed for questions and exchanges.
- Develop and implement a strong Code of Conduct detailing the guidelines on expected engagement with local communities and penalties for failure to adhere to regulations, and closely monitor its application and effectiveness. The Code of Conduct should include among others:
  - A strict prohibition of GBV (including harassment, exploitation and abuse) and sexual intercourse with partners younger than 18 years of age (underage sex).
  - The requirement to immediately report any suspected case of GBV or underage sex to construction supervising engineer.
  - A strict prohibition for engaging in illicit or criminal activities.
- Maximize the hiring of local labor through the following measures:
  - Apply human resource policies favoring local labor;
  - Implement training programs to build local capacity; and
  - Disclose information on newly created business opportunities.
- Establish partnerships with social and health services at project level

Determination of Residual Impacts

Considering the recommended mitigation measures, the Project's residual impacts on community well-being are assessed in Table 7-45.

Table 7-45: Determination of the Project's Residual Impacts on Community Well-Being

Assessment and Justification of Residual Impacts	Mitigation measures will greatly reduce the probability and intensity of most impacts. The impact intensity of nuisance will be reduced and vary from low to medium. It will remain local in extent and short-term. Ensuring equitable distribution of benefits, including favoring local labor, should avoid the creation of many tensions and conflicts within communities and between communities and outsiders. As a result, the intensity of impact will be reduced and could vary from low to medium. The duration could also be potentially reduced to medium-term, but the extent will remain regional. The impact of the influx of workers and job seekers on local resources and services will remain unchanged (low intensity, regional extent, medium-term duration). As a result, the residual magnitude for all impacts will range from minor to moderate.		
Direction	☐ Positive	☒ **Negative**	
Intensity	☒ **Low**	☒ **Medium**	☐ High
Geographical Extent	☐ Limited	☒ **Local**	☒ **Regional**

Duration	☒ **Short-Term**	☒ **Medium-Term**	☐ Long-Term
Magnitude	☒ **Minor**	☒ **Moderate**	☐ Major

Operation Phase

The Project during its lifetime will be subject to local labor laws and international standards with respect to the responsibility of the employer to safeguard the health and safety of their employees. The Project is therefore expected to abide by these regulations and develop and implement appropriate health and safety measures covering the operations phase including the use of PPE by the workforce. Compliance with MoEVT's policy aimed at safeguarding the health and safety of its employees and subcontractors will additionally help prevent potential labor abuses and reduce the risk of health and safety incidents. Finally, all contractor contracts will include explicit reference to the need to abide by Zanzibar's law and MoEVT's standards and policies in relation to health and safety.

Any health and safety and labor rights related impact during the operations phase will be limited to workers at the various departments under the VTC and will be permanent over the operation phase. The magnitude is therefore considered small. Receptor sensitivity is considered low as most workers will be permanent skilled workers. Therefore, the impact is of ***minor*** significance.

Table 7-46 summarizes the anticipated impacts and presents the impact assessment for community well-being.

Table 7-46: Impact Assessment for Community Well-Being

Assessment of Pre-mitigation Impact	The operation phase is mostly characterized by positive impacts which will stimulate the economy and greatly enhance the well-being of users and local communities. The impact intensity of nuisance for the population during operation will vary from low to medium. The extent will be local and the duration medium-term. Overall, these impacts will range from minor to moderate magnitude.		
Direction	☒ **Positive**	☒ **Negative**	
Intensity	☒ **Low**	☒ **Medium**	☐ High
Geographical Extent	☐ Limited	☒ **Local**	☐ Regional
Duration	☒ **Short-Term**	☒ **Medium-Term**	☐ Long-Term
Magnitude	☒ **Minor**	☒ **Moderate**	☐ Major

Recommended Mitigation Measures

- Continue favoring local recruitment for job openings.
- Ensure adequate monitoring of noise levels in sensitive areas.
- Follow-up on nuisance related grievance to promptly identify problem sources and design adapted mitigation measures.
- Through stakeholder engagement plan application, communicate job opportunities and application process and initiate discussions on the interaction of local communities.

- Minimise traffic flow interruptions or disturbances activities through adequate planning and efficient communication.
- Through the implementation of the Stakeholder engagement plan, engage stakeholders on topics such as cohabitation of communities and the Vocational Training Centre which could generate potential improvements.

Determination of Residual Impacts

Considering the recommended mitigation measures, the Project's residual impacts on community well-being are assessed in Table 7-47.

Table 7-47: Determination of the Project's Residual Impacts on Community Well-Being

Assessment and Justification of Residual Impacts	Mitigation measures will reduce nuisance from the Project, resulting in impact intensity varying from low to medium. The extent will remain local and the duration medium-term. By limiting disruption to a minimum during operation activities, the intensity will be reduced to low, and the duration will be short-term. The extent will remain the same, potentially affecting activities in the areas adjacent to the project. The extent and duration will remain limited and medium-term. Overall, the resulting residual impact for the operation will range from minor to moderate.		
Direction	☒ **Positive**	☒ **Negative**	
Intensity	☒ **Low**	☒ **Medium**	☐ High
Geographical Extent	☒ **Limited**	☒ **Local**	☐ Regional
Duration	☒ **Short-Term**	☒ **Medium-Term**	☐ Long-Term
Magnitude	☒ **Minor**	☒ **Moderate**	☐ Major

7.3.3.3 Living Conditions, Social Amenities and Community Assets

This section assesses two VECs: living conditions, and social amenities and community assets.

7.3.3.3.1 Living Conditions

This component relates to the physical capital that people in the Project area have in terms of housing and equipment and access to services. Except for those that may be resettled, the Project will not directly impact housing conditions, but may influence the housing market. Resettlement and compensation of displacement of houses and economic activities affected by the Project are addressed in a different instrument and excluded from the scope of the ESIA.

Pre-Construction, Construction and Operation Phases

Main Sources of Impacts and Anticipated Effects

The proposed Project includes Pre-Construction and Construction activities that may affect living conditions:

- The Project may influence the housing market. Houses located very close to the project area may see their house value depreciate, while some others, may see their house value increase. These impacts may begin during the pre-construction and construction phase and continue throughout the operation phase.

- The Project may intensify ongoing land and housing speculation.

Table 7-48 summarizes the anticipated impacts and presents the impact assessment for housing conditions.

Table 7-48: Impact Assessment for Housing Conditions

Assessment of Pre-mitigation Impact	Impacts on the housing market can be both positive and negative, depending on the location of houses relative to the Project. The main negative impacts will be associated with the presence of the project since pre-construction and construction activities. These are only temporary and should not affect the long-term value of houses. As for the operation phase, the negative impacts should be no more than medium intensity as the VTC will ensure safeguard measures are applied. The extent will be local as they will only affect houses very close to the project site, and long-term, resulting in a moderate magnitude.		
Direction	☒ **Positive**	☒ **Negative**	
Intensity	☐ Low	☒ **Medium**	☐ High
Geographical Extent	☐ Limited	☒ **Local**	☐ Regional
Duration	☐ Short-Term	☐ Medium-Term	☒ **Long-Term**
Magnitude	☐ Minor	☒ **Moderate**	☐ Major

Recommended Mitigation Measures

- Implement measures for noise reduction as outlined in Section 7.3.1.1.2.

Determination Of Residual Impacts

Considering the recommended mitigation measures, the Project's residual impacts on housing conditions are assessed in Table 7-49.

Table 7-49: Determination of the Project's Residual Impacts on Housing Conditions

Assessment and Justification of Residual Impacts	Noise reduction mitigation measures may reduce the depreciation of houses located very close to the project site by reducing nuisance and, depending on the measures applied (i.e., noise barriers), create a separation between the most exposed houses. The intensity will thus become low for those with protection and remain medium for others. Other parameters will be unchanged: the extent will remain local and the duration long-term. The residual impact therefore remains moderate for both situations.		
Direction	☒ **Positive**	☒ **Negative**	
Intensity	☒ **Low**	☒ **Medim**	☐ High
Geographical Extent	☐ Limited	☒ **Local**	☐ Regional
Duration	☐ Short-Term	☐ Medium-Term	☒ **Long-Term**
Magnitude	☐ Minor	☒ **Moderate**	☐ Major

7.3.3.4 Livelihood Strategies and Economic Activities

Assessment of livelihood strategies and economic activities considers six VECs, land-based livelihood activities, self-employed and business-based livelihood, fisheries (water-based livelihoods), industry (large-scale economic activities), transport sector, and tourism and recreational activities.

7.3.3.4.1 Land-Based Livelihood Activities

Land-based livelihoods comprise subsistence agriculture and livestock.

Pre-Construction and Construction Phases

The proposed Project includes Pre-Construction and Construction activities that may affect land-based livelihood activities:

- Agricultural crops and livestock in close proximity to the project may be negatively affected by dust, particles and pollution generated by the following activities:
  - Implementation of temporary construction facilities
  - Transportation and circulation
  - Site preparation
  - Use of borrow pits and quarries
  - Structural work
  - Waste and hazardous materials management
- The use of additional land for borrow pits and quarries may reduce the land available for agriculture and livestock.
- Disruption of traffic by

Table 7-50 summarizes the anticipated impacts and presents the impact assessment for land-based livelihood activities.

Table 7-50: Impact Assessment for Land-Based Livelihood Activities

Assessment of Pre-mitigation Impact	Impacts related to dust and pollution will likely be of low intensity, limited in extent and short- term, unless there is a major spill. However, the use of borrow pits and quarries and traffic disruptions have the potential to have a medium impact on economic returns of affected people. These impacts will be medium-term as they will last for the duration of construction. As a result, the impact magnitude is moderate.		
Direction	☐ Positive	☒ **Negative**	
Intensity	☐ Low	☒ **Medium**	☐ High
Geographical Extent	☐ Limited	☐ Local	☒ **Regional**
Duration	☐ Short-Term	☒ **Medium-Term**	☐ Long-Term
Magnitude	☐ Minor	☒ **Moderate**	☐ Major

Recommended Mitigation Measures

- Implement soil management measures (dust reduction and contamination).

- Implement atmospheric environment mitigation measures (dust reduction and contamination).
- Implement surface and groundwater quality mitigation measures
- Ensure the development of a strong Environmental Management Plan, including but not limited to, site assessment requirements prior to disturbances, a spill prevention and response plan, and a waste management plan.
- Ensure the development of a Traffic Management Plan that considers the distinctive features of the Project area in order to provide maximum traffic flow and that includes, among others, the following measures:
    - Control access to work areas to ensure that only necessary personnel and machinery are present.
    - Optimize transport routes to reduce travel distances by vehicles and machinery.
- Avoid locating borrow pits and quarries on agricultural and livestock lands and in forested areas and respect the official agreement with the landowner with regards to site rehabilitation once work is completed.
- If diversion of traffic is necessary, take into account key location of land-based activities and their access to markets and local businesses in planning alternate routes.

Determination of Residual Impacts

Considering the recommended mitigation measures, the Project's residual impacts on land-based livelihood activities are assessed in Table 7-51.

Table 7-51: Determination of the Project's Residual Impacts on Land-Based Livelihood Activities

Assessment and Justification of Residual Impacts	Mitigation measures will ensure that impacts related to dust and pollution remain of low intensity, limited in extent and short-term. Avoiding locating borrow pits and quarries on agricultural and livestock lands and in forested areas has the potential to eliminate this impact. However, their location is uncertain at this point in time, the risk remains with the same potential impacts (medium intensity, medium-term, local extent). Traffic mitigation measures will reduce traffic disruptions, but these will most likely remain of medium intensity. As a result, the impact magnitude remains moderate.		
Direction	☐ Positive	☒ **Negative**	
Intensity	☐ Low	☒ **Medium**	☐ High
Geographical Extent	☐ Limited	☐ Local	☒ **Regional**
Duration	☐ Short-Term	☒ **Medium-Term**	☐ Long-Term
Magnitude	☐ Minor	☒ **Moderate**	☐ Major

Operation Phase

The main source of impacts during the operation phase include:

- Positive impacts on land-based livelihood by improving access to industries, markets, and other relevant outlets for local produce.

Table 7-52 summarizes the anticipated impacts and presents the impact assessment for land-based livelihood activities.

Table 7-52: Impact Assessment for Land-Based Livelihood Activities

Assessment of Pre-mitigation Impact	Impacts during the operation phase will be mostly positive by improving the flow of goods and services on a regional scale for land-based economic activities. Together, these impacts will have a minor magnitude.		
Direction	☒ **Positive**	☒ **Negative**	
Intensity	☒ **Low**	☐ Medium	☐ High
Geographical Extent	☐ Limited	☒ **Local**	☐ Regional
Duration	☐ Short-Term	☒ **Medium-Term**	☐ Long-Term
Magnitude	☒ **Minor**	☐ Moderate	☐ Major

Recommended Mitigation Measures

No measures are proposed.

Determination of Residual Impacts

Considering the recommended mitigation measures, the Project's residual impacts on land-based livelihood activities are assessed in Table 7-53.

Table 7-53:Determination of the Project's Residual Impacts on Land-Based Livelihood Activities

Assessment and Justification of Residual Impacts	Limiting traffic disruption to a minimum will ensure that the impact intensity remains low. The duration will remain short-term and the extent local. Together, the resulting impact for the operation phase after mitigation will be minor.		
Direction	☒ **Positive**	☒ **Negative**	
Intensity	☒ **Low**	☐ Medium	☐ High
Geographical Extent	☐ Limited	☒ **Local**	☐ Regional
Duration	☒ **Short-Term**	☐ Medium-Term	☐ Long-Term
Magnitude	☒ **Minor**	☐ Moderate	☐ Major

7.3.3.5 Labor Conditions

As highlighted in stakeholder engagement chapter, labor conditions are a key concern for workers, surrounding community members, and the population in general.

Pre-Construction, Construction and Operation Phases

Most impacts on labor conditions will occur during the pre-construction and construction phases. However, impacts affecting workers and the communities in which they are embedded also apply to the operation phase.

The Project has the potential to generate the following impacts on labor during pre-construction and construction activities:

- Poor health and safety conditions can create a dangerous work environment that will increase workers' risk of injuries and physical and mental illnesses.
- Risk of abuse by contractors hiring underage workers (child labor).
- High levels of casualization (informality) can lead to violation of workers' rights (e.g., in terms of work schedule and conditions).
- Lack of oversight of contractors, subcontractors, and suppliers of goods and services in the supply chain can lead to abuse of workers in those positions, including hiring of underage workers.
- Poor labor conditions can generate insecurity, fatigue, and stress, among others. These can have a ripple effect at the household and community levels, by increasing conflict and potentially act as triggers for social problems such as drug and alcohol abuse and GBV.
- The influx of workers and job seekers may negatively affect the social acceptability of the Project as surrounding communities have high expectations regarding the Project's role in promoting local employment and stimulating the local economy.

However, by introducing more structured and better-defined labor conditions, the Project may also improve existing common labor practices.

Table 7-54 summarizes the anticipated impacts and presents the impact assessment for labor conditions.

Table 7-54: Impact Assessment for Labor Conditions

Assessment of Pre- mitigation Impact	The Project has the potential to negatively affect workers' physical and mental health, lead to abuse of workers, and trigger social problems such as drug and alcohol abuse and GBV – all of which are impacts of high intensity. The intensity of impacts created by the influx of workers and job seekers on the social acceptability of the Project is medium. The extent will be local as workers (both local and non-local) will most probably be settled in communities near the project site. Most impacts will last throughout the pre-construction and construction phase (medium- term), but social problems may persist and be long-term. Overall, the impact magnitude on labor conditions will be moderate.		
Direction	☒ **Positive**	☒ **Negative**	
Intensity	☐ Low	☒ **Medium**	☒ **High**
Geographical Extent	☐ Limited	☒ **Local**	☐ Regional
Duration	☐ Short-Term	☒ **Medium-Term**	☒ **Long-Term**
Magnitude	☐ Minor	☒ **Moderate**	☐ Major

Recommended Mitigation Measures

Develop and implement hiring guidelines that meet or exceed relevant national regulations and international standards. As outlined in Chapter 4, these include the following:

- Occupational Safety and Health Act (2005)
- Labour Relations Act (2005)
- Employment Act (2005)

- Workers' Compensation Act (2005)
- African Development Bank (AfDB) ISS OS 2: Labor and Working Conditions
- Include labor and occupational health and safety criteria in all tendering and procurement documents for prequalification of contractors and subcontractors.
- Contractually require all contractors, subcontractors, and suppliers to adopt and comply with policies and procedures that align with national regulations and international standards and address all aspects of labor standards relevant to the project. Special attention should be paid to ensure no forced labor or child labor is used by the contractors, subcontractors or in the supply chain.
- Ensure regular monitoring of contractors' and subcontractors' compliance and enforcement of labor laws.
- Conduct a proper screening of contractors and subcontractors in terms of possession of necessary licenses and qualifications before assigning potentially hazardous work.
- Continuously raise contractors, subcontractors, suppliers, and workers' awareness of labor laws.
- Develop and implement an Emergency Measures Plan.
- Develop and implement a monitoring system for the application of the above plans, regulations, and standards by all levels involved in the Project, including contractors, subcontractors, and suppliers of goods and services.
- Develop and implement a grievance redress mechanism for workers and residents and establish a safe and ethical reporting environment that allows for anonymous reporting.
- Develop a proper grievance handling mechanism for workers to raise workplace concerns.
- Document and communicate all working conditions and terms of employment to all workers.
- Ensure reasonable working hours, wages and other benefits.
- Inform all workers of their rights, including wages and benefits, and their fundamental right under the law to associate freely.
- Provide workers' contracts and periodic clear records of pay calculations in their native language.
- Ensure equality of opportunity and treatment in employment or occupation by prohibiting any distinction, exclusion or preference made based on race, color, sex, religion, political opinion, national extraction or social origin in recruitment and procurement exercises.
- Ensure all foreign workers recruited, men or women, are in possession of valid residence and work permits.
- Implement a long-term training program throughout the construction phase to ensure adequate training and qualification of all staff employed for the project.
- Provide medical facilities throughout the construction phase for the use of workers where required.
- Provide suitable and safe amenities and sanitation facilities, including available drinking water and latrines.
- Implement measures for supporting the recruitment and retainment of female workers.

- Maximize the hiring of local labor through the following measures:
  - Apply human resource policies favoring local labor including, but not limited to, local hiring targets;
  - Implement training programs to build local capacity; and
  - Disclose information on newly created business opportunities.
- Establish partnerships with social and health services at project level.
- Prepare a list of relevant medical and social resources and services for workers and ensure all relevant staff (e.g., human resources, supervisory staff, grievance redress mechanism staff, etc.) have access to and are familiar with this document.
- Provide assistance to workers struggling with physical and mental health issues and substance abuse in accessing needed resources and services (e.g., helpline, physical and psychological health services, etc.).

Determination of Residual Impacts

Considering the recommended mitigation measures, the Project's residual impacts on labor conditions are assessed in Table 7-55.

Table 7-55: Determination of the Project's Residual Impacts on Labor Conditions

Assessment and Justification of Residual Impacts	By providing good working conditions, the Project will provide positive benefits to workers and surrounding communities and avoid becoming an important trigger to social problems in the area. Mitigation measures will ensure workers' rights are respected, avoid worker abuse, and create a safe working environment that will greatly reduce the number and gravity of injuries and health effects. As such, the intensity of these negative impacts is reduced to low. Maximizing local employment and providing local training will also reduce the intensity of impacts to the social acceptability of the Project to low. The extent will remain local, but the duration will be reduced to medium-term by avoiding the creation of social problems and by supporting struggling workers. The residual impact magnitude on labor conditions is therefore minor.		
Direction	☒ **Positive**	☒ **Negative**	
Intensity	☒ **Low**	☐ Medium	☐ High
Geographical Extent	☐ Limited	☒ **Local**	☐ Regional
Duration	☐ Short-Term	☒ **Medium-Term**	☐ Long-Term
Magnitude	☒ **Minor**	☐ Moderate	☐ Major

7.3.3.6 Gender Aspects

Gender-based violence and women economic dependency are major issues of concern in the country generally, and in construction projects in particular.

Pre-Construction and Construction Phases

The Project will require a workforce of approximately 200 workers for the pre-construction and construction phase. The Project will favor the employment of local labor as much as possible which will reduce the risk of sexual harassment and violence caused by foreigners. However, it is highly probable that most skilled and highly skilled construction workers and some of the supervisory staff will come from outside the Project area and/or outside

Zanzibar.

The Project's workforce will not be established in "worker camps". Rather, workers will be encouraged to settle in the nearby communities. Even though this strategy will encourage integration of workers into communities and avoid concentration of workers in one area, the presence of many newcomers still involves significant risks.

The proposed Project includes several Pre-Construction and Construction activities that may affect gender aspects:

- Construction activities provide both short-term and long-term employment opportunities that are mostly taken up by men, despite some deliberate efforts to hire women (e.g., engineers). Such imbalance can contribute to perpetuating women economic dependency and further entrench gender-based roles.
- Land acquisition or leasing (e.g., for borrow pits, quarries), and purchase of natural resources (e.g., sand) may benefit socially recognized men at the expense of marginalized groups including women, especially widows, single mothers and youth. Women and youth in patriarchal communities under community land tenure are particularly disadvantaged with regards to land control rights. In the case of cash compensation, women and children can become impoverished if the male household head misuses or diverts compensation funds meant for restoration of land, housing or any other land-based livelihood streams.
- Large influx of workers and job seekers in infrastructure construction projects increases the risk of gender- based violence and sexual abuse in communities living within the infrastructure area of influence. They include the following:
  - Physical and sexual violence. Women and girls are mostly at risk as they walk to their places of work, school or on other errands in their everyday life. While women and girls in Zanzibar are more likely to experience sexual violence in general, some data suggests that men are at a higher risk of experiencing sexual violence by employers and strangers. Moreover, men are less likely to seek help when they experience sexual violence.
  - Statutory rape and pregnancies resulting from relationships between laborers and underage girls. In extreme cases, especially in communities where unwed mothers are taboo, parents have been known to force such children into child marriages. This is known to happen even though parents are likely aware of the risk of imprisonment for such offences as required in Zanzibar's child protection laws.
  - Prostitution of girls, especially those from impoverished families, for cash or food handouts. In the case of construction sites, these interactions can occur in the work sites as well as in public places after work hours. Child prostitution and defilement in exchange for money are also possible.
  - Increased crime in surrounding communities either through crimes directly perpetrated by newcomers (e.g., assault, theft, etc.) or indirectly through their engagement in illicit activities such as drug use and prostitution.
- Influx of workers and job seekers also increases the following risks:
  - Abandonment of mothers by the fathers of their children after conclusion of construction work. Both male and female children abandoned by their fathers

can end up living in impoverished households, especially where the mother was relying on the father for their basic needs.

- Rising prevalence of sexually transmitted infections (STI) and HIV/AIDS through transactional sex, prostitution (by both men and women) and as a result of the various interactions between project staff and the communities in which they operate.

Table 7-56 summarizes the anticipated impacts and presents the impact assessment for gender aspects.

Table 7-56: Impact Assessment for Gender Aspects

Assessment of Pre-mitigation Impact	The intensity of impacts outlined above can vary widely from one case to another due to the interaction of the Project with other confounding factors. The Project's contribution to perpetuating women's economic dependency, capture of benefits by male elite at the expense of marginalized groups, and increased risk of abandonment of mothers by the father of their children after conclusion of construction work could range from low to medium intensity. The first two impacts would be long-term, but the increased risk of abandonment would last for the duration of the Project (medium-term). The Project is likely to significantly increase the risk of GBV and of STIs and HIV/AIDs. This increased risk is considered to be of high intensity. While the consequences of GBV for victims and for people infected with HIV/AIDs would be long-term, the increase in risk posed by the Project will last only during the construction phase. The duration is therefore considered as medium-term. All the impacts listed above will most likely be limited to the communities adjacent to the Project, therefore of local extent. As a result, the impact magnitude ranges from moderate to major.		
Direction	☐ Positive	☒ **Negative**	
Intensity	☒ **Low**	☒ **Medium**	☒ **High**
Geographical Extent	☐ Limited	☒ **Local**	☐ Regional
Duration	☐ Short-Term	☐ Medium-Term	☒ **Long-Term**
Magnitude	☐ Minor	☒ **Moderate**	☒ **Major**

Recommended Mitigation Measures

- In the case of compensation to be given in response to expressed grievances, ensure strong representation of women in the process in order to attribute and distribute compensation equitably.
- Ensure proper consideration of gender issues in decision-making processes.
- Fully implement, monitor and enforce legal and regulatory requirements pertaining to non-discrimination interventions/strategies and gender under employment laws of Zanzibar.
- Encourage the recruitment and retainment of female workers. This can be achieved through the following potential measures:
- Set targets for women employment;
- Recruit and train women to be integrated in existing work teams;
- Offer equal salaries for the same work to all employees with the same level of

experience and skills, whether they are men, women or people with a disability;

- Implement family-friendly measures such as health coverage and time-off for the birth of a new child. Ensure these measures are in line with Zanzibar's governmental regulation;
- Provide civic and employee education on sexual harassment in the workplace;
- Ensure adequate amenities in field-based work such as segregated toilets, adequate waste disposal facilities, water for personal hygiene, etc.;
- Develop and implement gender and issue sensitive staff grievance redress mechanisms and establish a safe and ethical reporting environment that allows for anonymous reporting.
- Develop a Gender and Social Inclusion (GSI) Policy for the Project's activities.
- Develop and conduct GSI information/ awareness sessions with all staff.
- Develop and implement a strong Code of Conduct that protects women, girls, boys and men from gender- based violence (physical, sexual, and psychological) and closely monitor its application and effectiveness. The Code of Conduct should include among others:
- A strict prohibition of GBV and sexual intercourse with partners younger than 18 years of age (underage sex).
- The requirement to immediately report any suspected case of GBV or underage sex to construction supervising engineer.
- Develop and implement internal grievance and support that is accessible to all employees, pays special attention to the different realities of female and male victims of GBV, and includes the possibility of denouncing any form of harassment or intimidation. Ensure proper actions are taken according to the Zanzibar legislation in cases of harassment;
- Develop and implement an external gender-sensitive grievance redress mechanism that is accessible to all segments of the general population, pays special attention to the different realities of female and male victims of GBV, and includes the possibility of denouncing any form of harassment or intimidation. Ensure proper actions are taken according to Zanzibar legislation in cases of harassment.
- Establish partnerships with social protection services at project level.
- Support GBV victims through the following measures:
  - Prepare a list of relevant resources and services for GBV victims and ensure all relevant staff (e.g., human resources, supervisory staff, grievance redress mechanism staff, etc.) have access to and are familiar with this document.
  - Provide assistance to GBV victims in accessing needed resources and services (e.g., helpline, physical and psychological health services, etc.).
- Organize education campaigns, including a STI and HIV/AIDS prevention program, for the workers and surrounding communities (targeting men, women, boys and girls) to facilitate workers and community interactions.
- Ensure that the Project offers some procurement opportunities for women, youth and persons with disabilities as required by Zanzibar policies. This can be facilitated by:
  - Establishing a system for tracking bidders and awardees from women-headed or majority women- owned firms;
  - Setting up a mechanism to promote bid-readiness support for women-owned or

majority women- owned small firms and businesses;
    - Maintaining vigilance for opportunities which could be offered to women's groups; and
- Provide, if possible, additional income generating opportunities to women during construction (e.g., provision of catering services, selling local products).

Determination of Residual Impacts

Considering the recommended mitigation measures, the Project's residual impacts on gender aspects are assessed in Table 7-57.

Table 7-57: Determination of the Project's Residual Impacts on Gender Aspects

Assessment and Justification of Residual Impacts	GBV and gender issues are well beyond the scope of any single project. Mitigation measures can contribute to progress on these long-term issues, but will not, on their own, eliminate the risk of such impacts occurring nor the consequences for individual victims. The proposed mitigation measures can greatly reduce the risk of the most intense impacts, alleviate the consequences of GBV (e.g., by facilitating access to psychological support), and ensure that land acquisition or leasing does not cause prejudice to marginalized groups. They can even provide benefits by contributing to reducing women's economic dependence by employing them. Nevertheless, there remains a possibility that the influx of workers will increase the risk of GBV and of STIs and HIV/AIDS in surrounding communities. This increased risk after mitigation is considered to be of medium intensity. The residual impact is thus considered to be of medium intensity, local in extent, and medium- term for a resulting moderate impact magnitude.		
Direction	☒ **Positive**	☒ **Negative**	
Intensity	☐ Low	☒ **Medium**	☐ High
Geographical Extent	☐ Limited	☒ **Local**	☐ Regional
Duration	☐ Short-Term	☒ **Medium-Term**	☐ Long-Term
Magnitude	☐ Minor	☒ **Moderate**	☐ Major

Operation Phase

The main source of impacts during the operation phase include:

- The impacts on gender are likely to be mostly felt during the pre-construction and construction phase. However, they may also occur during the following activities;

Operation of the Vocational Training Centre.

Operation activities provide both short-term and long-term employment opportunities that are mostly taken up by men, despite some deliberate efforts to hire women. Such imbalance can contribute to perpetuating women economic dependency and further entrench gender- based roles.

Women may experience GBV from workers during operation phase activities. This can occur in both their communities and while using Project infrastructure. Table 7-58 summarizes the anticipated impacts and presents the impact assessment for gender aspects.

Table 7-58: Impact Assessment for Gender Aspects

Assessment of Pre-mitigation Impact	The probability of gender impacts is much lower during the operation phase, but certain impacts remain. As for the construction phase, gender imbalance in hiring can contribute to perpetuating women economic dependence. The intensity of this impact could vary between cases from low to medium as it interacts with other confounding societal factors and would be long-term. An increase in the risk of GBV also remains during the operation phase due to the presence of workers and due to the use of infrastructure that increase women's vulnerability (i.e., dark spaces with no quick exit). The increase in risk is considered to be of low intensity, would last for the duration of activities (short-term). The impacts above will most likely be limited to the communities adjacent to the Project, therefore of local extent. As a result, the impact magnitude ranges from minor to moderate.		
Direction	☒ **Positive**	☒ **Negative**	
Intensity	☒ **Low**	☒ **Medium**	☐ High
Geographical Extent	☐ Limited	☒ **Local**	☐ Regional
Duration	☒ **Short-Term**	☒ **Medium-Term**	☒ **Long-Term**
Magnitude	☒ **Minor**	☒ **Moderate**	☐ Major

Recommended Mitigation Measures

- Collect gender-segregated data during monitoring and evaluation, and ensure proper consideration of gender issues in decision-making processes.
- Fully implement, monitor and enforce legal and regulatory requirements pertaining to non-discrimination interventions/strategies and gender under employment laws of Zanzibar.
- Encourage the recruitment of female workers, with equal payment for male and female workers, for equivalent jobs. This can be achieved through the following measures:
  - Set targets for women employment;
  - Implement family-friendly measures such as health coverage and time-off for the birth of a new child. Ensure these measures are in line with national regulation;
  - Provide civic and employee education on sexual harassment in the workplace;
  - Ensure adequate amenities in field-based work such as segregated toilets, adequate waste disposal facilities, water for personal hygiene, etc.;
  - Develop and implement gender and issue sensitive staff grievance redress mechanisms and establish a safe and ethical reporting environment.
- Develop and implement a strong Code of Conduct that protects women and men from gender-based violence (physical, sexual, and psychological) and closely monitor its application and effectiveness. The Code of Conduct should include among others:
  - A strict prohibition of GBV and sexual intercourse with partners younger than 18 years of age (underage sex).
  - The requirement to immediately report any suspected case of GBV or underage sex to the construction supervising engineer.

- Implement and follow-up on gender-sensitive grievance redress mechanisms, paying special attention to the different realities of female and male victims of GBV.
- Increase as much as possible the safety of areas used by women such as pedestrian crossings and sections adjacent to the right-of-way with stalls.
- Establish partnerships with social protection services at project level.
- Support GBV victims through the following measures:
  - Prepare a list of relevant resources and services for GBV victims and ensure all relevant staff (e.g., human resources, supervisory staff, grievance redress mechanism staff, etc.) have access to and are familiar with this document.
  - Provide assistance to GBV victims in accessing needed resources and services (e.g., helpline, physical and psychological health services, etc.).
- Organize education campaigns, including a STI and HIV/AIDS prevention program, for the workers and surrounding communities to facilitate workers and community interactions.

Determination of Residual Impacts

Considering the recommended mitigation measures, the Project's residual impacts on gender aspects are assessed in Table 7-59.

Table 7-59: Determination of the Project's Residual Impacts on Gender Aspects

Assessment and Justification of Residual Impacts	GBV and gender issues are well beyond the scope of any single project. Mitigation measures can contribute to progress on these long-term issues, but will not, on their own, eliminate the risk of such impacts occurring nor the consequences for individual victims. The proposed mitigation measures can greatly reduce the risk of the most intense impacts, and alleviate the consequences of GBV (e.g., by facilitating access to psychological support). They can even provide benefits by contributing to reducing women's economic dependence by employing them. Nevertheless, there remains a possibility that the presence of workers and use of certain infrastructures will increase the risk of GBV in surrounding communities. This increased risk after mitigation is maintained to a low intensity. Ensuring adequate representation of a wide diversity of women during consultation and considering their requests in the final Project design should properly address their needs. As such, the intensity of this impact is considered to be low. The residual impact is thus considered to be of low intensity, local in extent, and medium-term for a resulting minor impact magnitude.		
Direction	☒ **Positive**	☒ **Negative**	
Intensity	☒ **Low**	☐ Medium	☐ High
Geographical Extent	☐ Limited	☒ **Local**	☐ Regional
Duration	☐ Short-Term	☒ **Medium-Term**	☐ Long-Term
Magnitude	☒ **Minor**	☐ Moderate	☐ Major

7.3.3.6.1 Archaeology And Cultural Heritage

There were no archaeological or cultural heritage sites identified during the baseline survey at the project site.

Pre-Construction and Construction Phases

The proposed Project includes several Pre-Construction and Construction activities that may affect archaeology and cultural heritage:

- All excavation and ground movement activities realized within the Project's footprint could destroy artefacts from currently unregistered sites and limit access to existing sites;
- The opening and exploitation of quarry sites could also affect artefacts from currently unregistered sites.

Indeed, these activities may uncover potentially valuable unknown artefacts and excavation work realized along the limit of the memorial and could affect the existing installations or temporarily limit access to the site. Table 7-60 summarizes the anticipated impacts and presents the impact assessment for archaeology and cultural heritage.

Table 7-60: Impact Assessment for Archaeology and Cultural Heritage

Assessment of Pre-mitigation Impact	Extent of any chance findings will be limited but any impacts to unregistered components would have a long-term duration. Thus, the magnitude of the impact will be minor.		
Direction	☐ Positive	☒ **Negative**	
Intensity	☒ **Low**	☐ Medium	☐ High
Geographical Extent	☒ **Limited**	☐ Local	☐ Regional
Duration	☐ Short-Term	☐ Medium-Term	☒ **Long-Term**
Magnitude	☒ **Minor**	☐ Moderate	☐ Major

Recommended Mitigation Measures

In the event of a suspected chance finding of an unknown or undocumented cultural artefact, the following actions must be taken:

- Stop the quarrying and excavation work;
- Contact the Department of Museums and Antiquities and request that a representative be sent to evaluate the finding;
- Work may resume if the suspected artefact does not have cultural interest. Further investigation work must be initiated if the item is of cultural interest.
- Once the site has been fully investigated and the department of museums and antiquities has provided clearance, quarrying or excavation work may resume.

Determination of Residual Impacts

Considering the recommended mitigation measures, the Project's residual impacts on archaeology and cultural heritage are assessed in Table 7-61.

Table 7-61: Determination of the Project's Residual Impacts on Archaeology and Cultural Heritage

Assessment and Justification of Residual Impacts	Considering the implementation of the above-mentioned mitigation measures, the intensity of the impact remains low. Similarly, the extent remains limited and the duration long-term for a resulting minor residual impact magnitude.		
Direction	☐ Positive	☒ **Negative**	
Intensity	☒ **Low**	☐ Medium	☐ High
Geographical Extent	☒ **Limited**	☐ Local	☐ Regional
Duration	☐ Short-Term	☐ Medium-Term	☒ **Long-Term**
Magnitude	☒ **Minor**	☐ Moderate	☐ Major

Operation Phase

There are no anticipated impacts associated with this VEC during the operation phase.

7.3.3.6.2 Visual Environment

Visual Impacts refers mainly to the changes to the visual character of landscape views resulting from: obstruction of existing views; removal of screening elements thereby exposing viewers to unsightly views; the introduction of new elements into the views of the visual receptors and intrusion of foreign elements into the view shed of landscape features. The project site is currently majorly undeveloped and as such there will be significant change on the visual environment during project implementation. Despite the direct and negative impact of additional construction vehicles on site, it will be temporary and local. The significant magnitude on visual amenity and the low sensitivity of the receptors means the significance of this impact is assessed as medium. Based on the analysis provided above, the visual impact and change of landscape will be of moderate significance.

Pre-Construction and Construction Phases

The proposed Project includes Pre-Construction and Construction activities that may affect visual environment:

- The presence of vehicles and machinery on the project site during pre-construction and construction activities.
- Clearing of vegetation and felling of trees during the following activities:
  - Implementation of temporary construction facilities;
  - Site preparation;
  - Use of borrow pits and quarries; and
  - Structural work.
- The presence of borrow pits and quarry sites (location still undefined).
- Worker presence and activity;

Table 7-62 summarizes the anticipated impacts and presents the impact assessment for visual environment.

Table 7-62: Impact Assessment for Visual Environment

Assessment of Pre-mitigation Impact	The overall habitat loss is expected to be low as the Project site is in a sparsely vegetated area in a peri-urban locality i.e., mostly modified or transformed habitat. The impact of the presence of vehicles, machinery, borrow pits and quarries and other construction activities will depend on their location, but are likely to be of medium intensity. It will last for the duration of construction (medium-term) and local in extent, affecting only the Project's footprint and adjacent observers. The magnitude of impact is therefore considered moderate.		
Direction	☐ Positive	☒ **Negative**	
Intensity	☐ Low	☒ **Medium**	☐ High
Geographical Extent	☐ Limited	☒ **Local**	☐ Regional
Duration	☐ Short-Term	☒ **Medium-Term**	☐ Long-Term
Magnitude	☐ Minor	☒ **Moderate**	☐ Major

Recommended Mitigation Measures

- Implement mitigation measures on habitat, especially those targeting vegetation.
- Planting of vegetation would improve the visual environment in the project area.
- Avoid, when and if possible, locating borrow sites and new quarries in scenic areas.

Determination Of Residual Impacts

Considering the recommended mitigation measures, the Project's residual impacts on visual environment are assessed in Table 7-63.

Table 7-63: Determination of the Project's Residual Impacts on Visual Environment

Assessment and Justification of Residual Impacts	Mitigation measures minimizing the clearing of vegetation during construction and creating a greenbelt along the project site will ensure the impact remains low. To avoid locating borrow pits and quarries in scenic areas will reduce their impact intensity on the visual environment from medium to low. The impact from the presence of vehicles and machinery is unchanged, remaining medium in intensity, medium-term and local in extent. The residual impact will therefore range from minor to moderate.		
Direction	☐ Positive	☒ **Negative**	
Intensity	☒ **Low**	☒ **Medium**	☐ High
Geographical Extent	☐ Limited	☒ **Local**	☐ Regional
Duration	☐ Short-Term	☒ **Medium-Term**	☐ Long-Term
Magnitude	☒ **Minor**	☒ **Moderate**	☐ Major

Operation Phase

The impacts related to operation phase are minor.

Recommended Mitigation Measures

Specific recommended measures as best practices include:

- Any excavated or cut and fill areas will be landscaped and revegetated.
- No debris or waste materials will be left at the work sites, good housekeeping on

site to avoid litter and minimise waste

- Night lighting of sites should be minimized within requirements of safety and efficiency.

Table 7-64 summarizes the anticipated impacts and presents the impact assessment for visual environment.

Table 7-64: Impact Assessment for Visual Environment

Assessment of Pre-mitigation Impact	The main impact on the visual environment will be caused by the presence of new elevated structures and are likely to have a low impact intensity. All impacts will last for the duration of the Project and be local in extent. As a result, the magnitude of the impact on the visual environment is moderate.		
Direction	☒ **Positive**	☒ **Negative**	
Intensity	☒ **Low**	☒ **Medium**	☐ High
Geographical Extent	☐ Limited	☒ **Local**	☐ Regional
Duration	☐ Short-Term	☐ Medium-Term	☒ **Long-Term**
Magnitude	☐ Minor	☒ **Moderate**	☐ Major

Recommended Mitigation Measures

- Consider as much as possible the impact on the visual environment in designing the structures that will house the targeted investments.

Determination of Residual Impacts

Considering the recommended mitigation measures, the Project's residual impacts on visual environment are assessed in Table 7-65.

Table 7-65: Determination of the Project's Residual Impacts on Visual Environment

Assessment and Justification of Residual Impacts	Considering the impact on the visual environment when designing infrastructures at the project site will ensure this impact's intensity remains medium. Other parameters will be unchanged. Thus, the residual impact on the visual environment will be local in extent, medium-term and of moderate magnitude.		
Direction	☒ **Positive**	☒ **Negative**	
Intensity	☐ Low	☒ **Medium**	☐ High
Geographical Extent	☐ Limited	☒ **Local**	☐ Regional
Duration	☐ Short-Term	☒ **Medium-Term**	☐ Long-Term
Magnitude	☐ Minor	☒ **Moderate**	☐ Major

8 ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN

This chapter presents the assessment of the issues likely to arise as a result of implementation of the proposed project and possible mitigation measures. For each issue, the analysis is based on its nature, the predicted impact, extent, duration, intensity and probability, and the stakeholders and/or values affected. In accordance with best practice, the analysis includes issues relating to the project's environmental and social sustainability.

8.1 Mitigation Measures

Box 8-1: Mitigation Hierarchy for the Planned Project Activities

Avoid at source: Reduce at source
Avoiding or reducing at source is essentially "designing" the project so that a feature causing an impact is designed out.

Abate on site
This involves adding something to the basic design to abate the impact for example, pollution controls fall in this category. This is often called end-of-pipe.

Abate at receptor
If an impact cannot be abated on-site, then measures can be implemented off-site an example of this would be to install double-glazed windows to minimize the impact of noise at a nearby residence.

Repair or Remedy
Some impacts involve unacceptable damage to a resource. Repair essentially involves restoration and re-instatement type measures.

8.2 Pre-Construction

The majority of mitigation measures and in particular mitigations to protect and enhance the physical environment are most effectively incorporated during the design phase. There are five key elements:

- Development of sustainable designs with the lowest possible environmental impact within the constraints of the project funding and the socio-economic setting.
- Incorporate the recommendations and requirements of the ESMP to be an integral part of the Bidding and Contract Documents thereby building in enforceable measures to protect the environmental and social matters throughout the construction phase.
- Development of stakeholder engagement plan or procedures
- Provide adequate grievance redress procedures to address the concerns of local people and stakeholders to ensure satisfactory resolution of any grievance arising from the project.

For each of the identified impacts, mitigation measures have been suggested in accordance with a general rule defining mitigation criteria as:

1. Avoidance of major impacts: major impacts are generally considered unacceptable, ones that would endure in the long-term or extend over a large area;
2. Reduction of major and moderate impacts to as low as reasonably practicable (ALARP) by planning, designing and controlling mitigation measures. This implies that mitigation measures will be applied until the limitations of cost effectiveness and practical application have been reached. The limitations are established by international practice;
3. Implementation of good practices for impacts rated as minor, in order to ensure that impacts are managed within good reason.

There will only be localized short-term impacts during construction due to the implementation of the civil works. Impacts have been addressed at the design stage by choosing engineering solutions that, as far as is possible, minimize the impacts during construction and operational phase. The impacts which could not be eliminated by the design, mostly impacts during construction, will be reduced, or eliminated by mitigation and monitoring measures specified in the ESMP.

These construction related impacts can be mitigated by (i) the contractors' work practices, especially those related to maintenance of access, methods of trench excavation, the storage of construction materials and cleanliness of the work sites; (ii) cooperation by the local authorities with the contractor in terms of traffic management and use of public space and utilities; (iii) project management's strict enforcement of the correct construction practices and standards; (iv) the incorporation of the mitigation measures identified in the ESIA into the bid documents and specifications; (v) public awareness including liaison at ward level shortly in advance of work in each work location; and (vi) close monitoring of the contractor's implementation of the required mitigation measures.

Environmental impacts and proposed mitigation measures during project pre-construction, construction, operation, and decommissioning phases are described in the following sections.

8.3 Environmental And Social Management Plan

Table 8-1: Environmental and Social Management Plan

Impact Type	Potential Impact	Mitigation Measures	Cost (TZS)	Responsibility
Pre-Construction Phase				
(I) Vegetation clearance due to access creation to the construction site.	Impact on sensitive receptors Impact on workers' health and safety Impact on community health and safety Impact on flora and fauna	Avoid unnecessary vegetation clearance beyond access road.	2,000,000	Contractor monitored by PIU (E&S)
(II) Waste generation due to clearance of vegetation at access road to construction site	Impact on storm water quality and thus water quality in the water bodies in project areas -Impact on soil quality -Impact on surface water quality; -Impact on ground water quality	Designate a place for separate and temporary storage of cleared trees and stripped topsoil. Allow community to reuse cleared trees as firewood. Stripped topsoil shall be preserved for vegetation regeneration after completion of construction works	1,200,000	Contractor monitored by PIU (E&S)
(III) Increased employment opportunities for local people due to recruitment of construction workers	Employment priority to local people and provide equal employment opportunity for both males and females discrimination at work place discrimination. Sexual Harassment and Gender Based Violence at work place.	Give employment priority to local people and provide equal employment opportunity for both males and females Ensure there is not any kind of discrimination at work place discrimination. Ensure there is not any kind of Sexual Harassment and Gender Based Violence at work place.	2,000,000	Contractor monitored by PIU (E&S)

Impact Type	Potential Impact	Mitigation Measures	Cost (TZS)	Responsibility
Construction Phase				
A1: Construction Air Impacts	Impact on sensitive receptors Impact on workers' health and safety Impact on community health and safety Impact on flora and fauna	**A1-1:** Develop a Dust Management Plan; **A1-2:** Record all dust and air quality complaints, identify cause(s), take appropriate measures **A1-3:** Liaise with local communities to forewarn of potentially dusty activities; **A1-4:** Undertake monitoring close to dusty activities, noting that this may be daily visual inspections, or passive/active monitoring **A1-5:** Undertake inspections to ensure compliance with the Dust Management Plan; **A1-6:** Plan potentially dusty activities so that these are located as far from receptors as feasible **A1-7:** Erect solid screens if feasible around stockpiles and concrete batching; **A1-8:** Avoid run off of mud and water and maintain drains in a clean state; **A1-9:** Remove dusty materials form site as soon as possible if not being re-used. If being re-used, cover or vegetate if possible; **A1-10:** Impose speed limits on haul routes and in construction compounds to reduce dust generation; **A1-11:** Minimise drop heights when loading stockpiles or transferring materials; and **A1-12:** Avoid waste or vegetation burning.	3,600,000	Contractor monitored by PIU (E&S)
		For traffic on unpaved roads: **A1-13:** Undertake watering to attenuate dust near sensitive receptors. The duration and frequency of this should be set out in the Dust Management Plan and will consider water availability and any stakeholder grievances; and **A1-14:** On unpaved roads in use for more than 1 month, consider use of surface and sealants to reduce the use of water and water trucks. Use of lignin-based sealants recommended due to low environmental toxicity.	3,600,000	Contractor monitored by PIU (E&S)
		For earthworks: **A1-15:** Revegetate exposed areas as soon as feasible **A1-16:** Revegetate or cover stockpiles if feasible;	2,000,000	Contractor monitored by PIU (E&S)

Impact Type	Potential Impact	Mitigation Measures	Cost (TZS)	Responsibility
		A1-17: Expose the minimum area required for the works and undertake; and exposure on a staged basis to minimise dust blow		
		For track out: **A1-18**: Where track out is onto paved roads, use wet road cleaning methods to remove dirt and mud build up; **A1-19:** Avoid dry sweeping of large areas; and **A1-20:** Where feasible, undertake wheel washing and vehicle clean down prior to accessing public roads.	500,000	Contractor monitored by PIU (E&S)
A2. Noise and Vibration Impacts	Impact on sensitive receptors Impact on workers' health and safety Impact on community health and safety Impact on fauna	**A2-1:** Siting noisy plant and equipment as far away as possible from NSRs, and use of barriers (e.g., site huts, acoustic sheds or partitions) to reduce the level of construction noise at receptors wherever practicable; **A2-2:** Where practicable noisy equipment will be orientated to face away from the nearest NSRs; **A2-3:** Working hours for significant noise generating construction work (including works required to upgrade existing access roads or create new ones), will be daytime only;	5,500,000	Contractor monitored by PIU (E&S)
		A2-4: Alternatives to diesel and petrol engines and pneumatic units, such as hydraulic or electric-controlled units, will be used, where practicable;	Included in A2-1	Contractor monitored by PIU (E&S)
		A2-5: Where practicable, stationary equipment will be located in an acoustically treated enclosure	Included in A2-1	Contractor monitored by PIU (E&S)
		A2-6: For machines with fitted enclosures, doors and door seals will be checked to ensure they are in good working order; also, that the doors close properly against the seals;	Included in A2-1	Contractor monitored by PIU (E&S)
		A2-7: Throttle settings will be reduced, and equipment and plant turned off, when not being used; **A2-8:** Equipment will be regularly inspected and maintained to ensure it is in good working order. The condition of mufflers will also be checked; and **A2-9:** Fitting of mufflers or silencers of the type recommended by manufacturers	Included in A2-1	Contractor monitored by PIU (E&S)
A3. Soil erosion and contamination impacts	Impacts on water quality (sediment run-off/contamination)	**A3-1:** Vegetation clearing, and topsoil disturbance will be minimized.	3,000,000	Contractor monitored by PIU (E&S)

Impact Type	Potential Impact	Mitigation Measures	Cost (TZS)	Responsibility
	leading to deterioration of quality. Deteriorated water quality will impact on fauna if consumed. Deteriorated water quality will impact on community health if consumed.	**A3-2:** Contour temporary and permanent access roads/laydown areas so as to minimise surface water runoff and erosion; **A3-3:** Sheet erosion of soil shall be prevented where necessary through the use of sandbags, diversion berms, culverts, or other physical means. **A3-4:** Topsoil shall be stockpiled separate from subsoil. Stockpiles shall not exceed 2 m height, shall be located away from drainage lines, shall be protected from rain and wind erosion, and shall not be contaminated.		
		A3-5: Topsoil shall be evenly spread across the cleared areas when reinstated. **A3-6:** Accelerated erosion from storm events during construction shall be minimised through managing storm water runoff (e.g., velocity control measures).	1,000,000	Contractor monitored by PIU (E&S)
		A3-7: Soil backfilled into excavations shall be replaced in the order of removal in order to preserve the soil profile. Material (e.g. fuel or chemicals).	1,000,000	Contractor monitored by PIU (E&S)
		A3-8: Spread mulch generated from indigenous cleared vegetation across exposed soils after construction.	500,000	Contractor monitored by PIU (E&S)
A4. Surface Water Quality Impacts	Impacts on water quality (sediment run-off/contamination) leading to deterioration of quality. Deteriorated water quality will impact on fauna if consumed. Deteriorated water quality will impact on community health if consumed.	**A4-1:** Activities shall be conducted >100m away from water bodies, except where crossings are required.	1,500,000	Contractor monitored by PIU (E&S)
		A4-2: All wastewater which may be contaminated with oily substances must be managed in accordance with an appropriate waste management plan and no hydrocarbon-contaminated water may be discharged to the environment.	2,500,000	Contractor monitored by PIU (E&S)
		A4-3: Domestic wastewater shall be treated and disposed of in accordance with an approved waste management plan. Park vehicles preferably on paved platforms	1,500.000	Contractor monitored by PIU (E&S)
	Loss of biodiversity.	**A5-1:** Where impact avoidance is not possible, existing indigenous vegetation must be kept intact, where possible. Vegetation will be removed only as absolutely necessary.	1,000,000	Contractor monitored by PIU (E&S)

Impact Type	Potential Impact	Mitigation Measures	Cost (TZS)	Responsibility
		A5-2: Rivers, watercourses and other water bodies shall be kept clear of felled trees, vegetation cuttings and organic waste and debris from clearing;	1,000,000	Contractor monitored by PIU (E&S)
		A5-3: Alien invasive vegetation should be removed immediately and disposed of properly, at a licensed waste disposal facility as necessary;	500,000	Contractor monitored by PIU (E&S)
		A5-4: There should be no deviation from the access road position without prior discussions with the authorities; **A5-5:** Firewood collection by the project's employees should be strictly forbidden.	TBD	Contractor monitored by PIU (E&S)
		A5-6: Rehabilitation of temporary construction sites should be done as swiftly as possible and always with suitable native grasses and other plants	2,000,000	Contractor monitored by PIU (E&S)
		A5-7: Materials and equipment should not be delivered to the site prematurely, as this could result in need for laydown or storage areas and additional areas being cleared or affected unnecessarily; and	TBD	Contractor monitored by PIU (E&S)
		A5-8: Whenever possible, all damaged areas shall be reinstated and rehabilitated upon completion of the contract to as near pre-construction conditions as possible	5,000,000	Contractor monitored by PIU (E&S)
A6. Impact on Fauna	Disturbance due to noise, vibrations and vehicle presence.	**A6-1:** All areas disturbed by construction activities shall be landscaped and rehabilitated;	2,500,000	Contractor monitored by PIU (E&S)
A7: Solid and Liquid Waste Impacts	-Impact on storm water quality and thus water quality in the water bodies in project areas -Impact on soil quality -Impact on surface water quality; -Impact on ground water quality; and -Impact on ecological receptors or human health -Aesthetic quality	**A7-1:** Prepare Waste Management Plan.	4,000,000	Contractor monitored by PIU (E&S)

Impact Type	Potential Impact	Mitigation Measures	Cost (TZS)	Responsibility
A8. Access to Infrastructure and Services	-Disruption of transit routes -Disruption of normal traffic operations -Wastes from the camp site could be significant and overburden the existing wastes disposal facilities in the area	**A8-1:** Methods will be implemented to maintain open, clear and transparent communication with the local communities regarding the use of local infrastructures by the Project throughout the different phases. **A8-2:** Engagement with the relevant authorities is recommended in order to avoid damage to common property and minimize access disruption to education and healthcare facilities **A8-3**: Community Grievance Mechanism will be implemented. **A8-4:** A Traffic Management Plan shall be issued before earth movements and construction start in order to minimize traffic disruptions **A8-5:** Where temporary closure of road is required, alternative access to property will be ensured and local solutions including diversions will be implemented to ensure uninterrupted mobility.	TBD	Contractor monitored by PIU (E&S)
A9: Landscape & Visual amenities risks	-Impacts on aesthetics of the surroundings with the possibility to affect the neighbouring residents.	**A9-1:** Any excavated or cut and fill areas will be landscaped and revegetated; **A9-2**: No debris or waste materials will be left at the work sites, good housekeeping on site to avoid litter and minimise waste **A9-3:** Night lighting of sites should be minimized within requirements of safety and efficiency; **A9-5:** Ongoing rehabilitation of cleared areas to minimise visual scarring and maintenance clearing will be kept to the absolute minimum and should not extend beyond the corridor;	2,500,000	Contractor monitored by PIU (E&S)
A10: Worker's Health and Safety and Workers Management	-Workers are likely to be exposed to work related risks during the construction phase of the project.	**A10-1**: MoEVT will require a Human Resources Policy, from the contractor which will outline worker rights to be included in all contracts including restrictions on working hours in line with applicable ILO standards, compensation including consideration of overtime, holidays etc.	TBD	Contractor monitored by PIU (E&S)
		A10-2: MoEVT will require its contractors and subcontractors to put in place policies in line with national legislation and applicable international legislation and Code of Conduct and Policies.	N/A	Contractor monitored by PIU (E&S)
		A10-3: MoEVT will establish contractual clauses to be embedded in the contracts of the contractor and all sub-contractors that require adherence to Zanzibar laws and	N/A	Contractor monitored by PIU (E&S)

Impact Type	Potential Impact	Mitigation Measures	Cost (TZS)	Responsibility
		international standards to be upheld related to worker rights and providing the contractor and MoEVT with the right of audit.		
		A10-4: Pre-employment medical assessments will be put in place as a workforce risk management tool to screen individuals for risk factors that may limit their ability to perform a job safely and effectively. Expected benefits of conducting a pre-employment medical assessment include a safer working environment, reduction in workplace injuries, minimised downtime, matching the capacity of the employee with the role, and overall recruitment cost and risk reduction. Contractor will conduct a rapid risk analysis when absorbing workers on short contract. **A10-5:** SEBEP will ensure that training on health and safety measures is provided to all construction workers prior to starting to work on the Project and that supervisors have adequate experience to deliver on their responsibilities. **A10-6**: SEBEP will implement regular health and safety checks and audits of Workers, contractors and subcontractors and implementing sanctions in case of breaches of nationals **A10-7:** SEBEP will develop and implement a Workers Grievance Mechanism for the Project workforce including contractors and subcontractor's standards and the Project's specific standards. Such audits to include workplace H&S; worker contracts, working hours, pay and conditions; housing and food standards. **A10-8:** SEBEP will establish a procedure for the recording and analysis of incidents and lessons learned such that additional actions can be implemented to avoid or minimize occupational health and safety risks. **A10-:9 SEBEP** will ensure that facilities and work sites are designed and maintained such that robust barriers are in place to prevent accidents. **A10-10**: SEBEP will ensure that its Code of Conduct is followed to regulate the performance and behaviour of all workers, including provision for disciplinary action for anti-social behaviour and non-compliance with health and safety regulations such as lack of use of PPE.	5,000,000	Contractor monitored by PIU (E&S)

Impact Type	Potential Impact	Mitigation Measures	Cost (TZS)	Responsibility
		A10-11: SEBEP will ensure that adequate clean water, adequate food and access to medical care is provided to all workers on the worksite and at accommodation.		
A11: Community Health and Safety Impacts	-Increased noise decreased air quality, inappropriate waste handling or disposal, and accidental leaks and spills, debris and movement of heavy equipment may pose a safety risk to the general public. -Potential impacts on community safety, in particular road accidents, trespass on the sites, and demining activities potentially resulting in accidents leading to injuries or fatalities. -Climate change impact and Environmental health: changes to the environment due to increased noise and vibrations, decreased air quality and, inadequate management of waste. -Impact from workers presence and potential interaction with local populations	**A11-1:** SEBEP will develop and monitor the implementation of a Community Health and Safety Management Plan which will include the following measures: **A11-2:** Ensure all workers including contractors and subcontractors undergo pre-employment screening and regular health screening including voluntary screening for STDs. **A11-3:** Ensure all workers including contractors and subcontractors receive education around project site and symptoms of communicable diseases of concern and STDs. **A11-4:** Provide access to health care for those injured by its activities. **A11-5:** Ensure that work sites are fenced and that signs are put up around work fronts and construction sites advising people of the risks associated with trespass. When work fronts are less than 100 metres from a community or house, employ security guards from the local community to prevent trespass. **A11-6:** Undertake a programme of stakeholder engagement and consultation to educate local communities of the risks of trespassing onto sites, the meaning of signs, and the dangers of playing on or near equipment or entering fenced areas.	5,000,000	Contractor monitored by PIU (E&S)
		A11-7: Contractor will develop Emergency Response Plans (ERPs) in cooperation with local emergency authorities and hospitals. **A11-8:** Contractor will extend the Worker Code of Conduct to include guidelines on worker –community interactions and will provide training on the worker code of conduct to all employees including contractors and subcontractors and truck drivers as part of the induction process. **A11-9:** Contractor will provide primary health care and first aid at construction camp sites to avoid pressure on local healthcare infrastructures. **A11-10:** Contractor will implement a Community Grievance Mechanism. **A11-11:** Contractor will develop and implement a Traffic Management Plan covering aspect such as vehicle safety,	5,000,000	Contractor monitored by PIU (E&S)

Impact Type	Potential Impact	Mitigation Measures	Cost (TZS)	Responsibility
		driver and passenger behaviour, use of drugs and alcohol, operating hours, rest periods, community education on traffic safety and accident reporting and investigations		
A12: Gender-based violence at the community level	-Gender-based violence at the community level -Forced Early Marriages -Sexual Exploitation and Abuse -Transactional sex. -Shift in power dynamics in the community or family. -Abusive behaviour among project-related staff	**A12-1:** Contractor will extend the Worker Code of Conduct to include guidelines on worker –community interactions and will provide training on the worker code of conduct to all employees including contractors and subcontractors and truck drivers as part of the induction process	5,000,000	Contractor monitored by PIU (E&S)
A13: Violation of children rights by contractor and labor force on site	-Violation of children rights by contractor and labor force on site	**A13-1:** Contractor will extend the Worker Code of Conduct to include guidelines on worker –community interactions and will provide training on the worker code of conduct to all employees including contractors and subcontractors and truck drivers as part of the induction process	5,000,000	Contractor monitored by PIU (E&S)
A14: Land Acquisition and Involuntary Displacement Impacts	-Displacement of physical structures and physical resettlement.	**A14-1:** Preparation of RAP **A14-2:** Avoiding or minimizing working in agricultural areas or areas of community resources. **A14-3:** Minimizing clearance of maintenance road as in some cases clearance may not be necessary since other access roads are available. **A14-4:** Minimizing as far as possible tree cut-off and tree trimming in the temporary sites working areas.	Refer to RAP	SEBEP
A15: Archaeology and Cultural Heritage Impacts	-Restriction to access cultural sites. -Destruction of cultural sites during construction or operations	**A15-1:** Consult community when any community issue arises in order to engage traditional forms of community leadership. **A15-2:** Work with local community representatives to develop cultural awareness materials (that will cover key issues including the location and importance of all local cultural sites and other cultural sensitivities (graves). **A15-3:** Should construction activity be required in proximity to existing graves, develop and implement working protocols in consultation with local traditional leaders. **A15-4:** Do not remove any cultural heritage including graves without prior consultation to the communities and fulfilling	2,000,000	Contractor monitored by PIU (E&S)

Impact Type	Potential Impact	Mitigation Measures	Cost (TZS)	Responsibility
		the legal requirements. Any removal of cultural heritage should be conducted by the best available techniques. **A15-5:** Establish a grievance procedure to ensure community concerns are addressed. **A15-6:** Develop a chance find procedure which will detail the appropriate course of action that must be followed for any relevant cultural heritage discoveries.		
A16: Unplanned Events	-Impacts to soil and surface water from spill events	**A16-1:** Develop a detailed Oil Spill Response Plan (OSRP) which includes community notifications of any significant spills that have the potential to affect communities. **A16-2:** Refuelling of equipment and vehicles will be carried out in designated areas on hard standing ground to prevent seepage of any spillages to ground. **A16-3:** Hazardous material storage will be on hard standing and impermeable surface and the bulk storage facility will be bunded. **A16-4:** Hydrocarbon spill clean-up kits shall be available at all locations where refuelling or maintenance of vehicles and equipment is done, and responsible people shall be trained in the use thereof.	8,000,000	Contractor monitored by PIU (E&S)

Table 8-2: Environmental and Social Management Plan

Phase/ Impact Type	Potential Impact	Mitigation Measures	Cost	Responsibility
Operations Phase				
B1. Air pollution Impacts		**B1-1:** Develop and implement a Dust Management Plan; **B1-2:** Record all dust and air quality complaints, identify cause (s), take appropriate measures **B1-3:** Liaise with local communities to forewarn of potentially dusty activities; **B1-4:** Undertake monitoring close to dusty activities, noting that this may be daily visual inspections, or passive/active monitoring **B1-5:** Undertake inspections to ensure compliance with the Dust Management Plan;	1,500,000	VTC Management
B2. Noise Emissions and Vibration Impacts	Intermittent noise from equipment can generate noise	**B2-1:** Siting noisy plant and equipment as far away as possible from NSRs, and use of barriers (e.g., site huts, acoustic sheds or partitions) to reduce the level of construction noise at receptors wherever practicable;	1,000,000	VTC Management

Phase/ Impact Type	Potential Impact	Mitigation Measures	Cost	Responsibility
		B2-2: Working hours for significant noise generating construction work (including works required to upgrade existing access roads or create new ones), will be daytime only;		
B3. Soil erosion and contamination impacts	~ Minimal or no soil erosion	**B3-1:** Vegetation clearing, and topsoil disturbance will be minimized. **B3-2:** Contour temporary and permanent access roads/laydown areas so as to minimise surface water runoff and erosion; **B3-3:** Sheet erosion of soil shall be prevented where necessary through the use of sandbags, diversion berms, culverts, or other physical means.	1,000,000	VTC Management
		B4-1: All wastewater which may be contaminated with oily substances must be managed in accordance with an appropriate waste management plan and no hydrocarbon-contaminated water may be discharged to the environment	N/A	VTC Management
		B4-3: Domestic wastewater shall be treated and disposed of in accordance with an approved waste management plan. Park vehicles preferably on paved platforms	N/A	VTC Management
B4. Impact on Flora and Vegetation	-No Large impact on existing flora and vegetation.	**B5-1:** Avoidance of impacts should be prioritized. Where impact avoidance is not possible, existing indigenous vegetation must be kept intact, where possible. Vegetation will be removed only as absolutely necessary.	N/A	VTC Management
		B5-2: Alien invasive vegetation should be removed immediately and disposed of properly, at a licensed waste disposal facility as necessary;	1,500,000	VTC Management
		B5-8: Whenever possible, all damaged areas shall be reinstated and rehabilitated upon completion of the contract to as near pre-construction conditions as possible	5,000,000	VTC Management
B5: Solid and Liquid Waste Impacts	Minimal or no solid or liquid waste	**B7-1:** Implement Solid Waste Management Plan	N/A	VTC Management

Phase/ Impact Type	Potential Impact	Mitigation Measures	Cost	Responsibility
B6: Landscape & visual amenities risks	Impacts on aesthetics of the surroundings with the possibility to affect the neighbouring residents.	**B8-1:** Ongoing rehabilitation of cleared areas to minimise visual scarring and maintenance clearing will be kept to the absolute minimum and should not extend beyond the corridor.	N/A	VTC Management
B7: Worker's and Students Health and Safety and Workers Management	Potential impacts to Teachers, workers and student health and safety -respect for labor rights during construction	Develop and implement a Worker's and Students Health and Safety Management System including the following measures: • HR Policy in line with Local labor laws and ILO standards o Training on H&S Risks o H&S Audits for workers o Workers Grievance Mechanism o Incident and Accident Reporting o Students Grievance Mechanism • Code of conduct to regulate behavior	10,000,000	VTC Management
		Access to clean water	Part of design	VTC Management
		o Traffic Management Plan o Vehicle Safety o Drug and alcohol use o Rest periods o Traffic safety o Accident Reporting	TBD	VTC Management
		Non-Discrimination on basis of gender, marital status age, religion or sexual orientation	N/A	VTC Management
B10: Community Health and Safety Impacts		**B10-1:** VTC Management will develop and monitor the implementation of a Community Health and Safety Management Plan which will include the following measures: • Undertake a programme of stakeholder engagement and consultation to educate local communities of the risks of trespassing onto sites, the meaning of signs, and the dangers of playing on or near equipment or entering fenced areas.	10,000,000	VTC Management
		B10-2: VTC Management will develop Emergency Response Plans (ERPs) in cooperation with local emergency authorities and hospitals.	5,000,000	VTC Management
B11: Gender-based violence at the VTC	-Gender-based violence at the VTC -Sexual Exploitation and Abuse	**B12-1:** VTC Management will extend the Worker Code of Conduct to include guidelines on worker – student interactions and will provide training on the worker code of conduct to all employees including teachers and support staff as part of the induction process	5,000,000	VTC Management

Phase/ Impact Type	Potential Impact	Mitigation Measures	Cost	Responsibility
	-Transactional sex. -Shift in power dynamics in the community or family. -Abusive behaviour among staff			

Table 8-3: Environmental and Social Monitoring Plan and Indicators

Project Activity/Aspect	Impact/Effect	Monitoring Indicator	Institutional Responsibility	
			Monitoring Responsibility	Frequency
A. General	**A-1** Planning	● Workforce briefed about the relevant environmental issues, including pollution control and site management	Contractor/SEBEP/VTC Management	Continuous
	A-2 Implementation Oversight Capacity	● EHS Manager ● Environmental Officers ● Social Officers ● Health and Safety Officer	Contractor/SEBEP/VTC Management	Continuous
	A-3 Site Implementation Capacity	● Site EHS Officer	Contractor/SEBEP/Investors	As per schedule
B. Land Acquisition	**B-1** Land will be used for the project etc. *(Loss of land and Livelihoods. To be compensated. The rates for land are agreed on a negotiated basis)*	● Development/Disclosure of RAP ● Implementation of RAP ● Development/Implementation of GRM ● Development/Implementation of LRP ○ Landowners informed about compensation package ○ Number of PAPs receiving compensation ○ Number of restored livelihoods ○ Number of PAPs completing Livelihood restoration training courses	SEBEP	As per Schedule

Project Activity/Aspect	Impact/Effect	Monitoring Indicator	Institutional Responsibility	
			Monitoring Responsibility	Frequency
		○ Number of Grievances received/resolved		
	B-2 Crop/Plant loss during temporary loss of land	● Use third party independent valuation to define replacement value	MoEVT/ SEBEP	● Prior to land acquisition
	B-3 Communication and compensation *(to be communicated during negotiation)*	● Liaison officer to prepare basis of calculation to estimate the rate for different crops and communicate the same to affected PAPs		
	B-4 Damage to community and private/individual property during construction activities	● The grievance redress system should closely monitor activities for such incidences		
C. Labor Influx	**C-1** Higher rates of violence, injury, **C-2** Alcohol and drug consumption and **C-3** Sexually transmitted diseases in the local population. **C-4** Social conflicts within and between communities	Development/Implementation ● HR Policy ● Labor influx plan Indicators ● HR records on the percentage of local versus non-local employment. ● Number/attendance records of Sensitization meetings held on GBV, SEA, HIV/AIDS ● Review of training attendance records of capacity enhancement and transfer of knowledge that local personnel have received. ● Code of conduct included in contracts	Contractor/SEBEP/VTC Management	● Prior to construction commencing for Local Content and Procurement Plan. ● Continuous during construction phase for employment and procurement-related measures. ● Quarterly for training-related measures.
D. Air Quality/ Atmospheric Conditions	**D-1** Dust Emissions associated with construction activities	Dust deposition in adjoining areas to be physically monitored using accredited labs to ensure compliance	Contractor/SEBEP/VTC Management	● During excavation
E. Noise	**E-1** Noise from construction activities (*to be managed by equipment choice and arrangement of construction activities)*	● Part of the subcontractors' contract	Contractor/SEBEP/VTC Management	● Each schedule of construction activities

Project Activity/Aspect	Impact/Effect	Monitoring Indicator	Institutional Responsibility	
			Monitoring Responsibility	Frequency
F. Soils	**F-1** Dumping of construction material outside the project construction footprint **F-2** Erosion and compaction **F-3** Contamination due to spill of civil construction material	• Visual checks at construction site • Visual inspection during casting	Contractor/SEBEP/VTC Management	• Continuous throughout the construction and operation phase
G. Ecology	**G-1** Disruption to existing flora and fauna **G-2** Loss of Vegetation **G-3** Disturbance to fauna due to movement in forest areas	• Sensitization trainings to worker on local ecology and extent of care • Signs and warnings against hunting • Number of revegetated areas. • Percentage area of site cleared vs. remaining un-cleared land.	Contractor/SEBEP/VTC Management	• Continuous throughout the construction and operation phase
H. Waste	**H-1** Accumulation of waste on site causing nuisances such as odor, pest control problems and general litter.	• Construction Waste Management Plan • Routine weekly checks of waste management arrangements should be undertaken.	Contractor/SEBEP/VTC Management	• Continuous throughout the construction and operation phase
I. Traffic and Transport	Increase in traffic	• Development/implementation of traffic management plan	Contractor/SEBEP/VTC Management	• Continuous throughout the construction and operation phase
J. Landscape and Visual Amenities	**K-1** Visual scarring of the landscape	Inspection on a daily basis	Contractor/SEBEP/VTC Management	Continuous throughout the construction phase
K. Workers Heath, Safety and Labor Rights	Worker's health and safety Respect for labor rights	• Worker Health and Safety Management System • Human Resources Policy. • Traffic Management Plan • Verify contractual clauses of Contractor and all sub-contractors requiring adherence to Zanzibar's law and international standards. • Records of incidents and accidents. • Record on training sessions and attendance on health and safety measures	Contractor/SEBEP/VTC Management	• Continuous throughout the construction and operation phase

Project Activity/Aspect	Impact/Effect	Monitoring Indicator	Institutional Responsibility	
			Monitoring Responsibility	Frequency
		● Record of lessons learned to minimize occupational health and safety. ● Code of Conduct document		
L. Community Impacts	**L-1** Labor Influx *(Health impacts including risks of STDs, HIV/AIDS)* **L-2** Community expectation for local benefits	● Number of meetings held ● Attendance records of Sensitization meetings held on GBV, SEA, HIV/AIDS ● HR records on the percentage of local versus non-local employment. ● Code of conduct included in contracts	Contractor/SEBEP/VTC Management	Continuous throughout the construction and operation phase
	L-3 Violence against Children	● Policies against VAC in place ● HR Policy ● Records of employees with National ID card indicated	Contractor/SEBEP/VTC Management	Continuous throughout the construction and operation phase
	L-4 Gender Based Violence and Domestic Violence	● Policies against GBV in place ● HR Policy ● Attendance records of Sensitization meetings held on GBV	Contractor/SEBEP/VTC Management	Continuous throughout the construction and operation phase
M. Cultural Heritage	**M-1** Cultural and religious sensitivities maybe impacted by project	● Chance find procedures ● Records of training on chance find procedures	Contractor/SEBEP/VTC Management	Continuous throughout the construction phase
N. Local amenities and infrastructure	**N-1** Pressure to local infrastructure from use of local resources	● Grievance redress process should closely monitor construction activities for such incidences	Contractor/SEBEP/VTC Management	Continuous throughout the construction phase

8.4 Construction Environment and Social Management Plan

For an effective integration of environmental and social safeguards into the project implementation the Contractor will need to adopt this ESMP and prepare a comprehensive Construction Environment and Social Management Plan (C-ESMP) that will provide the key reference point for compliance. The environmental supervision will also adopt the C-ESMP. C-ESMP is an upgraded ESMP illustrating realities of the project works to be prepared by the Contractor. The Contractor is expected to finalize the Work Plan and upon approval, list the works items and for each item present practical actions that will be undertaken to realize achievement of the ESMP. The actions on works items should address environmental and social aspects associated with the works and in line with guidelines from the ESMP. Based on these ESMP outline, the Contractor will be instructed to develop a C-ESMP for each component of the project and submit these plans to the SEBEP.

8.5 Project Management Team

The Project will be implemented by SEBEP which has experienced environmental and social safeguards specialist on staff. The core functions of the team will be to coordinate and facilitate oversight for technical, environmental and social safeguards, health and safety and social risks supervision.

8.6 Project Supervision Engineer

The Project Supervision Engineer will be required to recruit a qualified Environmental and Social Expert who will be charged with the responsibilities of supervision, review of site reports, preparation of monthly progress reports, prepare and issue appropriate instructions to the Contractor and monitor ESMP implementation.

8.7 Contractor

The Contractor will ensure that the established mitigation measures are integrated and implemented throughout the project works as per the C-ESMP. The Contractor will internalize the ESMP/C-ESMP, prepare monthly progress reports and implement instructions issued by the Supervision Consultant. The Contractor, therefore, will engage qualified Environmentalist and Social Experts on full time basis to interpret the C-ESMP and advice on the implementation of the same, as well to the Counterpart Personnel for the Supervision Expert.

8.8 Zanzibar Environment Management Authority

The National Environment Management Authority (ZEMA) is responsible for ensuring environmental compliance in the country and has offices in Zanzibar City with staffing who will further ensure that the ESMP is implemented as part of their mandate, functions and responsibilities. ZEMA will undertake surveillance on the project implementation and review compliance performance based on the supervision monitoring reports.

8.9 Zanzibar Building Authority (ZBA)

The institution responsible for construction will ensure that all constructors' standards and procedures Including provision of building permits, construction regulations and guidelines are complied with.

8.10 Kaskazini B Local Council

The Kaskazini B Local Council will be responsible for ensuring that all environmental services related to waste management, wastewater discharge, and other requirements are properly accounted for.

8.11 Kidanzini Shehia Development Committee

The Shehia Development Committee will be responsible to follow on the implementation of the proponent's commitment in ensuring that rights of local communities, and conservation of local environment programs are properly managed, monitored and respected.

8.12 Management and Monitoring

8.12.1 Management Plans

The ESMP has identified some additional plans that will be prepared by the procured contractor prior to construction.

- Construction Environmental and Social Management Plan;

SEBEP will delegate certain responsibility but retain oversight and supervision role to construction contractors and supervising engineers as specified in this ESIA/ESMP section that highlights the roles of the contractors. During this phase SEBEP will manage its contractors to ensure that this ESMP is implemented and monitored effectively through contractual mechanisms regular direct oversight. As a contractual requirement, the contractors will be required to demonstrate compliance of their activities against the ESMP.

The Project's ESMP and related documentation will be the main contractual documentation to which the contractor (s) will be bound. Contractors will be required to develop their own management plans which show how they will comply with these environmental and social requirements.

In this way, the ESMP will be implemented and controlled using both SEBEP and the contractor management systems. The contractor management systems will therefore:

- Provide the framework that regulates their activities;
- Define responsibilities and reporting relationships for expediting, mitigation and monitoring actions detailed in the ESMP; and
- Specify the mechanisms for inspecting and auditing to ensure that the agreed actions are implemented.

Contractors will be required to self-monitor against their plan and compliance with the plan will be routinely monitored by SEBEP directly or by third parties. Contractors will be required to submit regular reports of monitoring activities and the Project will review these on a regular basis. SEBEP is ultimately responsible for the management and supervision

of all Project activities and will have principal responsibility for implementing this ESMP and the mitigation measures.

9 GRIEVANCE MANAGEMENT

Grievance redressal is a critical component of effective ESMP implementation. The purpose of GRM is to provide a forum to the internal and external stakeholders to voice their concerns, queries and issues with the project. Such a mechanism would provide the stakeholders with one project personnel or one channel through which their queries will be channeled and will ensure timely responses to each query.

This will allow for trust to be built amongst the stakeholders and prevent the culmination of small issues into major community unrest. The GRM will be accessible and understandable for all stakeholders in the project and for the entire project life. The GRM will be communicated to all relevant stakeholders and will also be applicable for any contractor that will occupy and/or use land during the construction and operations phase.

AfDB standards require Grievance Mechanisms to provide a structured way of receiving and resolving grievances. Complaints should be addressed promptly using an understandable and transparent process that is culturally appropriate and readily acceptable to all segments of affected communities and is at no cost and without retribution. The mechanism should be appropriate to the scale of impacts and risks presented by a project and beneficial for both the company and stakeholders. The mechanism must not impede access to other judicial or administrative remedies. This section contains the following:

- Grievance definition and categories and GRM principles; and
- The process of receiving, documenting, addressing and closing grievances.

9.1 Grievance Definition/Categories

As stated earlier, a grievance is a concern or complaint raised by an individual or a group within communities affected by company operations. Both concerns and complaints can result from either real or perceived impacts of a company's operations and may be filed in the same manner and handled with the same procedure. Grievances may take the form of specific complaints for actual damages or injury, general concerns about project activities, incidents and impacts or perceived impacts. Based on the understanding of the project area and the stakeholders, an indicative list of the types of grievances have been identified for the project, as can be seen below: -

Internal Grievances: Grievances from Employees (including both direct and indirect employees, including local workers and migrant workers through contractors):

- Complaints pertaining to amount of wage, salary, other remuneration or benefits as per Company's Human Resource policy;
- Gender discrimination;
- Sexual harassment;
- Sexual exploitation and abuse by project workers against community members;
- Violence against children;
- Gender-based violence;
- Issues related to workers organization;
- Health and Safety issues; and

- Extended working hours.

External Grievances: Grievances from community members:

- Issues related to sexual exploitation and abuse;
- Issues related to gender-based violence at the community-level;
- Issues related to child labor and protection;
- Issues related to transportation and traffic;
- Increase in environment pollution;
- Impact on community health;
- Disturbances to locals due to influx of migrant workers in the area;
- Issues arising out of sharing of employment and business opportunity; and
- Concerns over the impact on local cultures and customs.

The list of grievances will be regularly updated as and when the new one arises.

9.1.1 Internal Grievance Mechanism

During consultations, it was recommended that the client will hire a Community Liaison Officer (CLO) who will serve to meet all community liaison responsibilities. He/she will also be tasked with the responsibility of ensuring the effectiveness in implementation of the grievance mechanism. The contractor(s) will also be required to recruit CLOs to handled project related grievances (the bidding documents will reflect these requirements). The grievance mechanism will be advertised and announced to affected stakeholders so that they are aware of their rights to submit comments and how to go about it. The grievance mechanism will be founded on the following principles:

Responsibilities will be adequately assigned: A responsible person or team will be constituted and mandated to organize the resolution of grievances. This will enable the system run without undue impediments.

- The process will be accorded due importance: It is important for affected communities and other stakeholder groups seeking to have their complaints resolved, to perceive the grievance management process as transparent and fair. The grievance management process will enhance outcomes and give people satisfaction that their complaints have been heard, even if the outcome is less than optimal.
- The grievance procedures will be readily understandable, accessible and culturally appropriated by the local population. From the outset, clarification will be made on who is expected to use this procedure. The people will be assured that there will be neither costs nor retribution associated with lodging a grievance. The entire process (from how a complaint is received and reviewed, through to how decisions are made and what possibilities may exist for appeal) will be made as transparent as possible through good communication.
- The Mechanism will be scaled as needed for the Project: The grievance mechanisms will be designed to fit the context and needs of the project. As much as possible, it will have relatively simple means of addressing complaints, such as through community meetings, community liaison personnel and suggestion boxes

allowing for anonymity. It may also need a more formalized process and mechanism, and a higher level of dedicated resources for receiving, recording, tracking, and resolving complaints. The grievance mechanisms will not be taken as a substitute for community engagement process or vice-versa. The two are complementary and will be made mutually reinforcing. Not all grievances shall be handled in the same way.

- The process will be documented and publicized: The process will be put in writing and publicized. SEBEP recognizes that the GRM cannot be effective if nobody knows about it. Thus, the grievance procedures will be put into writing, publicized, and explained to relevant stakeholder groups. The people will be informed on where to go and whom to talk to if they have a complaint and understand what the process will be for handling it. As with all information, it will be provided in a format and language readily understandable to the local population and/or communicated orally where it's established that literacy levels are low. It will not be overly complicated to use nor will it require legal counsel to complete.
- The process will be made accessible: Projects that make it easy for people to raise concerns and feel confident that these will be heard and acted upon can reap the benefits of both a good reputation and better community relations. One of the best ways to achieve this is to localize your points of contact. Hire people with the right skills, training, and disposition for community liaison work and get them into the field as quickly as possible. Maintaining a regular presence in the local communities greatly helps to personalize the relationship with the company and engender trust. Talking with a familiar face who comes to the village regularly, or lives nearby, creates an informal atmosphere in which grievances can be aired and sorted out, or referred up the chain of command. This is usually more convenient and less intimidating to people than having to travel distances to the company offices during business hours to file a formal complaint.
- Response time will be defined and transparency upheld: SEBEP will publicly commit to a certain time frame in which all recorded complaints will be responded to and ensure this response time is enforced. This will help allay frustration by letting people know when they can expect to be contacted by SEBEP personnel and/or receive a response to their complaint. Combining this with a transparent process by which stakeholders can understand how decisions are reached will inspire confidence in the SEBEP system. During critical times such as construction, there will be immediate responses to time-sensitive complaints. A related issue is making sure that the community liaison officer has the authority to resolve basic complaints herself, as well as a direct reporting line to senior managers if the issue is more serious or costly to address.
- Good record-keeping and feedback: a grievance logbook will be kept where necessary, and a sophisticated database will be maintained where required. Written records of all complaints will be kept as this is critical for effective grievance management. The record shall contain the name of the individual or organization; the date and nature of the complaint; any follow-up actions taken; the final result; and how and when this decision was communicated to the complainant. Overly personal data such as national identity and phone numbers will be optional and kept confidential unless required to disclose to authorities. In addition to informing the

complainant of the outcome (in writing where appropriate), as part of the broader community engagement process SEBEP will report back periodically to communities and other stakeholder groups as to how the company has been responding to the grievances it has received.

- There will be a separate reporting mechanism for GBV, SEA and SH cases that are discrete and anonymous. The liaison officer will be the focal point and will establish the system to handle these complaints that will include reference to confidentiality, safety and survivor-centered approach. All registration of the data will be confidential and anonymized.
- Access to legal remedies will not be impeded: If the project is unable to resolve a complaint, it may be appropriate to enable complainants to have recourse to external experts. These may include public defenders, legal advisors or NGOs. The client may find that it can work in collaboration with these third parties and affected communities to find successful resolution of the issues. However, this is not always possible, and situations may arise where complainants will choose to pursue legal recourse. In this case, SEBEP will not impede access to these mechanisms.

Table 9-1: Sample Grievance Recording Form

GRIEVANCE REGISTRATION	
CASE No.	**DATE**
Name	
Department/Contractor Name	
Phone Number	
Details of Grievance	
Name of Person Recording Grievance	
Designation of Person Recording Grievance	
Proposed Date of Response to Grievance	
Signature of Recording Person	Signature of Complainant
GRIEVANCE REDRESS RESPONSE	
Date of Redress	
Decision of CLO (Give full details)	

9.1.2 Maintaining a Grievance Register

Each grievance thus received, shall be recorded in a grievance register. The format for the grievance register shall be as follows.

This grievance register shall be updated at each stage of the grievance redressal. Once the grievance is recorded in the register, a preliminary analysis shall be undertaken by the social officer to ensure that the grievance is within the scope of the GRM. Each grievance thus received, shall be recorded in a grievance register. The format for the grievance register shall be as follows.

Table 9-2: Sample Grievance Recording Form

Date	GR #	Name and contact of Grievant	Ward/Village	Grievance Details	Concerned Department	Name of Recording Person	Present Status	Remarks

9.1.3 External Grievance Mechanism

The process to be followed for the redressal of the external stakeholder grievances is summarized below

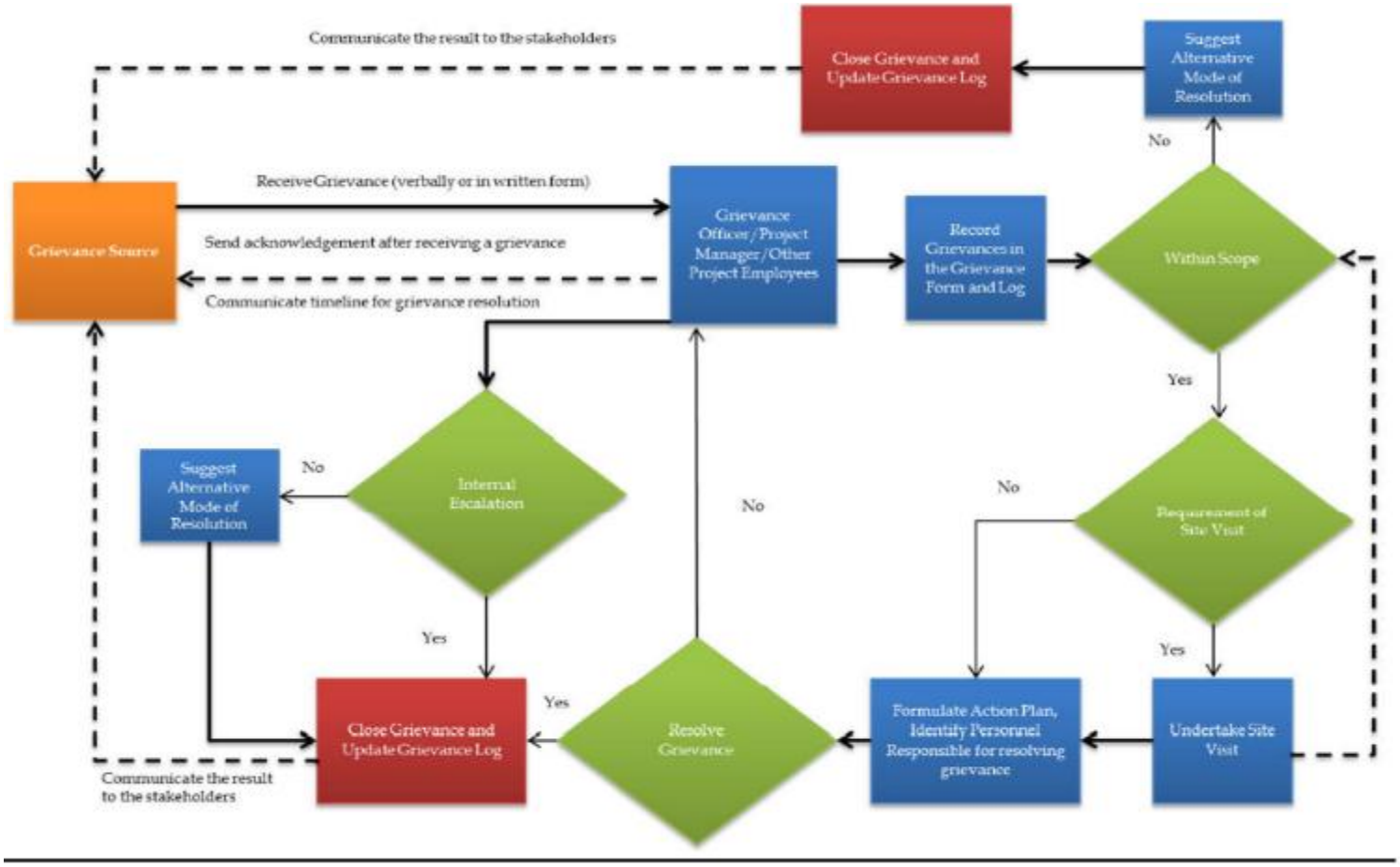

Figure 9-1: GRM Steps

9.1.4 Publicizing and Disclosure of the GRM

The GRM will be disclosed to the stakeholders through written and verbal communication. The mediums to be used for this purpose are public meetings, group discussions, and provisioning of the GRM in the manner outlined in the previous section. The GRM disclosure will be done along with the disclosure of other management plans.

9.1.5 Receiving and Recording Grievances

As part of the GRM, the grievances from the stakeholder or their representatives may be communicated verbally (in person or over a telephonic conversation) or in written form (in the format given below) to the project representatives or to the CLO directly. If the grievance is received directly by the CLO or other project representatives, it will be recorded directly into the Grievance Form as soon as the personnel return to site. A sample grievance form is as follows.

Table 9-3: Sample Grievance Recording Form

GRIEVANCE REGISTRATION	
CASE No.	**DATE**
Name	
Department/Contractor Name	
Phone Number	
Details of Grievance	
Name of Person Recording Grievance	
Designation of Person Recording Grievance	
Proposed Date of Response to Grievance	
Signature of Recording Person	Signature of Complainant
GRIEVANCE REDRESSAL RESPONSE	
Date of Redress	
Decision of CLO (Give full details)	

All project staff will be informed that they must pass all grievances, communications to the Grievance Officer (discussed in the following section) on site as soon as possible after they are received. Suggestion boxes will also be made available for the staff. Details of the person lodging the grievance shall be noted

and passed along with the grievance. The CLO in turn will communicate all grievances to the Environmental and Social Officers for the contractor or SEBEP. For assisting the communication of grievances, a register will be maintained at the project office at which any individual/group can come have their complaint registered. Village leaders and government departments will also be advised to pass any complaints they receive to the site level community liaison officer.

9.1.6 Acknowledgment of Grievance

Upon the completion of the recording of the grievance, the stakeholder will be provided with an acknowledgment of the receipt, along with a summary of the grievance.

Table 9-4: Sample Acknowledgement Receipt for Claimant

This receipt is acknowledgement of grievance registration by_____
, resident of village_____, on date _____
His case number is _____
and the date for response is _____
Full name & signature of recording person_____

In case the grievance is assessed to be out of the scope of the GRM, a communication towards the same shall be made to the grievant, and an alternative mode of redressal shall be suggested.

9.1.7 Site Inspection and Resolution

For the purpose of verifying and resolving the grievances received, site inspection may not be required in all the cases. Depending upon the sensitivity of the issue, requirement of a site inspection will be identified.

A site inspection will be undertaken by the site level community liaison officers or the project member assigned by the contractor's Environment and Social officer. The purpose of the site inspection will be to check the validity and severity of the grievance.

For this purpose, the personnel may also undertake discussions with the concerned external stakeholder. The inspection will be undertaken within ten days of receiving the grievance. The assigned individual will then work with other relevant members of the Project team to investigate the problem and identify measures to resolve the grievance as appropriate. The personnel to be involved in the grievance resolution shall be dependent upon the nature of the grievance.

9.1.8 Resolution, Escalation, and Closure

Based on the understanding thus developed, the CLO, in consultation with the concerned departments, shall identify a suitable resolution to the issue. This could involve provision of information to clarify the situation, undertaking measures to remedy actual problems or compensate for any damage that has been caused either by financial compensation or compensation in-kind, and introduction of mitigation measures to prevent recurrence of the problem in the future. This resolution shall be accordingly communicated to the grievant within 10 working days of completing the site investigation.

9.1.9 GBV, SEA and SH GRM

There will be a separate reporting mechanism for GBV, SEA and SH cases that are discrete from standard GRM. Issue from this mechanism will not go through the typical GRM. The SEBEP Social Expert supported by the Social Expert from the contractor's end will be the focal point and will establish the system to handle these complaints that will include reference to confidentiality, safety and survivor-centered approach. All registration of the data will be confidential and anonymized.

9.1.10GRM Monitoring and Implementation

It is important to monitor GRM to ensure that the grievances are addressed and resolved. The monitoring of the GRM implementation will be undertaken on a monthly basis by the SEBEP team. Monitoring will include:

- Auditing the implementation of the GRM;
- Monitoring the formal and informal consultation activities conducted with the stakeholder groups with respect to GRM;
- Tracking feedback received from engagement activities;
- Recording and tracking commitments made to communities; and
- Assessing the efficacy of the engagement activities in terms of the desired outcomes and the participation of the stakeholder groups.

9.1.11GRM Reporting

The performance of the GRM will be reviewed on a quarterly basis during the implementation period. For the purpose of review, the quarterly reports will be considered for analysis and discussion. On the basis of these reports, a Grievance Redressal Report will be prepared.

It is noted that a Grievance Redress Management Committee has been constituted. This GRM will be guided by this manual and is at liberty to customize as necessary.

10 CONCLUSION

This report presents a comprehensive environmental and social impact assessment for the proposed VTC and proposed measures for mitigating the adverse impacts while enhancing the positive ones during the phases of construction and operation.

The following conclusions have been arrived at regarding the proposed VTC. The anticipated benefits of the construction and operation of the Project are immense. The project will provide jobs to community which comes along with many benefits. For the project components, which are suggested to be maintained and those where alternatives were provided, an evaluation of the positive and negative impacts was performed, and an Environmental and Social Monitoring Plan (ESMP) drawn. All negative impacts can be mitigated following the ESMP.

The negative impacts identified in this ESIA during the planning, construction, operation and decommissioning phase of the project, including waste generation, air pollution, noise pollution, occupational health and safety impacts, community health and safety impacts, traffic, labor influx and gender impacts will be limited to the Project area and can be mitigated using the measures proposed in the ESMP as well as the preparation and implementation of C-ESMPs including but not limited to:-

- ✓ *Health, Hygiene and Safety Plan*
- ✓ *Labor Management Plan*
- ✓ *Child Protection Strategy*
- ✓ *Waste Management Plan*
- ✓ *Contractors Code of Conduct, specific provisions for VAC, SEA and SH*
- ✓ *Gender Inclusivity Strategy*
- ✓ *HIV/Aid Prevention Strategy*
- ✓ *GBV Action Plan, including:*
- ✓ *SEA Prevention and Response Strategy*

Other plans to aid the implementation of the safe project implementation will be included as the project continues. The adverse impacts on the physical and natural environment will be "in sum total," not significant, and can be handled through the provided mitigation measures. There are incremental costs required to achieve these. The contractor will be legally bound to implement this ESMP and any subsequent C-ESMP that will be developed during the construction process. This obligation will be explicitly stated in the ToR, bidding documents and the final executed contract. Based on the immense project benefits and the identified negative impacts which can be mitigated in the proposed ESMP, we strongly contend that ZEMA will find this ESIA study satisfactory and the project environmentally and socially viable to be permitted to take off.

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12 ANNEXES

12.1 Annex A: List of Participants

MINISTRY OF EDUCATION AND VOCATIONAL TRAINING

MoEVT - Skills Development and Youth Employment in the Blue Economy Project (SEBEP) Environmental, Social Impact Assessment for the proposed construction of Vocational Training Centre at Pangatupu, North 'B' District, North Region, Zanzibar – Stakeholder Attendance list.

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MoEVT - Skills Development and Youth Employment in the Blue Economy Project (SEBEP) Environmental, Social Impact Assessment for the proposed construction of Vocational Training Centre at Pangatupu, North 'B' District, North Region, Zanzibar – Stakeholder Attendance list.

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MINISTRY OF EDUCATION AND VOCATIONAL TRAINING
SKILLS DEVELOPMENT FOR YOUTH EMPLOYABILITY IN BLUE ECONOMY- SEBEP
REGISTRATION FORM FOR STAKEHOLDERS CONSULTATION

DATE: 11th JUNE 2025

S/N	FULL NAME	DESIGNATION	MOBILE NO	SIGNATURE
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7.	Habiba Ali Iwana.	PLANING OFFICER	0773668309	

8.	Mark Odwondo	Consultant	+254720320523	
9	Mangam Hussein Pandu	ESS - SEBEP	0777493865	

12.2 Annex B: Selected Photos

	
Community members during the public meeting	SEBEP's E&S Focal person addressing the community
	
Sheha giving his views at the public meeting	Consultation with medical staff at Pangatupu district hospital
	
Consulting with Fire Brigade officers	Meeting with Ministry of Agriculture official
	
Consulting with DOSH official	Consulting with Commission of Lands official
	
Team consulting with manager at Zanzibar Sugar Factory Ltd	Member of the community expressing his views during the meeting

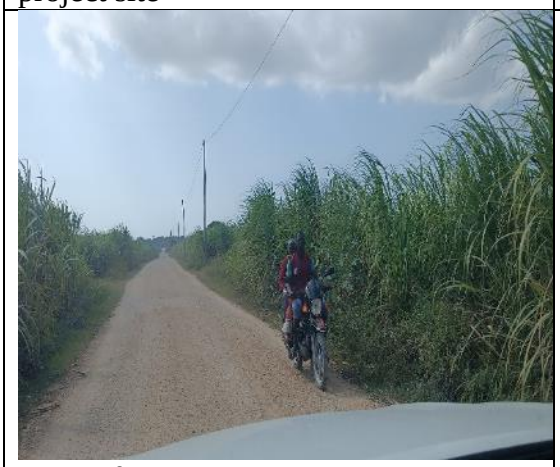
Pangatupu VTC ESIA – Sample Socio-Economic Pictures

Sugar plantation owned by Zanzibar Sugar Company Ltd near the project site

Cassava on sale in close proximity to project site

Outdoor eatery in close proximity to project site

Livestock in the project area



Form of transport in the project area

Recently planted cassava crop in the project area

12.3 Annex C: Minutes of Consultation Meetings

PUBLIC CONSULTATION MEETING HELD AT PANGATUPU PRIMARY SCHOOL WITH MEMBERS OF THE PUBLIC FOR THE ESIA STUDY HELD ON 7th FEBRUARY 2025.

Subject/Ref	Public Consultation
District	Kaskazini "B" District
Location	Kizindani Shehia
Meeting Venue	Pangatupu Primary School
Date and time of Meeting	7th February 2025, 04:00PM-05:30PM

Project Representatives Present	Mark Owuondo – Consultant
	Maryam Hussein Pandu - SEBEP

No of Participants	**Male: 26**
	Female: 33

AGENDA OF THE MEETING

The agenda was as follows:

- Introduction of participants
- Overview of the agenda of the meeting by consultant
- Project description by SEBEP Rep and consultant
- Explanation of the Environmental and Social Impact Assessment (ESIA) process
- Question and answer session
- Closing and adjourning of meeting

COMMENCEMENT OF THE MEETING

The meeting was officially opened by the Sheha of the locality at 16:30hrs, who requested a participant to open the session with a prayer. He then invited participants for a brief introduction. He thereafter invited SEBEP representative and consultants to proceed with the meeting after setting the agenda the meeting began.

OVERVIEW OF THE AGENDA OF THE MEETING / PROJECT DESCRIPTION

Maryam Pandu, SEBEP's E&S focal person introduced the project to the community. She gave a brief overview of the project and status of implementation thus far. She further explained the importance of the ESIA and the role of consultant in developing the final report that will be used to inform SEBEP and other stakeholders of the Project.

She also explained the role of SEBEP as proponent and developer of the project.

The consultant then gave a presentation of the ESIA process. He explained the why it was a necessary and important activity in the implementation process adding that it was a requirement under RGoZ and AfDB. He further informed the public meeting attendees of the potential benefits and adverse impacts that may occur during the project lifestyle and gave potential mitigation measures that the proponent would put in place during implementation. Finally, he handed back the discussion to the Sheha who then requested the community to give their views, opinions and ask any question. Below is a summary of the questions and answers.

The meeting adjourned at 17:30HRS with a word of prayer.

ISSUES RAISED AND RESPONSES

Theme	Participant	Comments and Issues	Response
Waste	Fatma Maulidi Fidiya	Stakeholders were concerned about waste generation and methods of waste disposal during project implementation.	The consultants informed community members that the ESIA report will recommend a waste management plan and implemented during construction and operation. All waste will also be handled and transported by ZEMA certified waste handlers.
Noise and Vibration	Mzee Salmini Mbarouk	Questions concerning potential air and sound pollution arising from excessive noise and vibration also arose from community members	The consultants informed community members that the ESIA report will recommend a noise quality management plan and will be implemented during construction and operation. The Consultants informed the stakeholders that the project will be using up to date technologies to improve efficiencies to reduce noise and vibrations and further mitigation measures will be recommended in the ESMP.
Water Quality	Ali Hakimu Juma	The community raised concerns on impact of the project on water quality. They stated that water resources may be contaminated by project waste rendering it unfit for human consumption.	The contractor and management of the Project will be advised to use the resource efficiently in order to minimize wastage and also maintain quality.
Vegetation	Siti Silima Makame	Stakeholders wanted to know whether the project proponent had taken into account the impact of cutting down trees on the site.	Project area has vegetation comprising mostly coconut and Mango trees. The area is also peri-urban meaning that with time it would be turned into a mixed-use area. Contractor will be advised to only cut down trees in the working area and avoid those that are not. Contractor will also be advised to offset trees cut.

			The designs for the VTC will utilize green technology in order to reduce harm to the environment and to reduce resource depletion.
Air Pollution	Ali Mohammed Omar	Some of the stakeholders feared that the project will generate fugitive emissions and dust that may be harmful to the community and lead to air pollution.	The consultants informed community members that the ESIA report will recommend air quality management plan and be implemented during construction and operation. The consultants informed the members that the project will be using up to date technologies to improve efficiencies to reduce emissions and mitigation measures will be put in place to reduce emissions in line with national air quality regulations and international best practice.
Employment	Siras Nyanda Kurwa	Community members inquired whether there will be employment opportunities and what would be the criteria for gaining access to such opportunities. They decried an ongoing pattern of contractors hiring persons who don't reside in their localities to carry out tasks that locals are capable of doing and requested that, in this project, they be given first priority whenever employment opportunities arise. Female participants were especially concerned that they would not be given opportunities to work in the project because of societal perceptions that they are physically weak and are exclusively responsible for domestic affairs. In addition to this, they foreshadowed possibility of rise in incidences of children dropping out of school to take up paid labor in the project.	The consultants informed stakeholders that they will include of a Labor Recruitment Plan in the ESIA. These plans will cover all employment issues ranging from recruitment, dismissal, hours of work, non-discrimination, child labor, fair remuneration and grievance management. Stakeholders were however cautioned that where specialist skills are required for the project and the skills are not locally available, specialist would be hired from other jurisdictions through a competitive process.

Land use and Compensation	Juma Pandu Machano	The members noted that they would incur loss of dwelling place and property since residents may be required to relocate. They inquired about the displacement process.	As a response, the project team indicated that the process for compensating PAPs losing land due to project impacts, the compensation process was on going and would be complete in the near future. Construction process would not commence before this process is finalized.
Social impacts	Amina Majaaliwa Abeid	It was a concern of the community members that the proposed project will increase the population in the project area and its surroundings which could lead to socio-cultural diversification and cultural contamination. There were fears that with the increase in population, there will be an increase in the spread of HIV and AIDS, teenage pregnancies, drug and alcohol abuse and prostitution. Further they stated that enhanced economic status particularly among the women and youth would lead to increased occurrences of Sexual and Gender Based Violence (SGBV). Concerns were also raised about competition for limited resources due to population influx. This would particularly manifest in inadequate housing and shortage of water supply. The community also raised concerns about their safety in relation to increased traffic especially during construction process.	The consultant and the clients' team informed the community that it will put in place sufficient safeguards to mitigate such incidences. The ESIA report will include among others: ■ Traffic Management Plan ■ Gender Based Violence Protection Plan ■ HIV/AIDS Prevention and Awareness plan The proponent will also work closely with other government agencies, in particular law enforcement and social protection offices to curb increase in crime in the project area.

12.4 Annex D: Chance Find Procedure

Chance find procedures are an integral part of the project ESMMP and civil works contracts. The following is proposed in this regard:
If the Contractor discovers archeological sites, historical sites, remains and objects, including graveyards and/or individual graves during excavation or construction, the Contractor shall:

- Stop the construction activities in the area of the chance find;
- Delineate the discovered site or area;

Secure the site to prevent any damage or loss of removable objects. In cases of removable antiquities or sensitive remains, a night guard shall be arranged until the responsible local authorities, or the Ministry of Tourism and Heritage take over;

Notify the supervisor, Project Environmental Officer and Project Engineer who in turn will notify the responsible local authorities and the Ministry of Tourism and Heritage immediately (within 24 hours or less);

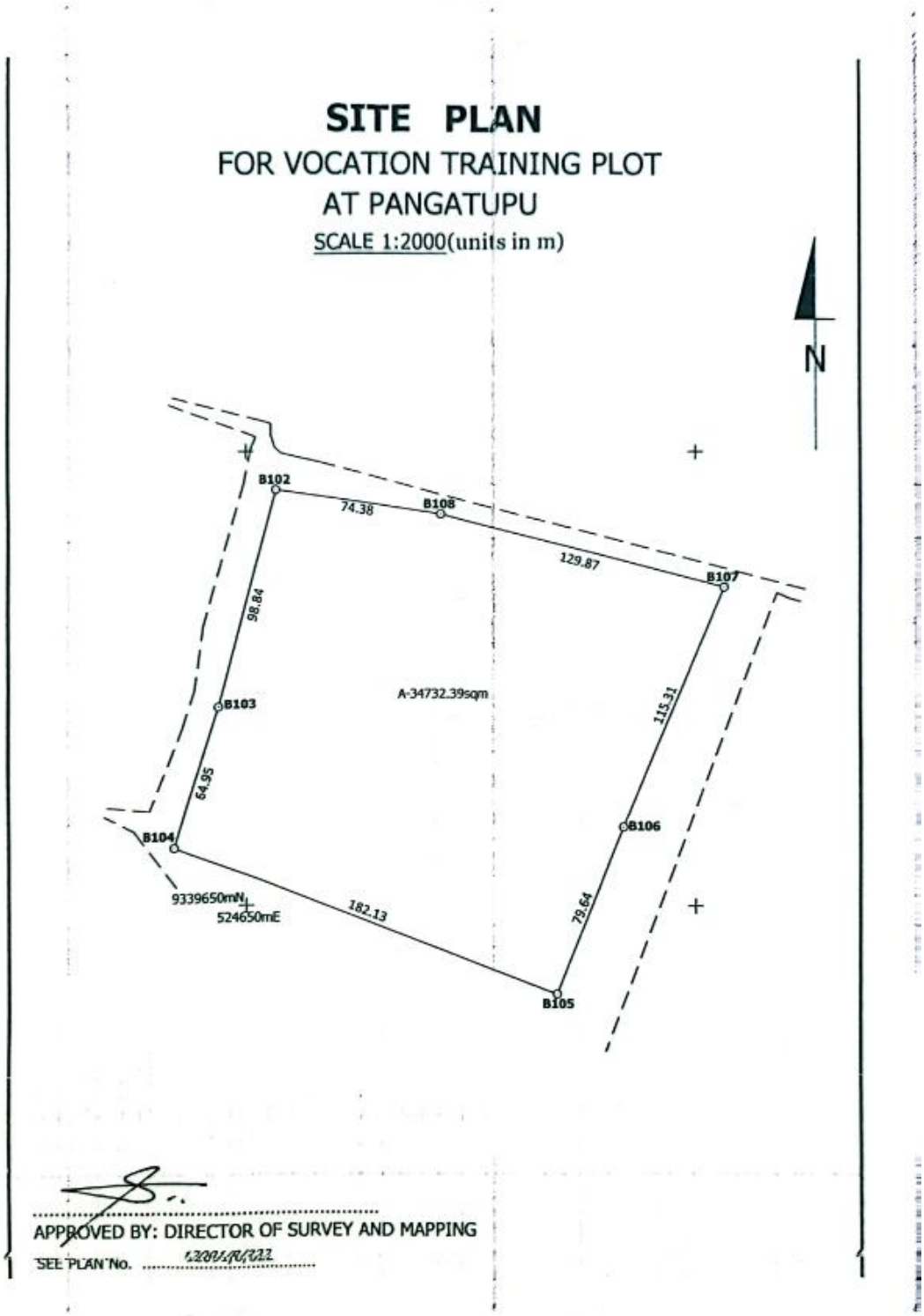
Responsible local authorities and the Ministry of Tourism and Heritage would then be in charge of protecting and preserving the site before deciding on subsequent appropriate procedures. This would require a preliminary evaluation of the findings to be performed by the archaeologists of Department of Museums and Antiquities (DoMA). The significance and importance of the findings should be assessed according to the various criteria relevant to cultural heritage, namely the aesthetic, historic, scientific or research, social and economic values.

Decisions on how to handle the find shall be taken by the responsible authorities and the Ministry of Tourism and Heritage. This could include changes in the layout (such as when finding irremovable remains of cultural or archeological importance) conservation, preservation, restoration and salvage.

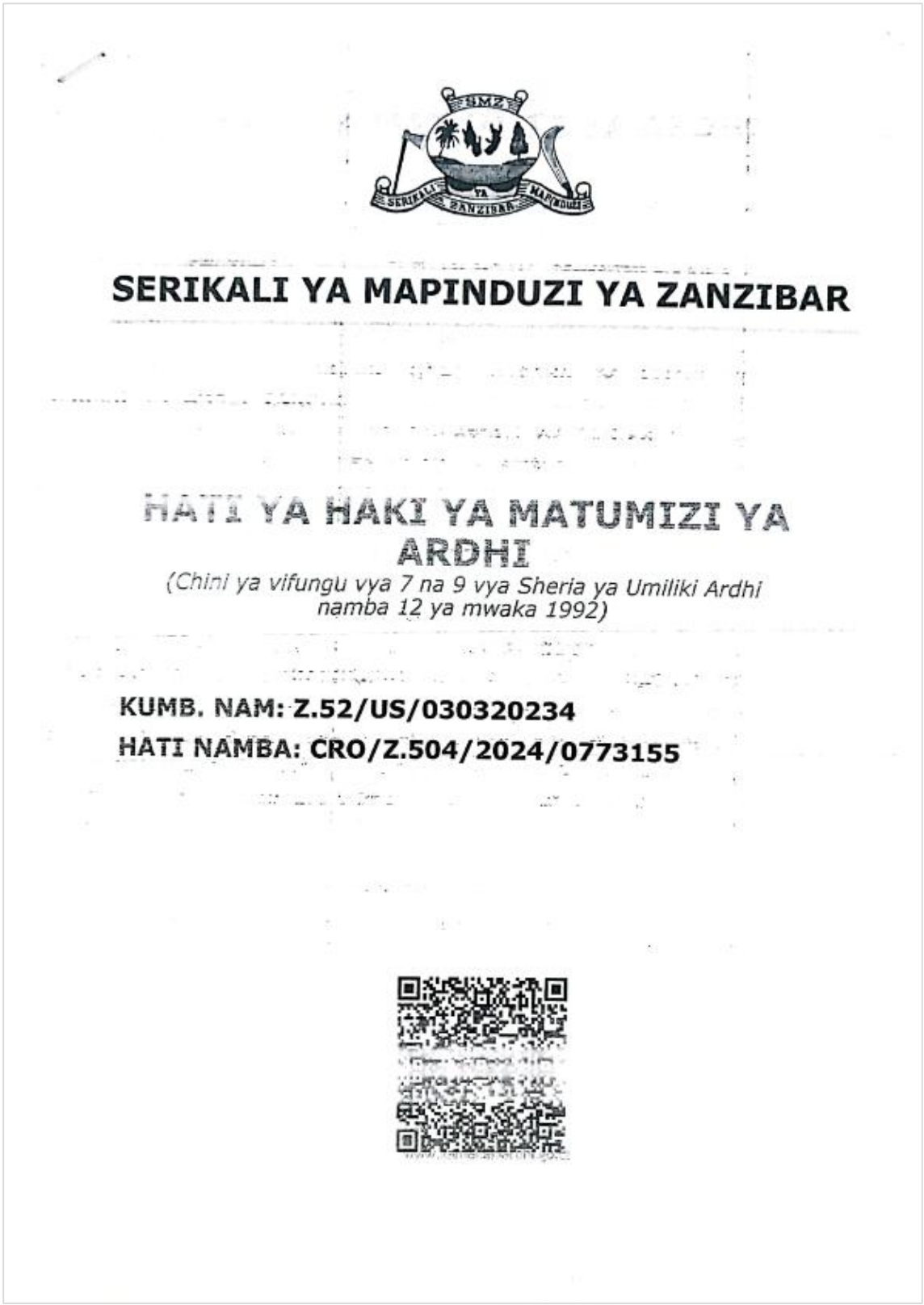
Implementation for the authority decision concerning the management of the finding shall be communicated in writing by relevant local authorities.

Construction work may resume only after permission is given from the responsible local authorities or the Ministry of Tourism and Heritage concerning safeguard of the heritage.

12.5 Annex E: Site Plan



12.6 Annex F: Proof of Ownership (Title Deed)



SERIKALI YA MAPINDUZI YA ZANZIBAR

HATI YA HAKI YA MATUMIZI YA ARDHI

(Chini ya vifungu vya 7 na 9 vya Sheria ya Umiliki Ardhi namba 12 ya mwaka 1992)

KUMB. NAM: Z.52/US/030320234

HATI NAMBA: CRO/Z.504/2024/0773155

HATI YA HAKI YA MATUMIZI YA ARDHI

(Chini ya vifungu vya 7 na 9 vya Sheria ya Umiliki Ardhi namba 12 ya mwaka 1992)

Tarehe **6** mwezi **SEPTEMBA** mwaka **ELFU MBILI NA ISHIRINI NA NNE**

UTHIBITISHO

Hii ni kuthibitisha kwamba **KATIBU MKUU WIZARA YA ELIMU NA MAFUNZO YA AMALI ZANZIBAR**, anapewa uhalali wa kuwa na Haki ya Matumizi ya Ardhi aliyopatiwa kwa njia ya **UGAWAJI WA SERIKALI** kwenye ardhi atayotumia kwa shughuli za **MAFUNZO YA AMALI**, na inayofafanuliwa kwenye tagwail hapo chini kama **MMILIKI PEKEE** kwa mujibu wa Sheria ya Umiliki wa Ardhi na Sheria ya Usajili wa Ardhi na kwa kuzingatia vipengele na kanuni za Sheria hizo au marekebisho yatakayofanywa baadae.

JADWELI

Sehemu ya ardhi yenye ukubwa wa mita za mraba **34732.57**, iliyopo eneo la **PANGATUPU** Wilaya ya **KASKAZINI B** Mkoa wa **KASKAZINI**, inayotambuliwa kama kiwanja namba **371** kwenye ramani ya eneo namba **020150371** na kuainishwa kwa rangi nyekundu kwenye ramani inayoonekana kwenye Hati hii; ambayo imetokana na ramani ya mipaka iliyothibitishwa na kusajiliwa yenye nambari **10/2034/0610** chini ya usimamizi wa Kamisheni ya Ardhi Zanzibar.

KUSAINIWA

Imetiwa saini, kuwekwa lakiri na kutolewa leo siku ya tarehe 12
mwezi wa 09 .....mwaka Elfu Mbili na 24

MASHARTI YA JUMLA

MWENYE HATI ya Haki ya Matumizi ya Ardhi unapaswa ufuate masharti yafuatayo; -

i. *Kuitumia ardhi hii kwa madhumuni yaliyokusudiwa ya* **MAFUNZO YA AMALI**, *huruhusiwi kubadilisha matumizi, kuikata vipande au kufanya jambo jengine lolote litakalokwenda kinyume na sheria za ardhi .*

ii. *Kuwasilisha ramani za awali Kamisheni ya Ardhi kwa kuthibitishwa kabla ya kuandaa ramani za mwisho za kuombea kibali cha ujenzi.*

iii. *Kulinda na kuhifadhi alama za mipaka ya ardhi, na endapo zitatoka, ulipie gharama ya kuzirejesha alama hizo.*

MASHARTI MAHSUSI—MAFUNZO YA AMALI

i. *Ujenzi wa aina yoyote utakapoanzishwa ufuate masharti na miongozo ya Kamisheni ya Ardhi.*

ii. *Kutekeleza masharti ya upangaji wa majengo, matumizi ya kiwanja na mwinuko/urefu wa jengo/majengo na matumizi mengine yana/yohusiana na ujenzi huo kwa mujibu wa Sheria ya Mipango Miji na Vijiji na mwongozo wa Kamisheni ya Ardhi.*

KUFIKIA KIKOMO

Serikali inaweza kuondoa HAKI hii kwa sababu zifuatazo: -

i. *Kukiuka masharti yalioainishwa katika hati hii.*

ii. *Kwa ajili ya maslahi ya umma.*

KUKUBALI MASHARTI

Mimi niliyepewa HAKI ya matumizi ya ARDHI hii, nakubali kutekeleza masharti yote yaliyomo kwenye Hati hii.

Jina KATIBU MKUU – WEMA

Nambari ya Nyumba/Shehia MAZIZINI

Sifa ya umiliki MMILIKI PEKEE

Saini /

Tarehe 19/09/2024 Simu 0773 82 48 01