URBAN DESIGN, DETAILED ENGINEERING DESIGN, ENVIRONMENTAL AND SOCIAL DUE DILIGENCE, PREPARATION OF COST ESTIMATES AND BIDDING DOCUMENTS FOR URBAN INFRASTRUCTURE INVESTMENTS IN MBEYA CITY (TACTIC ZONE 3)

	**The United Republic of Tanzania** **President's Office** **Regional Administration and Local Government**	**January 2022**

DAR ES SALAAM METROPOLITAN DEVELOPMENT PROJECT (DMDP)
IDA CREDIT NO. 5585-TZ

ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT [ESIA] FOR PROPOSED CONSTRUCTION OF CENTRAL BUS TERMINAL AND COMMUTERS' BUS STAND AT OLD AIRPORT IN MBEYA CITY COUNCIL-MBEYA REGION

NORPLAN Tanzania Limited
ISO 9001:2015 CERTIFIED
Consulting Engineers and Planners
P.O Box 2820
Dar Es Salaam, Tanzania
Tel: +255 22 278 0183/0742
Fax: +255 22 278 1194
Email: admin@norplan.co.tz

TYPSA

URBAN SOLUTION LTD | Consultancy in Town Planning & Project Management Services

Report Control Form

Project Title	**Provision of Consultancy Services for Feasibility Study, Urban Design, Detailed Engineering Design, Environmental and Social Due Diligence, Preparation of Cost Estimates and Bidding Documents for Urban Infrastructure Investments in Mbeya City (Tactic Zone 3)**	**Project No.**	T826

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Lead Author	Nanai K. Nanai	14th January 2022 (signature & date)
Reviewer	Musa Nyamsingwa	14th December 2022 (signature & date)
Project Manag Approval	Musa Nyamsingwa	14th December 2022 (signature & date)

Report Distribution	**Name**	**No. of Copies**

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EXECUTIVE SUMMARY

I. Background

The Government of the United Republic of Tanzania through The President's Office - Regional Administration and Local Development (PO-RALG) has received a credit from the Word Bank towards in implementing projects-financed Tanzania Cities Transforming Infrastructure and Competitiveness Project (TACTIC), which will be, implemented through the President's Office - Regional Administration and Local Development (PO-RALG).

NORPLAN Tanzania Ltd was awarded the contract by PO-RALG to conduct; Feasibility Study, Urban Design, Detailed Engineering Design, Environmental and Social Due Diligence, Preparation of Cost Estimates and Bidding Documents for Urban Infrastructure Investments for Mbeya city Council.

Existing Mbeya bus terminal is located in the central area which is convenient for passengers interchanging between routes. Increased number of buses has created congestion both within the terminal itself and on surrounding streets for years. Severe traffic congestion has been experienced through the concentration of buses during arriving and departing.

In that case construction of Construction of Central Bus Terminal and Commuters' Bus Stand subprojects has been proposed as urban infrastructure under TACTIC project.

The subproject shall involve the Construction of Central Bus Terminal and Commuters' Bus Stand at Old Airport aiming at shifting existing terminal at Sisimba Ward which is currently overwhelmed. New construction at Old Airport shall provide essential facilities to serve the passengers. The proposed regional bus terminal will harbor buses connecting Mbeya City to other Regions of Tanzania and neighboring countries of Malawi-Zambia and DRC.

In addition, Daladala/Commuters' Bus Stand adjacent to the Main Bus terminal shall be constructed to facilitate connections of transport between Mbeya City and other nearby districts.

Bus terminal and commuters' bus stand are proposed to be of an international level/standard and access to the terminal shall be convenient, barrier free and facilitate streamlined internal circulation. Entry and Exit points shall be located in such a way are not in conflict with traffic circulation at the periphery roads' network.

The new bus terminal and commuters' bus stand will be centrally located for operational efficiency and passengers' convenience, as they will provide ample interchange opportunities. New bus terminal will increase safety to passengers though improved infrastructure and other services including police post within the bus terminal. The design of the bus terminal will take into consideration of special needs' groups.

Below are key components of the proposed Bus Terminal and Commuters' Bus Stand. It should be noted at the outset that the exact specifications of the proposed subproject's components would be determined during the detailed engineering design phase.

- Machinga Section
- Taxi Bay
- Drop off Zone
- Bajaji Parking Area
- Public Toilets

- Bodaboda Parking Area
- Internal circulation roads with varying widths
- Shops and offices area
- Two entries and exits

Auxiliary structures for each area to support the modern bus terminals will include solid waste collection points, sanitary facilities (washrooms), offices, sewage management system and storm water drains.

II. Requirements for an ESIA

This Project falls under the list of projects requiring EIA pursuant to the First Schedule made under Regulation 6(1) of the Environmental Impacts Assessment and Audit Regulations, 2005 and Regulation 17 of its amendments of 2018. Building and Civil Engineering Industry - Type B1 section 13 (a)

Also the World Bank requires application of the ESSs to projects supported through Investment Project Financing in accordance with this Environmental and Social Policy for Investment Project Financing (Policy).

III. Approach and Methodology

The ESIA methodology was subject to the EIA procedures of Tanzania as per Environmental Impacts Assessment and Audit Regulations, 2005 and Regulation 17 of its amendments of 2018

IV. Key Components of the proposed Terminal

Key components of the Proposed Construction of Central Bus Terminal and Commuters' Bus Stand at Old Airport are: Machinga Section, Taxi Bay, and Drop off Zone, Bajaji Parking Area, Public Toilets, and Bodaboda Parking Area, Internal circulation roads with varying widths, Shops and offices area.

V. Project Schedule and Life

Site preparation for the proposed Construction of Central Bus Terminal and Commuters' Bus Stand at Old Airport are expected to start soon after approval of all related studies, engineering designs and environmental clearance and construction tender award in early 2022. Construction of this urban infrastructure shall take 18- 24 months. The project life is expected to be 50 years.

VI. Estimated Project Cost

The proposed subproject is estimated to cost approximately 32,796,483,000.00 billion TShs (VAT Inc.) This include the cost for construction, purchasing materials, labor cost and all miscellaneous expenses subjected in the implementation of the project, Environmental and Social Management and Monitoring plan. The project shall be funded by the Tanzanian Government through loan from World Bank and other Development Partners.

VII. Project Cycle

Project planning phase

During planning phase, the project design co-parties included Mbeya Region Secretariat, Mbeya city council, environmental authorities and other planning organizations, local residents/communities along the proposed construction subprojects, Business peoples, Bus trader, Bajaji, Boda Boda drivers and various NGOs.

The following are components under this phase:

- Evaluation of project concepts and alternatives selection,
- Design of all project components,

- Topographic survey
- Geo-technical Investigations;
- Soils and Materials Investigations;
- Carrying out ESIA of the project,
- Tendering for construction works,
- Approval of Engineering designs and Environmental Certification Project Mobilization & Construction Phase

Project Mobilization and Construction phase

The mobilization and construction phase will take place subsequent to the issuing of Environmental Impact Assessment Certificate and after award of construction contract. The construction phase is expected to be approximately 18- 24 months for the proposed subproject.

Approximately 150 direct and more than 200 indirect employment opportunities are expected to be created during construction phase

It should however be noted that employment during the construction phase will be temporary, whilst very few long-term employments during the operational phase.

Activities during mobilization and construction phase of the proposed subproject include;

- Acquisition of materials from approved sources and storage
- Testing of the construction materials
- Acquisition of other permits such as water use permits
- Confirmation of data and accuracy of topographical survey
- Mobilization of labour force, equipment and plant for construction works
- Earthworks
- Material transportation and storage
- Abstraction and transportation of water to the construction site
- Collection, storage, transportation, treatment and disposal of wastes generated from construction activities
- Actual construction works
- Occupational health and safety management
- Landscaping and environmental restoration.

Project Operation Phase

Once the construction phase is completed, the Central Bus Terminal and Commuters' Bus Stand will start to operate to serve the intended purposes. The activities that are expected to be executed during operational phase include:

- Transportation of passengers to their intended locations
- Transportation of goods, agriculture produce and services
- Maintenance activities

VIII. Sources for Construction Materials

Quarry and borrow pit sites for the project's construction materials are within the project's city. Three areas that are potential for sand extractions which are, Ituha, Iduda and Mwasanga have been identified.

Aggregates will be sourced from Ingula Pipeline and Mswiswi (Tazara quarry) borrow pits for fill and sub base materials are Isanga and Igawilo,

IX. Water Supply

Water for construction and operation of the Central Bus Terminal and Commuters' Bus Stand shall be drawn from streams such as Nzovwe, Mbata and Ilolo and Mbeya-UWSA network. Alternative suitable sources i.e. Boreholes will be determined based on demand during operation.

X. Power Supply for the Project

Power supply for the proposed project's construction activities will be provided by TANESCO and generators for per-forming hot works, lighting e.t.c. During operation phase of the Bus Terminal, some ancillaries shall use solar power while others connected with TANESCO national grid.

XI. Required Permits

Prior to the approval of the construction and eventual construction of the Project, it is necessary to obtain a number of authorizations and permits from local and central government authorities of Tanzania as indicated below

Table E-1: Required Permits from Regulatory Authorities

Permit/Authorization	Issuing Authority	Description
EIA Certificate	NEMC/VPO	Approval of project implementation
Water Use and Discharge permit	Lake Rukwa Basin	To allow abstraction of Water from streams and rivers within the city

XII. Policy, Legal & Administrative Framework

Several relevant policies and legal documents have been reviewed to ensure that Propose Bus Terminal and Commuters' Bus Stand subproject Meets policy and legislative criteria.

World Bank Policies

World Bank's Environmental and Social Framework and its components [Vision for Sustainable Development, World Bank Environmental and Social Policy for Investment Project Financing, and Environmental and Social Standards

National Policies:

National Environment Policy 1997, National Employment Policy 2008, National Land Policy, 1997, The Construction Industry Policy 2003, National Mineral Policy 2009, Human Settlement Development Policy 2000, National Water Policy 2002, National Forest Policy 1998, National Action Plan to end Violence against Women and Children (2017/18-2021/22), Policy on HIV/AIDS Policy 2001, National Energy Policy 2015, Women and Gender Development Policy 2000

Legal Framework:

Environmental Management Act (2004) as amended in 2016 and 2021, Energy and Water Utilities Authority (EWURA) Act (2002), Water Resources Management Act No 11 of (2009), Mining Act 2019, Occupational Health and Safety Act (2003), HIV and AIDS (Prevention and Control) Act No. 28/08 (2008), Local Government Laws (Miscellaneous Amendments), No. 13 (2006), The Village Land Act (2019), (Identifying Considerations for Women), Land Act Cap 113 of 2019, Land Acquisition Act Cap 118 2019, Contractors Registration Act (2003), Engineers Registration Act 1997 (Amendments 2007), Employment and Labor Relations Act (2004), Urban Planning Act (2007), The Workers Compensation CAPS 263 R.E 2015.The Sexual Offenses Special Provisions Act 1998, Law of Marriage Act, CAP 29 2019, Law of the Child Act CAP 13 2019,, The Valuation and Valuers Registration Act, 2016 & Regulations No:10, The Valuation and Valuers Regulations of 2018, The Land (Assessment of the Value of Land for Compensation) Regulations, 2001, Land Use Planning Act

(2007), The Environmental Management (Hazardous Control and Management) Regulation 2021, , The Employment and Labor Relations Act Cap 366 R.E 2019., The Environmental Management (Standards for Control of Noise and Vibration Pollution) Regulations, 2014, The Environmental Management (Soil Quality Standards) Regulations, 2007., The Environmental Management (Air Quality Standards) Regulations, 2007, The Environmental Management (Water Quality Standards) Regulations, 2007, The Environmental (Registration of Environmental Experts) Regulations, 2021, The Environmental (Solid Waste Management) Regulations, 2009 as amended in 2016

XIII. Findings

Climatic Condition

The Central Bus Terminal and Commuters' Bus Stand are expected to increase the generation of GHGs and operations are expected to increase an average daily traffic which will automatically have significant impact on the climate of the area. Climate change might result in heavy rainfall and extreme temperature increase, which will impact the terminal structure and pavement of the terminal in future, only if climate change adaptation measures are not taken into consideration on the design and construction of the proposed project.

Air Quality

From the measured data to define the Central Bus Terminal and Commuters' Bus Stand air quality baseline conditions, it can be concluded that the main sources of air pollution at the moment in the project area are stationary sources i.e. Vehicles, Bodaboda and other ongoing commercial activities near the Bus Terminal and Commuters' Bus Stand area and fugitive emissions from households in the settlements burning wood for heating.

Wind Speed & Direction

The average hourly wind speed in Mbeya experiences significant seasonal variation over the course of the year. The windier part of the year lasts for 7.3 months, from April 18 to November 28, with average wind speeds of more than 6.1 miles per hour. An increase in maximum wind during project operation might lead to an increase in respiratory infection hence delays the construction period and likely to infect others workers, hence safety measures should be observed during July to May.

Noise & Vibration

It is anticipated during afternoon hours approximately from 10:00hrs to 18:00hrs noise levels will be even lower, considering the low density of the population of the area at old airport, and the low frequency of vehicles at this time since most of the vehicles will be on transit.

Gender Based Violence

Gender-based violence is widespread and common in Tanzania. Data shows that 40% of women and girls in Tanzania aged 15-49 have experienced physical violence and 17% sexual violence in their lifetime. A violence against children survey found that 27.9% of girls had experienced sexual violence before their 18th birthday. Mbeya Region ranked third highest among the 30 regions in Tanzania in HIV prevalence at 11.0 % among females and 6.7 % among males. The region also ranked third highest in prevalence of Intimate Partner Violence. 67 % of ever-married women aged 15–49 years reported that they had ever experienced violence from a partner in comparison to the national prevalence of 50.2 percent

Regional per Capital GDP

The economy of Mbeya Region is based on agriculture, livestock keeping, bee keeping, commerce and manufacturing. Other economic activities and potentials include mining and tourism. In 2018, Mbeya

Regional Gross Domestic Product (GDP) was about TZS 7.31 trillion and per capita income was TZS 3,506,101. The region contributed 5.65% of the national income (GDP) ranking fourth nation-wide after Dar-es-Salaam, Mwanza and Shinyanga regions

Access to Clean and Safe Water and Sanitation
During construction and operation phases, clean and safe water shall be obtained from Mbeya-UWSA network

Diseases & HIV/AIDS Prevalence
Diseases prevalence in Mbeya City includes Malaria, Diarrhea, and respiratory infection including Covid-19 infections. Moreover the Covid-19 is term as potential risk for the project during construction phase. With respect to HIV/AIDS infection the rate is high at 9.3%.

Waste Management & Disposal
In the project area solid waste management practices involve collection of solid wastes and disposal to Nsalga Landfill located along TANZAM road. During construction and operation, generated wastes shall be collected and disposed at Nsalga landfill.

Liquid waste management is practiced through onsite disposal septic and soaks away pits.

XIV. Stakeholders Engagement
The main stakeholders for Proposed Construction of Central Bus Terminal and Commuters' Bus Stand at Old Airport; includes; Regional Secretariat Mbeya Region, Mbeya City Council, TTCL-Mbeya Regional Office, Lake Rukwa Basin under MoW, TANESCO, Iyela Ward, Mbeya City Bus Association, Bajaji and Bodaboda Association.

Major Issues Raised By Stakeholders
The stakeholders in the project area raised the following issues which have also been incorporated in the proposed designs and the subprojects environmental and social management plan (ESMP)

- The terminal should accommodate other business activities or opportunities that are associated with its presence of buses and market
- The existing bus stand; markets are deprived of space for business because it will have occupied a lot of different businesses
- It is expected to push transportation and trade sector development
- The stakeholders expect the facilitation of other services like bank, hospitals due to congested of people

XV. Identified Project's Negative Impacts
Climate
Construction and operation of Central Bus Terminal and Commuters' Bus Stand are expected to increase an average daily traffic which will automatically have significant impact on the climate of the area. Climate change might result in heavy rainfall and extreme temperature increase which can destroy the terminal building structure only if changes of adaptation measures are not taken into consideration on the design and construction period.

Air Pollution
Air quality around project areas is affected by machinery due to exhaust emissions during clearing, transporting, placing and compacting on the site. However, the extent of air pollution will be taken into consideration by understanding some of the project activities during non-working hours and weekends. Air pollution from pollution contributes to a number of health issues and common diseases. It can

increase a person's risk of cancer, impair the body's immune system and cause many respiratory problems. It is also commonly linked to asthma and is believed to be a contributor to birth defects.

Noise & Vibration
Central Bus Terminal and Commuters' Bus Stand will cause noise and vibration during construction phase. It is expected that the impacts from vibrations will be insignificant, mostly localized, at the construction sites and limited to the local workers as well as to the surrounding communities.

Impact on Soil Structure/Topography
The soil may be polluted by inappropriate storing, handling and depositing of waste, as well as by potential leakage of oils during the construction activities. Excavations of foundations for structures shall insignificantly impact the site's soil structure. The impact during the construction phase on soil pollution is assessed as negative with insignificant size and of temporary character.

Soil Erosion
Surface Drainage /Hydrology Changes to the natural drainage system may also occur due to the interception and redirection of the natural watercourses in order to construct drainage structures. The effects of these activities are likely to last throughout the operational phase. During construction, soil erosion is expected to be low Impact

Impact on Employment
It is expected the construction phase will create approximate 150 – 200 direct and indirect employment opportunities and will have a medium magnitude.

Occupational Health & Safety Impact
Construction and operational activities are associated with occupational health hazards as well as public health hazards. In this case measures to offset or reduce health hazards shall be employed accordingly and these include among others provision of personal protective gears, construction to be restricted only during the day time, providing induction training to all employees to ensure they are aware of the health hazards and thus take appropriate initiative to protective themselves.

XVI. Environmental and Social Management Plan (ESMP)

The proposed mitigation measures provide the basis for the development of environmental management plan and monitoring plan for the Project, required to meet World Bank's and NEMC's environmental approval and permitting requirements as indicated on tables 7-1 & 8-1 of the main report.

XVII. Summary and Conclusion

The proposed project has undergone ESIA study as legal requirement under the National Environmental Management Act, 2004 as well as World Bank's requirement as stipulated in ESS1 of the Environmental and Social Framework, 2018.

Environmental and Social Impact Assessment study was conducted from 26th December - January 2022 which involved collection of baseline information including secondary data, engagement of communities at the respective areas of the proposed Construction and operation of Central Bus Terminal and Commuters' Bus Stand i.e. Iyela, ward, Mbeya bus drivers association for impacts identification, impacts evaluation and preparation of Environmental and Social Management Plan.

Impacts identified include various categories; physical, biological, social, economic and climate change risks. Evaluation of impacts indicates low magnitude on physical and biological negative

impacts. Positive economic impacts are anticipated to be of medium magnitude.

Among the proposed measures includes, safety markings and signs in the design of the terminal to withstand climate change scenarios, provision of water drainage structures with capacities to allow free flow of runoff from either sides of the Central Bus Terminal and Commuters' Bus Stand compound, safety and health trainings to the workers

As described in chapter 4 of this report, climate change variables in the project area are varying from year to year, rain/precipitation and temperature are expected to increase in future, and functionality of the proposed new Central Bus Terminal and Commuters' Bus Stand might be under threat of climate change and thus adaptation measures have been proposed

It is, therefore, concluded that, implementation of the proposed project will not cause significant impacts provided that the recommended mitigation measures are adequately and timely put in place. The identified adverse impacts shall be managed through the proposed mitigation measures and monitoring schedules outlined.

ACKNOWLEDGEMENT

The proponent (M/s PO-RALG) recognizes and appreciates the support and advices provided by Norplan Limited and stakeholders during this Environmental Assessment study. Although, it is difficult to mention each and every stakeholder who contributed to support, the institutions below deserve to be mentioned.

We would like to appreciate and value cooperation from the project Ward in Iyela, Mbeya Bus Drivers Association, Bajaji and Bodaboda Associations for their views, patience and time during consultation and involvement stages.

Lastly, we would like to extend our gratitude to all consulted stakeholders [NEMC, MBY-UWASA, Lake Rukwa Basin Water Board, TANESCO, TTCL, Mbeya City Council, RAS office, Institution (such as School and Church] that have contributed on completion the ESIA for the proposed Central Bus Terminal and Commuters' Bus Stand)

ESIA STUDY TEAM

This Environmental and Social Impact Assessment report has been prepared by:

Name	Position	Signature
Eng. Nanai K Nanai	Environmentalist and ESIA Team Leader	
Edward Maurice Gama	Environmentalist	
Jenina Mbaga	Sociologist	
Furaha Eliah	RAP Experts	

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ABBREVIATIONS

BOQ - Bills of Quantity
CWIS - Citywide Inclusive Sanitation
DMDP - Dar es Salaam Metropolitan Development Project
ESIA - Environmental and Social Impact Assessment
HQ - Head Quarters
LGA - Local Government Authority
PO-RALG – President's Office Regional Administration and Local Government
RAP - Resettlement Action Plan
ROW - Right of Way
SGR - Standard Gauge Railway
MBY UWASA – Mbeya Urban Water Supply and Sanitation Authority
TACTIC - Tanzania Cities Transforming Infrastructure and Competitiveness
TANESCO - Tanzania Electric Supply Company
TAREF11 - Tanzania Reference Framework 2011
TARURA - Tanzania Rural and Urban Roads Agency
TSCP - Tanzania Strategic Cities Project
TTCL - Tanzania Telecommunication Company Limited
ULGSP - Urban Local Government Support Program.
UTM - Universal Transverse Mercator
VETA - Vocational Education and Training Authority
WGS84 - World Geodetic System 1984

1 INTRODUCTION

1.1 Project Background

The Government of the United Republic of Tanzania through The President's Office - Regional Administration and Local Development (PO-RALG) has received a credit from the Word Bank towards in implementing projects-financed Tanzania Cities Transforming Infrastructure and Competitiveness Project (TACTIC), which will be, implemented through the President's Office - Regional Administration and Local Development (PO-RALG).

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- Bajaji Parking Area
- Public Toilets
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- Internal circulation roads with varying widths
- Shops and offices area
- Two entries and exits

Auxiliary structures for each area to support the modern bus terminals will include solid waste collection points, sanitary facilities (washrooms), offices, sewage management system and storm water drains.

1.2 Project Objective

- Establish a transport system, which will have a smooth circulation and reduce traffic congestion occurrence due to the buses and travellers at the terminal along with efficient use of land.
- To construct Bus terminal and Daladala Bus terminals at the proposed site able to handle projected number of buses at peak hours, with proper passengers' facilities and other auxiliary services i.e. parking lots, , restaurant, canteen, banks, dispensary, post office, Rest rooms, luggage storage and installation of surveillance security.

Once completed, the terminal will facilitate easy and reliable transportation of passengers and good for both regional and neighboring countries such as Zambia, Malawi. The terminal will add value to Mbeya city and shall provide areas for business opportunities through rented spaces within the terminal, increase revenues to the local and central governments.

1.3 Scope of Service

The Consultant was required to conduct environmental and social impact assessment for the proposed Construction of Central Bus Terminal and Commuters' Bus Stand at Old Airport. The Consultant reviewed all available and relevant documents, maps, previous studies and conducted the environmental and social impact assessment study, field visit and investigations, public consultations and other related works to attain the stated objectives. The assignment encompassed development of specific ESMP to be implemented by the contractor during construction of subproject.

The Consultancy Services was carried out in accordance with ToRs (Appendix I) that is in accordance with the requirements of the applicable national legislations and World Bank's Environmental and Social Standards (ESSs).

1.4 Requirements for an ESIA

This Project falls under the list of projects requiring EIA pursuant to the First Schedule made under Regulation 6(1) of the Environmental Management (Environmental Impact Assessment and Audit) (Amendment) Regulations, 2018 and shall be read as one with the Environment Impact Assessment and Audit Regulations, 2005.

In terms of the EIA and Audit Regulations, 2005 read together with amendments of 2018. The project falls under Building and Civil Engineering Industry 13 (a) - Type B1 (Borderline Projects with Medium to High Impact; Screening shall be used to categorized either Type 'A or 'B2'.

Also the World Bank requires that all environmental and social risks and impacts of the project be addressed as part of the environmental and social assessment conducted in accordance with ESS1 – Assessment and Management of Environmental and Social Risks and Impacts. ESS2–10 set out

the obligations of the Borrower in identifying and addressing environmental and social risks and impacts that may require particular attention.

1.5 Objectives of Environmental Impact Assessment

The objectives of carrying out ESIA study were to identify, predict and assess both positive and negative environmental and social impacts associated with the proposed project and propose mitigation measures to minimize the negative impacts and enhance the positive ones. The assessment made use of data and information on the physical, biological and socio-economic features to predict both negative and positive impacts of the project, to design mitigation measures of the adverse impacts, as well as to plan the monitoring of potential changes that may arise in the course of implementing the project. Part IV of the EIA Regulations G.N. No. 349 of 2005 provides the objectives for carrying EIA, among others the list comprise the following:

- To address and incorporate environmental considerations into the decision making process;
- To anticipate and avoid, minimise or offset the adverse significant biophysical, social and relevant effects of developmental proposal;
- To protect the productivity and capacity of natural systems and ecological processes which maintain their functions;
- To promote sustainable development and optimises resources use and management opportunities;
- To establish and assess impacts that are likely to affect the environment before a decision is made to authorise the project;
- To propose mitigation and socio-management procedures aimed at managing the proposed mitigation of the identified potential impacts that will form part of the overall EMP for the proposed project;
- To enable information exchange, notification and consultations between stakeholders. Consequently, Division of Environment undertook Environmental Assessment so as to decipher the principles of sustainable development and environmental protection into strategies and actions that can be applied in the proposed project

1.6 Approach and Methodology

The ESIA methodology was subject to the EIA procedures of Tanzania as per Environmental Impacts Assessment and Audit Regulations, 2005 and Regulation 17 of its amendments of 2018:

1.6.1 Study Team

For the Consultant to properly address the environmental issues, a team of experts was involved in undertaking the ESIA Study. The experts included Environmental Expert, Sociologist/RAP Expert, Structural Engineer and an Architect.

1.6.2 Observation

In order to obtain the existing condition at the proposed construction of Central Bus Terminal and Commuters' Bus Stand at Old Airport including vegetation, settlement patterns, land use activities and accessibility to social services Physical observations were done to identify physical features and socio-economic conditions.

1.6.3 Documents Review

Various relevant documents were reviewed to obtain an overview about the project and to extract useful information required to complement SIA study. These included Tanzanian and World

Bank policies, and City Socio-Economic profiles and other documents relevant to thestudy.

1.6.4 Social Impact Assessment

A SIA process was carried out by deploying different methods to meet the requirementsas specified in the ToR. Secondary data focusing on the socio-economic situation of the potentially affected population were reviewed at all levels. The methodology used for carrying out SIA study included; Public and Officials consultations which were conducted between 27th December to 4th January 2022. Communities' Consultations and through meetings with key stakeholders of the proposed subproject. Consultative meetings were held with Mbeya City Council, TANESCO, MBY-UWASA, TTCL, VODACOM, TARURA, Lake Rukwa Basin Water Board, and Wards. Issues raised from these public participation exercises have been incorporated into the report (chapter 5) and have been used in determining mitigation measuresfor the proposed subproject.

1.6.5 Environmental Impact Assessment

Overlying subproject's proposed structural elements and activities onto the existing social and environmental natural conditions has identified the potential environmental impacts of the proposed Central Bus Terminal and Commuters' Bus Stand. Further, the environmental impact correlation matrix method has been adopted to predict impacts on the cause of the proposed subproject.

1.6.6 Collection of Baseline Information

The collection of baseline information was conducted subsequent to defining the scope of the ESIA. Both primary and secondary data were collected. Primary data were collected by direct measurement,observations and using semi-structured interviews with respective and targeted parties. Secondary data were obtained from various relevant sources of information such as Ministries' reports, City Council profiles, and many other published/non-published official and non-official documents.

1.6.7 Review of Policies, Legal and Institutional Framework for Environmental Management

This allowed the study team to widen understanding of World Bank's Environmental and Social Framework as a whole, national policies, legislation and institutional arrangements for environmentalmanagement in Tanzania and relevant international procedures to ascertain the optimal management of impacts.

1.6.8 Impact Identification and Evaluation

The proposed Central Bus Terminal and Commuters' Bus Stand will generate wide range of impacts on a number of environmental and social receptors. The ESIA identifies these impacts for the purposes of mitigating the adverse ones or enhancing the benefits.

The matrix consists of a horizontal list of development activities against a vertical list of environmental factors were used to identify impacts. Ranking of impacts in all phases [mobilization, construction and demobilization/decommissioning] that signified the magnitude of each impact was done.

1.7 Report Structure

This report is divided into Eleven (11) chapters:

- Chapter One: contains the introduction on the background information of the proposed

project, its development objectives, rationale and the proposed project implementation arrangements.

- Chapter Two: contains the project description, in which there is a description of the location and relevant components of the project and their activities.
- Chapter Three: illustrates policy, legal and administrative framework, which are the relevant Tanzanian environmental policies and legislation applicable to construction projects.
- Chapter Four: has the baseline information relevant to environmental characteristics, which gives details concerning the Bio-physical environment and socio-economic environment at the project area.
- Chapter Five: express the consultation exercise at the project area detailing the list of stakeholders consulted and the issues raised.
- Chapter Six: describes the positive and negative environmental impacts of the project that are likely to be generated from the different phases (the planning and designing, construction, operation and maintenance and the demobilization phases).
- Chapter Seven: presents the Environmental and Social Management Plan (ESMP).
- Chapter Eight: presents the Environmental Monitoring Plan that contains the proposed institutions to carry out the monitoring activities, the monitoring indicators, time frame and the proposed budget for monitoring.
- Chapter Nine: gives the cost benefit analysis of the project.
- Chapter Ten: provides the decommissioning plan for the proposed project however the decommissioning is not anticipated in the foreseeable future.
- Chapter Eleven: gives the summary and conclusions of the study

Report structure conforms to that specified on sections 18(2) and 19(1) & (2) of the Environmental Impact Assessment and Audit Regulations, 2005. Appendices containing some key primary information collected during the study are attached at the end of this report.

2 PROJECT DESCRIPTION

2.1 Overview

This chapter provides an overview of the subproject's components designed and an overview of the sites and project activities.

The purpose of this chapter is to present sufficient project information to ESIA Process in terms of design parameters applicable to the project. It is important to note that the project description details are draft at this stage and it is likely that some of the details presented herein may slightly change during the Final detailed design phase and upon further investigations if any

2.2 Project Site Location and Accessibility

Mbeya City is the administrative centre of Mbeya region and harbours Mbeya District Council as well as a major centre for commercial and trading activities in the Southern highlands zone and neighbouring countries of Malawi, Zambia and Democratic Republic of Congo (DRC). The location of the proposed subproject is located at "Old Airport" Mbeya City Council in Iyela ward as shown on Figure 2-1 below.

Figure 2-1: Administrative Wards Boundaries
Source: Mbeya City Master Plan, 2019

The proposed subproject's site is accessible from several roads that join the TANZAM highway on the North. These include Kabwe Block T Road, Soweto Block T Road, Viwandani Block T Road, Pambago/Mwambene road. On the Northwest the project site is accessible through Samora/Airport Road from Mafiati Junction.

2.3 Site's Description

The Old Mbeya Airport is located at Mwanjelwa area in Iyela Ward. It covers an area measuring 58.32 Ha. The airport area (7.09 Ha) with buildings will be retained by TAA and TMA. Therefore; development area for Bus Terminal is 124,150Sqm and Commuter Bus Stand is approximately to 26,245Sqm. Proposed subprojects align with the current land use master plan for the developed of the entitle Old Airport area, hence two plots for the development marked (BT) and (DS) on the figure 2-3 shall be utilized.

On the West and Southwest, the project site borders; Samora road (which was constructed under TSCP), Samora secondary school and unplanned settlements. On the South East, the project site borders unplanned settlements and Pambago primary school. On the East the site is bounded by Pambago road.

On the North-West the project abuts small and medium scale industries, ALAF, TTCL Godowns, Ginnery, Pannar Seed company, Maranatha hospital (under renovation), a few government and private offices and residential houses.

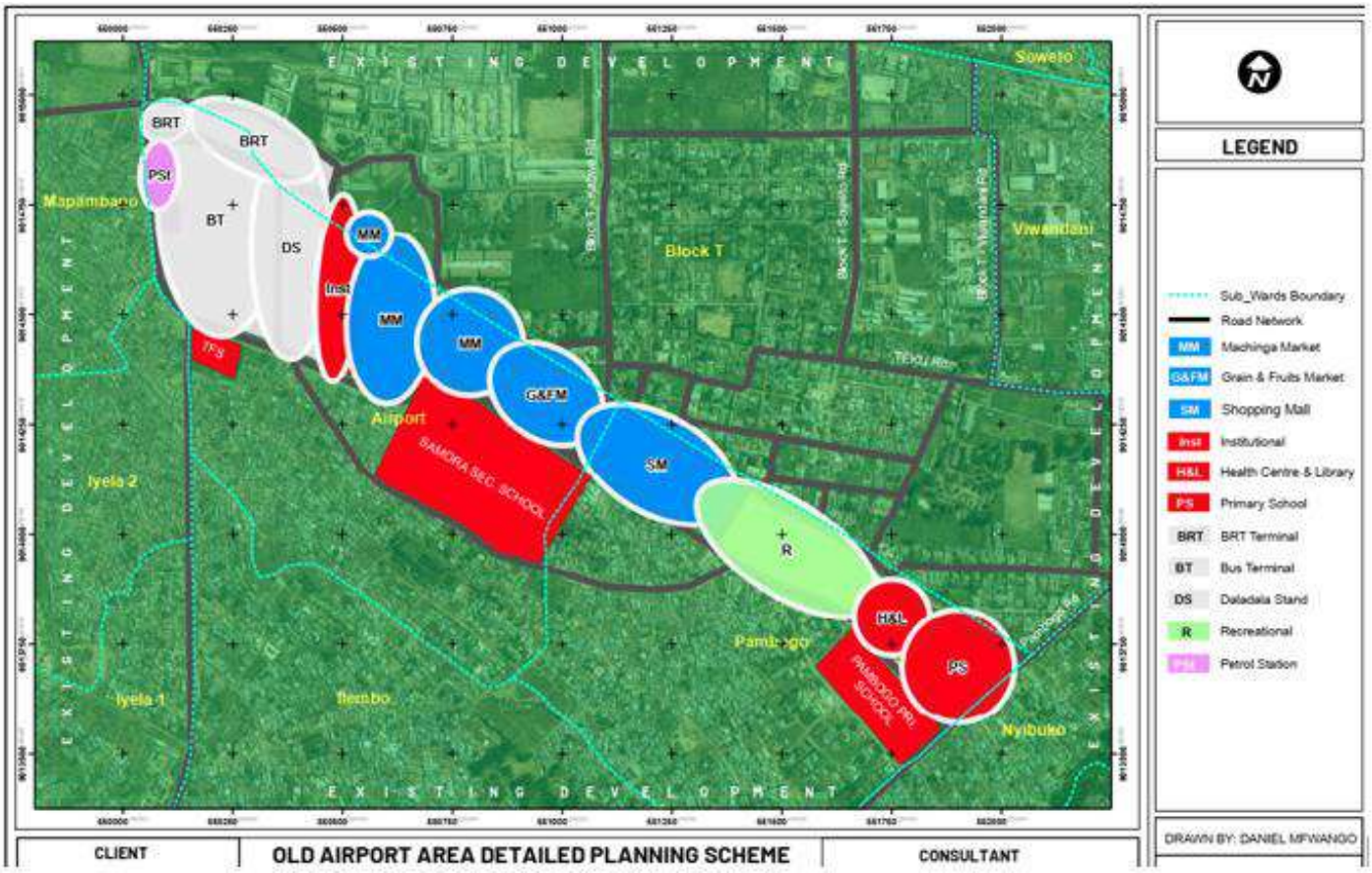

Figure 2-2: Land Use Master Plan for Old Airport

Source: Mbeya City Master Plan

The proposed project site/Old Mbeya Airport is surrounded by residential plots/areas, Samora Secondary School, Pambago Primary School and some business and service industries (including merchandise, service trade, rice milling, edible extraction from seeds, banks etc) which need to be properly planned. Either the area for proposed Bus terminal and Commuters is undeveloped consists of only grasses. The site is generally divided into three major land uses i.e. Commercial and civil building, existing activities and hydrological/drainage pattern.

Picture 2-1: Existing Uses at the Proposed Site
Source: Site Picture Dec 2021/Jan 2022

2.4 The Proposed Project's Components

2.4.1 Terminal Entry and Exit

To facilitate flow of vehicles entering and leaving the terminal, there will be dedicated entry and exit gates for regional buses from different locations to avoid interference and reducing traffic congestion. The entry and exit gates will be of standard widths to allow easy passage of vehicles/buses and passengers. Daladala/Commuters' bus stand will have a separate entry and exit gates.

2.4.2 Parking Spaces

The terminal will have two designated parking areas that will provide services to different passengers and other customers. There will be enough space to carter for overnight parking of 200 buses arriving from different regions. There will also be a parking space for the 100 commuter buses, tricycles (Bajaji) and motorcycles (50); private car and taxis will have the parking for 150 cars.

2.4.3 Commercial Building Complex

The bus terminal shall have storey buildings, space for shops, offices, stores, mini supermarkets, financial services, waiting lounges, powerhouse, washrooms and police post.

2.4.4 Sanitation

The Central Bus Terminal and Commuters' Bus Stand will have toilets (flushing system) each for male and female including one for disabled people. Wastewater generated will be designed and managed through onsite septic tank and soak away pit.

The proposed site/infrastructure shall be connected with water from Mbeya- UWASA for operational purposes, main water uses will be for sanitary purposes.

2.4.5 Storm Water Drainage

Development of the proposed bus terminal including concrete surfacing and roofing which shall create a catchment for runoff during rainy seasons. To ensure smooth terminal operations, there will be a drainage system constructed around the old airport to collect all storm water and safely direct to drop off chambers and finally to the gullies downstream/ the receiving environment.

2.4.6 Solid Waste Management

Central Bus Terminal and Commuters' Bus Stand commonly generate solid and liquid wastes. According to the City council, the generation of the waste per day is 332 tonnes; while per capital generation is estimated at 0.7kg/day. The proposed project site will have designated place for collection and sorting of solid waste according to their characteristics. These areas will be provided with large waste collection bins (Skip buckets), these skip buckets will be collected by the company awarded tender to collect solid waste in the Mbeya City Council and disposal them in Nsalaga Landfill.

2.4.7 Management of Wastewater

Both construction and operation phases shall generate substantial quantities of wastewater. Construction phase is expected to generate 6,400m^3/day while 44,80m^3/day shall be generated during operation phase based on 80 liters consumption per day, 80% become waste. Onsite system/city sewer shall be used for wastewater management.

Estimation of wastewater generated has based on 80% of water consumption during both phases.

2.4.8 Power Supply

Construction and operation activities for the proposed subproject depending on electrical power necessitate the connection to TANESCO national grid. The proposed subproject shall substantially increase the power consumption and thus provision of transformer with an average capacity of 500KvA is required. However; provision of standby diesel generator with 120KVa has been considered for power supply in case of TANESCO power outage.

Figure 2-3: Layout for the proposed Construction of Central Bus Terminal and Commuters' Bus Stand at Old Airport
Source: Digital Space Consultant

Figure 2-4: Top view of the proposed Construction of Central Bus Terminal and Commuters' Bus Stand at Old Airport
Source: Digital Space Consultant

Figure 2-5: Front View of the Central Bus terminal and Daladala Stop
Source: Digital Space Consultant

2.5 Proposed Project Activities

2.5.1 Planning Phase

During planning phase, different studies for the proposed subproject's area conducted including, Feasibility study, ESIA and preliminary engineering planning, final engineering planning and construction planning form the planning phase of the subproject.

During the planning process, a proposed subproject is given its form and details which becomes more and more detailed in phases, adjusted to correspond to land use planning.
Environmental certification by the National Environment Management Council (NEMC) is also done/finalized at this stage.

During subproject's planning phase, only paper works are involved as summarized below:

- Evaluation of subproject concepts and alternatives selection;
- Design of all subproject components;
- Topographic survey;
- Geo-technical Investigations;
- Soils and Materials Investigations;
- Carrying out RAP for the affected people (with completion note);
- Carrying out ESIA of the subproject;
- Carrying out the ESMP for the office;
- Compensations and Land Tenure;
- Tendering for construction works;

2.5.1.1. Project Schedule and Life

Construction of the new Central Bus Terminal and Commuters' Bus Stand under TACTIC ZONE 3 shall start soon after approval of all related studies, i.e. feasibility, engineering designs and environmental clearance and construction tender award in mid-year 2022. The project life is expected to be 50years

2.5.1.2. Required Permits

Prior to the approval of the construction and eventual construction of the subproject, it is necessary to obtain a number of authorizations and permits from local and central government authorities of Tanzania, related to environmental issues and water abstraction. These permits and authorizations are summarized in *Table 2-1*, including a description of the permit/authorization and the government authority responsible for issuance.

Table 2-1: Required Permits from Regulatory Authorities

Permit/Authorization	Issuing Authority	Description
EIA Certificate	NEMC/VPO	Approval of project implementation
Water Use and Discharge permit	Lake Rukwa Basin	To allow abstraction of Water from streams and rivers within the city

2.5.2 Mobilization or pre-construction phase

Activities

This phase entails mobilization of labour force, equipment and construction of offices as well as acquisition of various permits as required by the law. Other activities during this phase include

Topographical Survey, Geo-technical Investigation, Soils and Materials Investigation, material storage and material preparation, Identification of borrow pits, quarry sites and source of water.

Duration

The duration of this phase will be Six (6) months.

Types, Amounts and Sources of Project requirements

Types, amounts and sources of project requirements during the pre-construction phase are shown in Table 2-2

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Table 2-2: Types, amounts and sources of project requirements during the pre-construction phase

Requirements	Type	Source	Quantity required (estimate)
Raw Materials	Aggregates	Ingula Pipeline and Mswiswi (Tazara quarry)	2-4 Tons
	Sand	Isanga (Iganzo), Igawilo within Mbeya City	1.5-3Tons
	Water	Nzovwe River and Streams	1000-1500m^3
	Cement	Mbeya/ Dar es Salaam	1-4Tons
	Reinforcement bars	Dar es Salaam	1-2 Tons
	Timber	Iringa & local vendors	1-3 Tons
Energy	Electricity	Generators	300-500KVA
	Fuel	Mbeya	120m^3-230m^3
Manpower	Skilled	Contractor	4
	Unskilled	Local People along the Terminal	20
Equipment	Dump Truck	• Contractor	2
	Graders	• Contractor	1
	Dozer	• Contractor	2
	Water Boozers	• Contractor	1
	Vibrators	• Contractor	1
	Excavator	• Contractor	1

Transportation

Materials (borrow material, fine and course aggregates and sand) from pits, quarries and sand mines will be transported by trucks to the construction site. Other materials like cement, timber and reinforcement bars will be transported by Lorries to the construction site.

Storage

Some of the materials from borrow pits will be used directly after delivery and as such no piling up is expected. Other materials like aggregates and sand will be stored within the proposed site ready for use. Cement and reinforcement bars will be stored in special storage areas. Timber will directly be used at the required areas and consequently there will be no stockpiling of timber. Fuel/oils will be stored in drums which shall be stored in bunds (well paved areas which do not allow fluids to come into contact with the soil.

Types, Amounts and treatment/disposal of Wastes

Types, amounts and treatment/disposal of wastes during the pre-construction phase are shown in Table 2-3

Table 2-4: Types, Amounts and Treatment/Disposal of Wastes during Pre-Construction Phase

Waste	Types	Amount	Treatment/ Disposal
Solid Waste (Degradabl	Vegetation (Grasses)	5m3 (Clearance for construction	Composted or backfilling.
	Food remains, cardboa papers	3kg/day (based on gene rate of 20g/day/ person 150workers)	Collected in a large skip bucket a workplace then to be composted a used as manure for the gardens
Solid Waste (Non-Degr	Top soils	1,000m3 (Based on ren 10 cm topsoil from the (100x100) m2 area for Contractor's and Engin work offices	Backfilling material in the borrow fill the diversions.
	Scrap metals and plast	1- 2kg per day	Sold to Recyclers
	Tins, glasses	1- 2 kg per day	Taken to the Authorised Landfill Nsalaga
Liquid waste	Sewage	4,800 m3 (Based on 15 people, 40l/capita/day v consumption and 80% becomes wastewater)	Septic tank – Soak away system
	Oils and greases	Non	Car maintenance will be done at p garages

2.5.3 Construction phase

Activities

Having completed preliminary activities, ranging from site clearance to relocation of existing infrastructure, the project site shall be ready for levelling and subsequently compaction to allow setting out of the bus stand block substructure which shall involves;

- Setting for foundations
- Concreting foundations/ground floor
- Backfilling and disposal of overburden

Once the substructure is completed, works for the superstructure will start with columns and subsequently cover slab ready to receive other floors up to the final floor. Along with construction of other vehicle bus stand floors, basic facilities such as construction of office, construction of sanitary/drainage systems and water storage tanks will also be carried out to completion.

The required labour force to implement this project during construction period is approximated to about 150 employees. The construction phase of the Bus stand bus stand project is planned to last for two years from the commencement date.

Duration

The duration of this phase will be two (2) years.

2.5.3.1 Sand and Gravel

Gravel shall be sourced from Isonga (Iganzo way to Chunya), and Igawilo borrow pits. Sand will be sourced from Itua, Iduda and Mwasanga. For aggregates, will be sourced from Ingula Pipeline and Mswiswi (Tazara) all sites for construction materials are within the project's Region.

Table 2-5: Borrow Pit sites

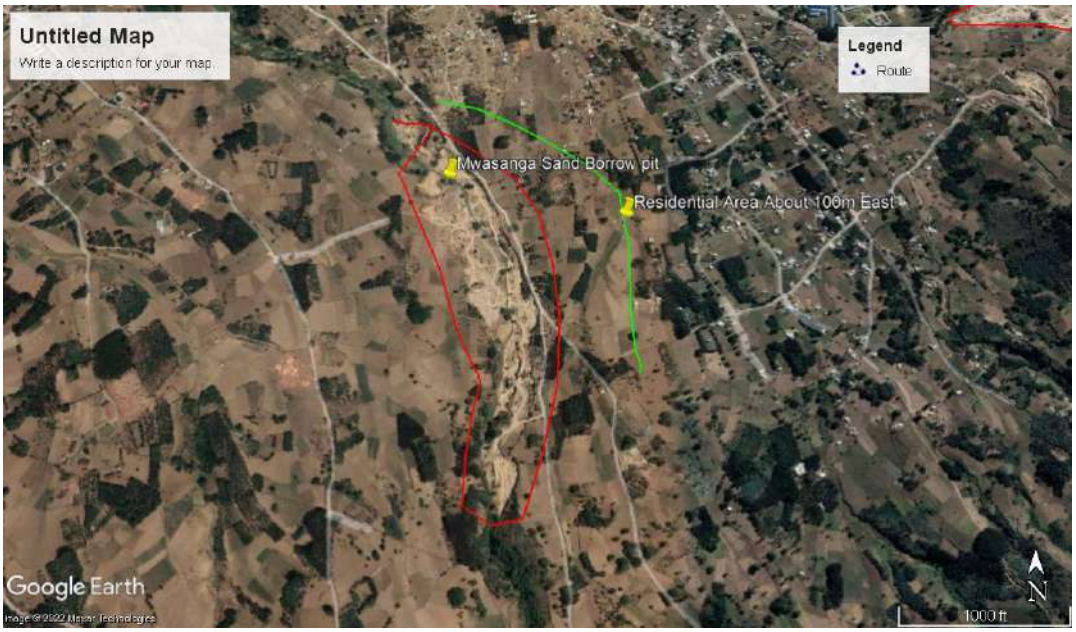
S/N	Name	Location	Distance	Description
1	Isanga	Iganzo Way to Chunya		The borrow pits area active and currently used to supply materials during construction or regular maintenance in Mbeya City Council. The borrow pits are owned by licensed operators by the Ministry of Minerals.
2	Igawilo	Ilomba Ward	15km	The borrow pit has an area approximately to 1,640 meters and currently used to supply materials during construction or regular maintenance in Mbeya City Council. The area is privately owned.

Picture 2-2: Igawilo Borrow Pit
Source: Google earth Edited by EIA Consultant

Table 2-6: Sand Sources

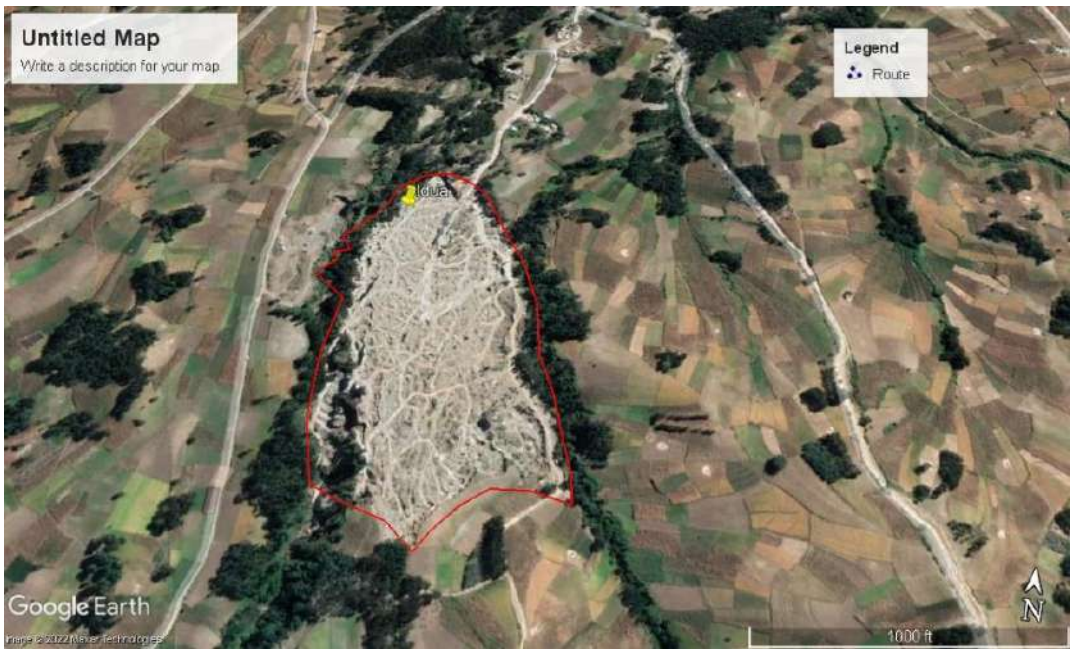
SN	Name	Location	Description
1	Ituha	Ituha	The borrow pit is active and currently used to supply materials during construction or regular maintenance in Mbeya City Council. The borrow pit is owned by licensed operators by the Ministry of Minerals.
2	Iduda	Iduda	The borrow pit is active with an area approximately to 1,450 Meters, and currently used to supply materials during construction or regular maintenance in Mbeya City Council. The borrow pit is owned by licensed operators by the Ministry of Minerals.
3	Mwasanga	Mwasanga	The borrow pit is active with an areas approximately to 2,258Meters, and currently used to supply materials during construction or regular maintenance in Mbeya City Council. The borrow pit is owned by licensed operators by the Ministry

			of Minerals.



Picture 2-3: Mwasanga Borrow pit
Source Google earth Edited by EIA Consultant

Picture 2-4: Ituha sand Site
Source: Google earth Edited by EIA Consultant



Picture 2-5: Iduda Sand Borrow site at Iduda area
Source: Google earth Edited by EIA Consultant

2.5.3.2 Quarry Site (aggregates)

Quarry sites proposed to supply materials for subprojects are located at Ingula pipeline, Mswiswi and (Tazara Quarry). Both sites have enough quantities to be exploited for the project's construction

Table 2-7: Quarry site

SN	NAME	Location	Distance
1	Inyala Pipeline	8°49'13.37"S, 33°40'36.94"E	Quarry site is located at inyala in Mbeya rural district; it is a privately owned site with an area approximately to 1,917meter used to supply materials during construction or regular maintenance in Mbeya City Council. The site is close to TAMZAN Highway about 200m to the south
2	Mswiswi (Tazara quarry) kongolo mswiswi	8°46'38.64"S, 33°47'50.83"E	Quarry site is located at Mswiswi area Mbeya Rural district; it is a privately owned site with an area approximately to 2,1497meter used to supply materials during construction or regular maintenance in Mbeya City Council. The site is close to TAMZAN Highway about 150m to the south, 40km to Mbeya town center

Picture 2-6: Mswiswi Quarry site
Source: Google earth Edited by EIA Consultant

Types, Amounts and Sources of Project requirements

Types, amounts and sources of project requirements during the construction phase are shown in 2-8

Table 2-8: Types, Amounts and Sources of Project Requirements during Construction Phase

Requirements	Type	Source	Quantity required
Raw Materials	Aggregates	Ingula Pipeline and Mswiswi (Tazara quarry)	20-40 Tons
	Gravel	Ingula Pipeline, Mswiswi (Tazara)	40-45Tons
	Sand	Existing local vendors around project site	10-20Tons
	Water	Nzovwe River and Streams	25,000-30,000m3
	Cement	Mbeya/ Dar es Salaam	10-15 Tons
	Reinforcement bars	Dar es Salaam	60-70 Tons
	Timber	Iringa & Local Vendors	10-15Tons
Manpower	Skilled	Contractor	15
	Unskilled	Local People along the terminal	35
Equipment	Dozer	Contractor	1
	Grader	Contractor	2
	Pay Loader	Contractor	1
	Excavator	Contractor	2
	Vibro Roller	Contractor	1
	Tandem Roller	Contractor	1
	Macadam Roller	Contractor	1
	Tire Roller	Contractor	1
	Dump Truck	Contractor	1

Requirements	Type	Source	Quantity required
	Mixer Truck	Contractor	1
	Water Truck	Contractor	1
	Tractor w/Trailer	Contractor	1
	Cargo Truck	Contractor	1
	Crusher Plant	Contractor	1
	Screen Unit	Contractor	1
	Concrete Batch Plant	Contractor	1
	Air Compressor	Contractor	1
	Generator	Contractor	2
	Fuel Truck	Contractor	1
	Light Vehicle	Contractor	6

Transportation

Materials (fine and course aggregates) from quarries will be transported by trucks to the construction site. Other materials like cement, timber and reinforcement bars will be transported by trucks to the construction site.

Storage

Materials from borrow pits will be used directly after delivery and as such no piling up is expected. Other materials like aggregates and sand will be stored at the crushing area (usually near the quarry site) site ready for use. Cement and reinforcement bars will be stored in special storage rooms (Bunds which do not allow moisture). Timber will directly be used at the required areas and consequently there will be no stockpiling of timber.

Types, Amounts and treatment/disposal of Wastes

Types, amounts and treatment/disposal of wastes during the construction phase are shown in Table 2-9

Table 2-9: Types, Amounts and Treatment/Disposal of Wastes during Construction Phase

Waste	Types	Amount	Treatment/ Disposal
Solid Waste (Degradable)	Vegetation (Grasses) and remnants of timber.	Approximately about 500m3 of biomass	Source of energy for cooking or disposed at required areas
	Food remains, cardboards and papers	30kg/day (based on generation rate of 0.2/day/ person for 150 people)	Collected in a large skip bucket at the campsite then to be composted and used as manure for the gardens at the camp site
Solid Waste (Non-Degradable)	Scrap metals, drums and plastics	10 -20 kg per day	Sold to Recyclers
	Tins, glasses	2-3 kg per day	Taken to the authorised landfill at Nsalagga
Liquid waste	Sewage	4.8m3/day (Based on 150 people, 40l/capita/day water consumption and 80% becomes wastewater)	Septic tank –Soak away system
	Oils and greases	Non	Car maintenance will be done at proper garages

2.5.3.3 Security, Health and Safety

The construction activities are associated with occupational health hazards as well as public health hazards. In this case measures to offset or reduce health hazards shall be employed accordingly and these include among others provision of personal protective gears, construction to be restricted only during the day time, providing induction training to all employees to ensure they are aware of the health hazards and thus take appropriate initiative to protective themselves. Machines operating at site shall be equipped with fire extinguishers just in case of fire. Furthermore, the site of work shall be registered by OSHA as required

2.5.4 Operation phase

Activities

Once construction is completed, the actual purpose of the facility shall accommodate at least 90 vehicles per day. The activities associated with facility's management during the operation phase will require, about 25, people. Some folks at the entrance, cleanliness, safety and security of the entire facility. The Bus stand has been designed to cater for 50 years demand. Other daily operations shall include terminal security management, waste management, entry and exit of passenger & vehicles, boarding and off-boarding; and safety checks.

Duration

The duration of this phase will be fifty years (50) years.

Types, Amounts and treatment/disposal of Wastes

Types, amounts and treatment/disposal of wastes during the operation phase are shown below

Table 2-10: Types, amounts and treatment/disposal of wastes during the operational phase

Waste	Types	Amount	Treatment/ Disposal
Solid Waste (Degradable)	Garbage: Food remains, cardboards and paper, timbers	270kg/day (based on generation rate of 0.1kg/day per 2,700 person	Collected in a large skip bucket at the site then to be transported to the existing landfill at Nsalaga
Solid Waste (Non Degradable)	Scrap metals, Tins, glasses and plastics	2kg per day 3 kg per day	Sold to Recyclers. Taken to the Authorized Landfill
Liquid waste	Oils and greases	Non	trucks services/ maintenance will be done at proper garages in Mbeya City or to their respective garage
	Sewage	86.4m3(Based on 2,700 people, 40l/capita/day water consumption and 80% becomes wastewater)	Septic tank and soak away chamber

2.5.5 Demobilization phase

Activities

- Contractor's demobilization stage will involve clearing all the site activities in terms of tiding up of all site facilities and demobilization of all construction equipment. Disposal of any remaining unwanted materials will also be carried out during this phase.
- Upon completion of contractor's obligations, the structures will be handed over to the project proponent for the operation phase, that is, for use as a Bus Terminal and Commuters' Bus Stand.
- Demobilization of temporary structures will be done for proper restoration of the site e.g. removing/spreading top-soils piled within the area and removing all temporary structures.
- Other activities include clearance of all sorts of wastes including used oil, sewage, sewage, solid wastes (plastics, wood, metal, papers, etc).

Duration

Demobilization stage will last for a period of two (2) months.

Types, Amounts and Sources of Project requirements

Types, amounts and sources of project requirements during the demobilization phase are shown in Table 2-10

Table 2-11: Types, Amounts and Sources of Project Requirements during Demobilization Phase

Requirements	Type	Source	Quantity required
Manpower	Skilled	Contractor	15
	Unskilled	Local People along the terminal	50
Equipment	Bull dozer	Contractor	1
	Motor grader	Contractor	1
	Roller Compactor	Contractor	1
	Plate compactor	Contractor	1
	Tippers	Contractor	2

Types, treatment/disposal of Wastes

The demobilization of the temporary structures will result mainly into solid wastes such as timber, iron sheets and rubbles from demolitions. Timber and iron sheets will be sold to people in the nearby communities for reuse while the rubbles will be used in backfilling deteriorated roads within Mbeya City.

3 POLICY, LEGAL & ADMINISTRATIVE FRAMEWORK

3.1 Overview

This section is aimed at reviewing relevant environmental resource and planning legislations and regulations to ensure that Construction of Bus Terminal and Commuters' Bus Stand meet policy and legislative criteria, World Bank's Environmental and Social Standards (ESSs) and that all relevant requirements are built into project design and implementation. The review also outlines specific procedures and measures to be carried out before, during and after subproject development.

Below are identified policies, legislations, World Bank's ESSs and International Conventions reviewed and included in the Draft ESIA describing their relevance to the proposed subproject

3.2 World Bank's Environmental and Social Framework

The World Bank Environmental and Social Framework sets out the World Bank's commitment to sustainable development, through a Bank Policy and a set of Environmental and Social Standards that are designed to support Borrowers' projects, with the aim of ending extreme poverty and promoting shared prosperity.

This Framework comprises:

- A Vision for Sustainable Development, which sets out the Bank's aspirations regarding environmental and social sustainability;
- The World Bank Environmental and Social Policy for Investment Project Financing, which sets out the mandatory requirements that apply to the Bank; and
- The Environmental and Social Standards, together with their Annexes, which set out the mandatory requirements that apply to the Borrower, in this case the Government of Tanzania and TACTIC project.

This ESIA has reviewed the above framework's components' relevance to the Project as shown in the below sub sections;

3.2.1 Vision for Sustainable Development

World Bank Group is globally committed to environmental sustainability, including stronger collective action to support climate change mitigation and adaptation, recognizing this as essential in a world of finite natural resources. It recognizes that climate change is affecting the nature and location of projects, and that World Bank-financed projects should reduce their impact on the climate by choosing alternatives with lower carbon emissions.

Equally, social development and inclusion are critical for all of the World Bank's development interventions and for achieving sustainable development.

At the project level, these global aspirations translate into enhancing development opportunities for all, particularly the poor and vulnerable, and promoting the sustainable management of natural and living resources. Therefore, within the parameters of a project, the Bank seeks to

- Address project-level impacts on climate change and consider the impacts of climate change on the selection, siting, planning, design and implementation and decommissioning of projects;
- Maximize stakeholder engagement through enhanced consultation, participation and accountability.

The designs of Bus Terminal & Commuters' Bus Stand have observed the vision of sustainable development by ensuring climate change adaptation strategies have been taken into considerations.

3.2.2 World Bank Environmental and Social Policy for Investment Project Financing

This Environmental and Social Policy for Investment Project Financing sets out the mandatory requirements of the Bank in relation to the projects it supports through Investment Project Financing

The Bank is committed to supporting Tanzania government in the development and implementation of projects that are environmentally and socially sustain-able, and to enhancing the capacity of Borrowers 'environmental and social frameworks to assess and manage the environmental and social risks and impacts of projects.
The Bank will assist Tanzania government in their application of the ESSs to projects supported through Investment Project Financing in accordance with this Environmental and Social Policy for Investment Project Financing (Policy).

To carry out this Policy, the Bank will:

- Undertake its own due diligence of proposed projects, proportionate to the nature and potential significance of the environmental and social risks and impacts related to the project;
- As and where required, support the Tanzania government to carry out early and continuing engagement and meaningful consultation with stakeholders, in particular affected communities, and in providing project-based grievance mechanisms;

The Banks shall evaluate the environmental and social risks management plan including the extent of stakeholders' engagement on the project throughout.

TACTIC project engaged various stakeholders during preparation of Environmental and Social Management Framework (ESMF) and other supporting Environmental and Social Safeguard Instruments i.e. Labour Management Procedures (LMP), Resettlement Policy Framework (RPF), Stakeholders Engagement Plan (SEP) and Gender-Based Violence Action Plan (GBV Plan). However; at subprojects level, the proposed Bus Terminal & Commuters' Bus Stand subprojects have been conducted with ESIA study to comply with Environmental and Social Policy for Investment Project Financing. During the study, various stakeholders from Mtaa level to National Level were engaged, their views captured and used for influencing the design of proposed subprojects as indicated in chapter 5 of this ESIA.

In addition, specific SEP, RAP and LMP have been prepared for subprojects to guide the implementation and operation of the proposed subprojects.

3.2.3 World Bank Environmental and Social Standards (ESSs)

3.2.3.1 Environmental and Social Standard 1: Assessment and Management of Environmental and Social Risks and Impacts

ESS1 sets out the Borrower's (GoT) responsibilities for assessing, managing and monitoring environmental and social risks and impacts associated with each stage of a project supported by the Bank through Investment Project Financing, in order to achieve environmental and social out-comes consistent with the Environmental and Social Standards (ESSs).

The Government of Tanzania through PO-RALG is required to conduct environmental and social assessment of subprojects proposed for Bank financing under TACTIC project to help ensure that subprojects are environmentally and socially sound and sustainable. The environmental and social assessment should be proportionate to the risks and impacts of the subproject. It will inform the design

of the subproject, and be used to identify mitigation measures and actions and to improve decision making.

PO-RALG will manage environmental and social risks and impacts of the subproject throughout the project life cycle in a systematic manner, proportionate to the nature and scale of the subproject and the potential risks and impacts.
ESS1 includes the following annexes, which form part of ESS1, and set out certain requirements in more detail:

- ✓ Annex 1: Environmental and Social Assessment;
- ✓ Annex 2: Environmental and Social Commitment Plan; and
- ✓ Annex 3: Management of Contractors

Among the requirements under ESS1 relevant to the Bus Terminal & Commuters' Bus Stand subprojects include: Conduct an environmental and social assessment of the proposed subproject, including stake holder engagement; Undertake stakeholder engagement and disclose appropriate information in accordance with ESS10; Develop an ESCP, and implement all measures and actions set out in the legal agreement including the ESCP; and Conduct monitoring and reporting on the environmental and social performance of the project against the ESSs.

In addition, the proposed subproject should apply the relevant requirements of the Environmental Health and Safety Guidelines (EHSGs) once Tanzanian requirements differ from the levels and measures presented in the EHSGs, the GoT will be required to achieve or implement whichever is more stringent.

The proposed subprojects have been conducted with ESIA study and adequately undertaken stakeholders' engagement as required by ESS1 in order to create the sense of ownership by the community and sustainability
PO-RALG shall prepare ESCP and sign legal agreement on its implementation.

3.2.3.2 Environmental and Social Standard 2: Labor and Working Conditions;

ESS2 recognizes the importance of employment creation and income generation in the pursuit of poverty reduction and inclusive economic growth. The government of Tanzania is required to promote sound worker-management relationships and enhance the development benefits of Construction of Bus Terminal and Commuters' Bus Stand under TACTIC project by treating workers in the project fairly and providing safe and healthy working conditions.

Among ESS2 objectives include:

- To promote safety and health at work
- To promote the fair treatment, nondiscrimination and equal opportunity of project workers
- To protect project workers, including vulnerable workers such as women, persons with disabilities, children (of working age, in accordance with this ESS) and migrant workers, contracted workers, community workers and primary supply workers, as appropriate.
- To prevent the use of all forms of forced labor

The project contractor shall adhere to the objectives under regular audits to be conducted by PO-RALG, OSHA and the project Supervising Engineer. However, specific subproject's Labour Management Procedures (LMP) has been prepared to guide labour issues during construction and operation of the proposed Bus Terminal & Commuters' Bus Stand subprojects.

3.2.3.3 Environmental and Social Standard 3: Resource Efficiency and Pollution Prevention and Management;

ESS3 recognizes that economic activity and urbanization often generate pollution to air, water, and land, and consume finite resources that may threaten people, eco- system services and the environment at the local, regional, and global levels. The current and projected atmospheric concentration of greenhouse gases (GHG) threatens the welfare of current and future generations at the same time, more efficient and effective resource use, pollution prevention and GHG emission avoidance, and mitigation technologies and practices have become more accessible and achievable.
Among ESS3 objectives include:

- To promote the sustainable use of resources, including energy, water and raw materials
- To avoid or minimize adverse impacts on human health and the environment by avoiding or minimizing pollution from project activities
- To avoid or minimize project-related emissions of short and long-lived climate pollutants
- To avoid or minimize generation of hazardous and non-hazardous waste
- To minimize and manage the risks and impacts associated with pesticide use

On pollution prevention and management, the Government of Tanzania through PO-RALG will avoid the release of pollutants or, when avoidance is not feasible, minimize and control the concentration and mass flow of their release using the performance levels and measures specified in national law or the EHSGs, whichever is most stringent.

During construction, operation of machineries, equipment and plant shall contribute on GHG emissions. Contractor shall adhere to all recommended actions to reduce GHG emissions from operating vehicles and plant. In addition, installation of diesel generator as an emergency power supply shall be taken into account as GHG contributor. Low emissions generator has been proposed in chapter 2 of this ESIA.

3.2.3.4 Environmental and Social Standard 4: Community Health and Safety;

ESS4 recognizes that project activities, equipment, and infrastructure can increase community exposure to risks and impacts. In addition, communities that are already subjected to impacts from climate change may also experience an acceleration or intensification of impacts due to project activities.

ESS4 addresses the health, safety, and security risks and impacts on project-affected communities and the corresponding responsibility of GoT through PO-RALG to avoid or minimize such risks and impacts, with particular attention to people who, because of their particular circumstances, may be vulnerable.

Objectives of the ESS4 include:

- To anticipate and avoid adverse impacts on the health and safety of project-affected communities during the project life cycle from both routine and non-routine circumstances.
- To promote quality and safety, and consider actions relating to climate change, in the design and construction of infrastructure, including dams.
- To avoid or minimize community exposure to project-related traffic and road safety risks, diseases and hazardous materials
- To ensure that the safeguarding of personnel and property is carried out in a manner that avoids or minimizes risks to the project-affected communities

ESS4 requires:

The GoT will design, construct, operate, and decommission the structural elements of the project in accordance with national legal requirements, the EHSGs and other GIIP, taking into consideration safety risks to third parties and affected communities.

Where the project involves provision of services to communities, the GoT will establish and implement appropriate quality management systems to anticipate and minimize risks and impacts that such services may have on community health and safety. In such circumstances, the GoT will also apply the concept of universal access, where technically and financially feasible.

The proposed construction and operation of Bus Terminal & Commuters' Bus Stand subprojects have identified, evaluated and shall monitor the potential health and safety risks to workers, affected communities and other users throughout the project life cycle. The ESMP has incorporated technically and financially feasible safety measures into the subproject's design to prevent and mitigate potential safety risks to all users and affected communities.

3.2.3.5 Environmental and Social Standard 5: Land Acquisition, Restrictions on Land Use and Involuntary Resettlement;

ESS5 recognizes that project-related land acquisition and restrictions on land use can have adverse impacts on communities and persons Project-related land acquisition or restrictions on land use may cause physical displacement (relocation, loss of residential land or loss of shelter), economic displacement (loss of land, assets or access to assets, leading to loss of income sources or other means of livelihood), or both The term "involuntary resettlement" refers to these impacts Resettlement is considered involuntary when affected per sons or communities do not have the right to refuse land acquisition or restrictions on land use that result in displacement.

Objectives of ESS5 include:

- To avoid involuntary resettlement or, when unavoidable, minimize involuntary resettlement by exploring project design alternatives
- To avoid forced eviction
- To mitigate unavoidable adverse social and economic impacts from land acquisition or restrictions on land use by: (a) providing timely compensation for loss of assets at replacement cost and (b) assisting displaced persons in their efforts to improve, or at least restore, their livelihoods and living standards, in real terms, to pre-displacement levels or to levels prevailing prior to the beginning of project implementation, whichever is higher

- To improve living conditions of poor or vulnerable persons who are physically displaced, through provision of adequate housing, access to services and facilities, and security of tenure
- To conceive and execute resettlement activities as sustainable development programs, providing sufficient investment resources to enable displaced persons to benefit directly from the project, as the nature of the project may warrant
- To ensure that resettlement activities are planned and implemented with appropriate dis closure of information, meaningful consultation, and the informed participation of those affected

Among the requirements of ESS5 include the following:

11 The GoT will demonstrate that involuntary land acquisition or restrictions on land use are limited to direct project requirements for clearly specified project purposes within a clearly specified period of time. Will consider feasible alternative project designs to avoid or minimize land acquisition or restrictions on land use, especially where this would result in physical or economic displacement, while balancing environmental, social, and financial costs and benefits, and paying particular attention to gender impacts and impacts on the poor and vulnerable.

12. When land acquisition or restrictions on land use (whether permanent or temporary) cannot be avoided, the GoT will offer affected persons compensation at replacement cost, and other assistance as may be necessary to help them improve or at least restore their standards of living or live-livelihood, subject to the provisions of paragraph 26 through 36 of this ESS.

13. Compensation standards for categories of land and fixed assets will be disclosed and applied consistently Compensation rates may be subject to upward adjustment where negotiation strategies are employed. In all cases, a clear basis for calculation of compensation will be documented, and compensation distributed in accordance with transparent procedures.

14. Where livelihoods of displaced persons are land-based, or where land is collectively owned, the GoT will offer the displaced persons an option for replacement land in accordance with paragraph 35(a), unless it can be demonstrated to the Bank's satisfaction that equivalent replacement land is unavailable.

15. The GoT will take possession of acquired land and related assets only after compensation in accordance with this ESS has been made available and, where applicable. In addition, livelihood restoration and improvement programs will commence in a timely fashion in order to ensure that affected persons are sufficiently prepared to take advantage of alternative livelihood opportunities as the need to do so arises.

19. The GoT will ensure that a grievance mechanism for the project is in place, in accordance with ESS10 as early as possible in project development to address specific concerns about compensation, relocation or livelihood restoration measures raised by displaced persons (or others) in a timely fashion.

The land proposed for construction of Bus Terminal & Commuters' Bus Stand is legally owned by Mbeya City Council and thus no resettlement is expected. However, in the action requiring additional land for future development if any, the GoT through PO-RALG shall adhere to the requirements of

ESS5 including preparation of Resettlement Action Plan (RAP). Subproject's GRM has been prepared as part of chapter 7 "Environmental and Social Management Plan" that shall guide handling of grievances during construction phase.

3.2.3.6 Environmental and Social Standard 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources;

ESS6 recognizes the importance of maintaining core ecological functions of habitats, including forests, and the biodiversity they support.

This ESS also addresses sustainable management of primary production and harvesting of living natural resources.

ESS6 recognizes the need to consider the livelihood of project-affected parties, including Indigenous Peoples, whose access to, or use of, biodiversity or living natural resources may be affected by a project. The potential, positive role of project affected parties, including Indigenous Peoples, in biodiversity conservation and sustainable management of living natural resources is also considered

Objective of ESS6 include but not limited to:

- To protect and conserve biodiversity and habitats
- To apply the mitigation hierarchy and the precautionary approach in the design and implementation of projects that could have an impact on biodiversity
- To promote the sustainable management of living natural resources
- To support livelihoods of local communities, including Indigenous Peoples, and inclusive economic development, through the adoption of practices that integrate conservation needs and development priorities

ESS6 requirements include among others:

8. The environmental and social assessment as set out in ESS1 will consider direct, indirect and cumulative project-related impacts on habitats and the biodiversity they support. This assessment will consider threats to biodiversity, for example habitat loss, degradation and fragmentation, invasive alien species, overexploitation, hydrological changes, nutrient loading, pollution and incidental take, as well as projected climate change impacts.

10. Through the environmental and social assessment, the GoT will identify the potential project related risks to and impacts on habitats and the biodiversity that they support.

11. The GoT's assessment will include characterization of baseline conditions to a degree that is proportional and specific to the anticipated risk and significance of impacts.

As described in chapter 4, the proposed site has no sensitive biodiversity it supports thus no major impacts are expected as a result of sites' clearance activities.

3.2.3.7 Environmental and Social Standard 7: Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities;

ESS7 contributes to poverty reduction and sustainable development by ensuring that projects supported by the Bank enhance opportunities for Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities to participate in, and benefit from, the development process in ways that do not threaten their unique cultural identities and well-being.

Among the ESS7 objectives include:

- To ensure that the development process fosters full respect for the human rights, dignity, aspirations, identity, culture, and natural resource-based livelihoods of Indigenous Peoples/ Sub-Saharan African Historically Underserved Traditional Local Communities.

- To improve project design and promote local support by establishing and maintaining an ongoing relationship based on meaningful consultation with the Indigenous Peoples/Sub- Saharan African Historically Underserved Traditional Local Communities affected by a project throughout the project's life cycle.

Among the general requirements of ESS7 include:

11. A key purpose of this ESS is to ensure that Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities present in, or with collective attachment to, the project area are fully consulted about, and have opportunities to actively participate in, project design and the determination of project implementation arrangements The scope and scale of consultation, as well as subsequent project planning and documentation processes, will be proportionate to the scope and scale of potential project risks and impacts as they may affect Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities.

During ESIA study, no Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities were identified near the proposed sites.

3.2.3.8 Environmental and Social Standard 8: Cultural Heritage;

This ESS sets out general provisions on risks and impacts to cultural heritage from project activities ESS7 sets out additional requirements for cultural heritage in the context of Indigenous Peoples. ESS6 recognizes the social and cultural values of biodiversity. Provisions on Stakeholder Engagement and Information Disclosure are set out in ESS10.

Objectives of the ESS8 include:

- To protect cultural heritage from the adverse impacts of project activities and support its preservation.
- To address cultural heritage as an integral aspect of sustainable development
- To promote meaningful consultation with stakeholders regarding cultural heritage
- To promote the equitable sharing of benefits from the use of cultural heritage

ESS8 requires:

8. The environmental and social assessment, as set out in ESS1, will consider direct, indirect and cumulative project-specific risks and impacts on cultural heritage. Through the environmental and

social assessment, the GoT will determine the potential risks and impacts of the proposed activities of the project on cultural heritage.

9. The GoT will avoid impacts on cultural heritage. When avoidance of impacts is not possible, the GoT will identify and implement measures to address impacts on cultural heritage in accordance with the mitigation hierarchy.

During impacts' assessment study and through communities and stakeholders' consultations, no heritage site was identified to be within or near the proposed sites for implementation of Bus Terminal & Commuters' Bus Stand.

3.2.3.9 Environmental and Social Standard 10: Stakeholder Engagement and Information Disclosure

This ESS recognizes the importance of open and transparent engagement between the Borrower and project stakeholders as an essential element of good international practice. Effective stakeholder engagement can improve the environmental and social sustainability of projects, enhance project acceptance, and make a significant contribution to successful project design and implementation.

Objectives of ESS10 are:

- To establish a systematic approach to stakeholder engagement that will help Borrowers identify stakeholders and build and maintain a constructive relationship with them, in particular project-affected parties
- To assess the level of stakeholder interest and support for the project and to enable stake-holders' views to be taken into account in project design and environmental and social performance.
- To promote and provide means for effective and inclusive engagement with project-affected parties throughout the project life cycle on issues that could potentially affect them
- To ensure that appropriate project information on environmental and social risks and impacts is disclosed to stakeholders in a timely, understandable, accessible and appropriate manner and format
- To provide project-affected parties with accessible and inclusive means to raise issues and grievances, and allow Borrowers to respond to and manage such grievances

ESS10 requirements among others include:

6. The GoT will engage with stakeholders through- out the project life cycle, commencing such engagement as early as possible in the project development process and in a timeframe that enables meaningful consultations with stakeholders on project design. The nature, scope and frequency of stakeholder engagement will be proportionate to the nature and scale of the project and its potential risks and impacts.

7. The GoT will engage in meaningful consultations with all stakeholders. Will provide stakeholders with timely, relevant, understandable and accessible information, and consult with them in a culturally appropriate manner, which is free of manipulation, interference, coercion, discrimination and intimidation.

8 The process of stakeholder engagement will involve the following, as set out in further detail in this ESS: (i) stakeholder identification and analysis; (ii) planning how the engagement with stakeholders

will take place; (iii) disclosure of information; (iv) consultation with stakeholders; (v) addressing and responding to grievances; and (vi) reporting to stakeholders.

The TACTIC project has prepared a specific Stakeholder Engagement Plan (SEP) for the proposed Bus Terminal & Commuters' Bus Stand which guided consultations during the EIA scoping stage as a 1st round stakeholders' engagement and shall also guide during feedback stage/2nd round community/ies engagement. 1st round was purposely for stakeholders to air their views, comments and concerns on the type of Bus Terminal & Commuters' Bus Stand under TACTIC program as indicated in chapter 5 of this ESIA report. 2nd round consultations shall be conducted as part of SEP to review how the draft design has implemented their aired views, comments and concerns

3.3 The World Bank ESH Guidelines

Once a member of the World Bank Group is involved in a project, adherence to the EHS Guidelines is mandatory as a matter of policy. The General EHS Guidelines are a set of technical reference documents which addresses "Good International Industry Practices" in four focus areas: 1) Environmental 2) Occupational Health and Safety 3) Community Health and Safety and 4) Construction and Decommissioning

The EHS Guidelines contain the performance levels and measures that are generally considered to be achievable in new facilities by existing technology at reasonable costs. Application of the EHS Guidelines to existing facilities may involve the establishment of site-specific targets, with an appropriate timetable for achieving them. The applicability of the EHS Guidelines should be tailored to the hazards and risks established for each project on the basis of the results of an environmental assessment in which site-specific variables, such as host country context, assimilative capacity of the environment, and other project factors, are taken into account. Under TACTIZ project, these guidelines shall be implemented during construction and operation of the Bus Terminal and Commuters' Bus Stand subproject.

3.4 National Policies

Environmental awareness in the country has significantly increased in recent years. The government has been developing and reviewing national policies to address environmental management in various sectors. Among others, the objective of these policies is to regulate the development undertaken within respective sectors so that they are not undertaken at the expense of the environment. The national policies that address environmental management as far as Bus Terminal & Commuters' Bus Stand subprojects concerned and which form the cornerstone of the present study include the following:

3.4.1 National Environment Policy 1997

The National Environmental Policy seeks to provide the framework for making fundamental changes that are needed to bring environmental considerations into the mainstream of decision making in Tanzania.

Some of the key objectives of the National Environmental Policy are to prevent and control degradation of land, water, vegetation, and air which constitute our life support systems; to raise public awareness and understanding of the essential linkages between environment and development and to promote individual and community participation in environmental action;

Chapter 3; section 51, paragraph (a), (b) and(c) of this policy states that the transport sector shall focus on improvement in mass transport systems to reduce fuel consumption and traffic congestion. It shall also control pollution and minimize transport emission of gasses, noise, dust and particulates; in

addition, preventing disaster/spill and formulating response plans and standard for transportation of hazardous and dangerous material. Subject to this, is section 63 which dictates to use Environmental Impact Assessment tool to tackle immediate environmental problems, precautionary, anticipatory and preventive approaches that are the most effective social economic measure for achieving environmental sound development.

The Proposed Bus Terminal and Commuters' Bus Stand subproject has observed the policy objectives at various stages where there will be environmental impacts including transport emission gasses, noise, dust, particulates and spills, road accidents e.t.c. Prior to the execution of the proposed subprojects, Environmental and social impact assessment (ESIA) has been conducted including preparation of Environmental and Social Management Plan that will be i referred for the purpose of preventing and minimizing environmental and social impacts resulting from the project activities.

3.4.2 National Employment Policy 2008

Due to the growing number of unemployed labor force, the specific objective of the National Employment Policy was to provide strategies for employment creation and sustainability. Among its specific objectives is section 3.5 improvement and transformation of the informal sector for creating decent jobs, section 3.7 facilitate Tanzania job seekers to acquire appropriate skills and section 3.9 employment of individual through enhancing accessibility to business support services including capital, market access for private sector entrepreneurs including self-employers for increased productivity and income.

The project will contribute to the achievement of the objectives of this Policy. During the construction phase, approximately 150 – 200 direct employment opportunities are expected to be created for both skilled and unskilled labor. The project will also provide self-employment for food business and small retailers along the project site.

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3.4.3 National Land Policy, 1997

The policy requires that, in accordance with subsection 7.1.1, before any development activity is taken on the land, the government will ensure that permits, licenses, claims and rights for exploitation of natural resources are issued in line with land use policies, and environment conservation policies and programs.

Some of the key Objectives of the policy are presented in section 2.4 to ensure that land is put to its most productive use to promote rapid social and economic development of the country and section 2.8 to protect land resources from degradation for sustainable development.

On land tenure, the policy dictates in subsection 4.1.1 (I) c) that the rights and interests of citizens in land shall not be taken without due process of the law and paragraph (d) that full, fair and prompt compensation shall be paid when land is acquired.

On compensation for acquiring land, The Policy dictates In subsection 4.2.20 that in order to reduce problems, compensation for land acquired for public interest will be based on the concept of

opportunity cost including (I) market value of the real property (ii) disturbance allowance (iii) transport allowance (iv) loss of profit or accommodation (v) cost of acquiring or getting the subject land (vi) any other cost or capital expenditure incurred to the development of the subject land.

The Proposed Bus Terminal and Commuters' Bus Stand Subproject will contribute to the achievement of the objectives of this Policy by promoting social economic development of the area through connection with chunya, mbalizi districts..

The proposed Bus Terminal and Commuters' Bus Stand subproject will ensure that soil erosion measures are taken into consideration during construction so as to protect land resources from degradation for sustainable development.

In addition; all affected parties will be identified during the Resettlement Action Plan (RAP) and their properties will be fairly valued and timely compensated.

3.4.4 The Construction Industry Policy 2003

The National Construction Industry Policy aims to create an enabling environment for the development of a vibrant, efficient and sustainable local industry that meets the demand for its services to support sustainable economic and social development objectives. One of the key objectives of the Policy in section 7.2 (b)is to emphasize the development of an efficient and self-sustaining roads network that is capable of meeting the diverse needs for construction, rehabilitation and maintenance of civil works for trunk, regional, districts and feeder roads network.

Also subject to paragraph (c) to improve capacity of public sector and private sector clients so as to ensure efficient, transparent and effective implementation and management of construction projects. The policy directs that the government shall ensure both local and donor procurement policies provide a comprehensive framework for fostering the local construction industry in Tanzania. And paragraph (g) to mobilize adequate resources from the public sector and private sector for construction and maintenance of public infrastructure.

The Proposed Bus Terminal and Commuters' Bus Stand subproject will lead to the achievement of the policy's objectives by employing local consultants and contractors as part of capacity building strategy.

3.4.5 Human Settlement Development Policy 2000

The policy defines Human settlement as not simply housing, merely the physical structure of the city town or village but an integrated combination of all human activity processes including residence, education, health, work, culture, leisure and the physical structure that support them.

One of the key objectives of the policy in section 3.2(ii) is to promote level of provision of infrastructure and social services for sustainable human settlement development and (iii) to facilitate level of employment opportunities and eradication of poverty. The policy states that Infrastructure and services constitute the backbone of urban economies and economic activities. Therefore all-weather roads for efficient transport are essential for increased productivity and the establishment of manufacturing industries. Lack safe and clean environment for terminal results in poor environmental conditions.

The proposed Bus Terminal will provide efficient year round business to traders. This will stimulate

development of trade and increase accessibility to other economic areas.

3.4.6 National Water Policy 2002

One of the key objective of water policy in subsection 4.1.1 is to have in place fair and equal procedures in access to and allocation of water resources so that all social and economic activities are able to maximize their capacities; subsection 4.1.2 to have criteria for prioritization of water allocations so as to ensure that socio-economic activities and the environment receive their adequate share of the water resources on the basis of its availability, and to enable the sectors increase productivity and to mitigate conflicts.

Section 2 of this Policy explains that water is a basic natural resource for sustenance of life and for socio- economic development. Many social and economic activities rely heavily on availability of adequate supply of fresh water. As a sink, water sources are used as receptors for wastewater discharges from industrial, municipal and agricultural sources. Deliberate efforts are, therefore, needed towards protection and sustaining the resource and to ensure that it is used efficiently and effectively for the benefit of the present and future generation.

Chapter 4 of this policy dictates that all water abstractions and effluent discharges into water bodies shall be subject to a "water use permit" or "discharge permit" to be issued for a specific duration. Water use permits shall be issued only for a determined beneficial water use. Procedures, criteria and guidelines for issuing of the permits will be prepared and operationalized.

The construction activities of proposed Bus Terminal and Commuters' Bus Stand subproject will use water from different surface water sources and a water use/abstraction permit from the Lake Rukwa Basin Water Basin under the Ministry of Water shall be applied for. However, the contractor will be issued with a temporary water use permit as well as wastewater discharge permit where necessary.

3.4.7 HIV/AIDS Policy 2001

HIV/AIDS is a major National crisis that affects all sectors at all levels. Therefore one of the main objectives of the policy is to prevent transmission of HIV/AIDS through various strategies such as section

3.2 (a) i) to create and sustain an increased awareness of HIV/AIDS through targeted advocacy, information, education, and communication for behaviour change at all levels by all sectors. This hinges on effective community involvement and empowerment to develop appropriate approaches in prevention of HIV Infection, care and support to those infected and affected by the epidemic including widows and orphans.

The policy emphasizes a coordinated and effective multi sectoral approach towards curbing this epidemic and to mobilize adequate financial resources for HIV/AIDS activities, and calls forth for every sector to budget, raise funds and mobilize material and human resources for its own HIV/AIDS prevention and control activities.

HIV/AIDS awareness and education will be provided by the contractor to the workers and communities. The contractor shall be responsible for provision of free condoms to construction workers and voluntary HIV testing to both communities and workers

3.4.8 National Mineral Policy 2009

The Mineral Policy seeks to address the challenges of the mineral sector and increase the mineral sector's contribution to the GDP and alleviate poverty by integrating the mining industry with the rest of the economy.

One of the key policy objectives of the Policy in section 4.0 (a) is to improve the economic environment in order to attract and sustain local and international private investment in the mineral sector; Efficient and reliable infrastructure facilities such as Bus terminal and commuter bus stand accelerate commissioning of new mining projects and increase profits to be taxed by the Government. The policy emphasizes in section 5.1(ii) that the Government in its own or in collaboration with the private sector will provide reliable infrastructure to service the mining industry where feasible.
The proposed Bus Terminal and Commuters' Bus Stand will lead to the achievement of the objectives of the mining policy by constructing new terminal which promotes good economic environment for the development of mining sector. Either, the project is expected to use locally available sources for sand, gravel, aggregates e.t.c as part of implementation of policy's objectives.

3.4.9 National Gender Development Policy 2000

The main objective of the Policy in section 12 is to create an enabling environment for women and men to fulfil their roles in society based on gender needs. Also, this policy aims at balancing the gaps in women's participation in development activities. The policy enables Tanzanian women to participate effectively and efficiently in identifying their potential and identifying problems and resolving them by using available resources to supplement their income and alleviate poverty as a whole and bring a better life. This includes the ability to make decisions in various areas of implementation. The policy has taken into account that in achieving those goal men must fulfil their roles in our communities and thus engage with women in various social and economic roles.

The policy dictates in section 34 that in order for both women and men to be involved, to ensure that the contribution of women and men to the development of the nation is recognized and appreciated and to ensure both men and women actively participate in development projects.

The Proposed Bus Terminal and Commuters' Bus Stand subproject complement the objectives of this policy by ensuring that both men and women are involved during planning, construction and operation for success of the proposed subprojects

3.4.10 National Transport Policy 2011

The vision of the policy is to have efficient and cost-effective domestic and international transport services to all segments of the population and sectors of the national economy with maximum safety and minimum environmental degradation.

And the mission is to develop safe, reliable, effective, efficient and fully integrated transport Infrastructure and Operations which will best meet the needs of travel and transport at improving levels of Service at lower costs in a manner, which supports government strategies for, socio-economic Development whilst being economically and environmentally sustainable.

The proposed Bus Terminal and Commuters' Bus Stand subproject is in line with the policy's vision and mission since it will provide service to the urban population of Mbeya city, the Bus Terminal and Commuters' Bus Stand subproject shall facilitate economic boost along the project areas through provision of reliable and timely transportation people for goods and social welfare.

3.4.11 National Population Policy 2006

Among the Policy Objectives is: To harmonize population and economic growth and among the Policy Direction is to Enhance awareness to the leaders and communities about the linkages between population, resources, the environment, poverty eradication and sustainable development.
The proposed Bus Terminal and Commuters' Bus Stand project are in line with the policy's objectives and direction. The population along the Terminal will benefit economically from the upgrading of the Bus Terminal and Commuters' Bus Stand channels that will provide conducive environment for economic growth even during rain seasons.

3.4.12 The National Investment Promotion Policy, 1996

The National Investment Promotion Policy encourages protection of environment in line with the countries socio-economic policies. Under the policy, investors are required to undertake activities in a manner that best contributes to consumer and environmental protection. The investors are also encouraged to use local raw materials/components where possible.

The Proposed Bus Terminal and Commuters' Bus Stand subproject will lead to the achievement of the policy's objectives and ensures compliance with the development as far as environmental protection is concerned. The project design has taken care of use of local materials to support socio economic development within the area

3.4.13 The National Cultural Policy (1997)

The policy framework for culture in Tanzania includes the rather broad general Cultural Policy dating back to 1997, which covers heritage, arts and craft and other cultural sectors of activity. The National Strategy for Growth and Reduction of Poverty for Tanzania, MKUKUTA II, recognize the importance of culture in the national development strategy. Its Goal 5 indicates that "National culture and identity are at the heart of development policy". The results targeted within this goal are:

- Social cohesion, belonging, and national identity promoted and enhanced;
- Attitude toward hard working, self-confidence, and self-esteem, creativity, innovation and Moral integrity promoted and enhanced;
- Culture and heritage of the country preserved and promoted; and
- Principles of cultural diversity and inter-cultural dialogue upheld.

During implementation of the Bus Terminal and Commuters' Bus Stand subproject cultural values in all areas should be respected by construction contractors.

3.4.14 The Energy Policy of Tanzania (URT, 2015)

This policy outlines measures to adopt clean technology and minimize pollution in developing Tanzania's energy sector. It focuses on utilization of various energy resources among others include water, gas, coal, petroleum and wind in a sustainable and environmentally friendly manner. The policy states that energy is a prerequisite for the proper functioning of nearly all sub-sectors of the economy. It is an essential service whose availability and quality can determine the success or failure of development endeavours.

The policy objectives are to ensure availability of reliable and affordable energy supplies and their use in a rational and sustainable manner. The proponent will abide this policy by ensuring energy is used wisely and the use of energy saver equipment such as light bulbs, refrigerators and others appliances.

3.4.15 Tanzania Development Vision (2025)

The National Vision 2025 foresees the alleviation of widespread poverty through improved socio-economic opportunities, good governance, transparency and improved public sector performance. These objectives not only deal with economic issues, but also include social challenges such as education, health, the environment and increasing involvement of the people in working for their own development. The thrust of these objectives is to attain a sustainable development of the people.

Through implementation of the proposed Bus Terminal and Commuters' Bus Stand subproject, under TACTIC, the GoT through PO-RALG will contribute towards realisation of the Vision's objectives by making conducive environment for all passengers on achieving their goals

3.4.16 The National Strategy for Growth and Reduction of Poverty (NSGRP) II (2015)

The NSGRP-II paper recognizes that reliable infrastructure such as u Bus Terminal and Commuters' Bus Stand subproject is critical for the attainment of the NSGRP II which was launched in 2010 and Sustainable Development Goals which were laid down by the United Nations in 2015. These SDGs are such as Goal No.1 to end poverty, Goal No. 2 on zero hunger, Goal No. 3. to ensure Health life and promote wellbeing for all at all ages, Goal No. 5 on Gender equality and Goal No. 9 on Industry, Innovation and Infrastructure which fosters the importance to build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation.

The TACTIC project will focus in the reduction of poverty for both men and women and address issues of gender discrimination and GBV. Once the Bus Terminal and Commuters' Bus Stand subproject have been constructed, various activities such as transportation of agricultural products and urban irrigation will be enhanced thereby increasing employment and revenues and eventually improving livelihoods. The NSGRP also recognizes the role of other sectors in poverty eradication and the need for mainstreaming environment as one of the crosscutting issues in the sector.

3.4.17 The National Climate Change Strategy (NCCS) - 2012

The goal of this Strategy is to enable Tanzania to effectively adapt to and participate in global efforts to mitigate to climate change with a view to achieving sustainable economic growth in the context of the Tanzania's national development blueprint, Vision 2025; Five Years National Development plan; and national cross sectoral policies.

To achieve the stated goal, the following specific objectives have been set.

- To build the capacity of Tanzania to adapt to climate change impacts.
- To enhance resilience of ecosystems to the challenges posed by climate change.
- To enable accessibility and utilization of the available climate change opportunities.
- To enhance participation in climate change mitigation activities that lead to sustainable development.
- To enhance public awareness on climate change.
- To strengthen information management on climate change.
- To enhance institutional arrangements to adequately address climate change and
- To enhance mobilization of resources in particular finance to address climate change.

Design and implementation of Bus Terminal and Commuters' Bus Stand subproject shall include climate change adaptation measures for infrastructural resilience to climate change.

3.5 Legal Framework

3.5.1 Environmental Management Act (2004) as amended in 2016 and 2021

One of the key objectives of this Act in the provisions of Part II, section 7(1) is to provide for and promote the enhancement, protection, conservation and management of the environment. In order to To attain the objective of this Act several principles should be observed including subsection (3) e) Public participation principle which requires the involvement of people in development project policies, plans, and processes for the management of the environment. Subsection (3) h) the generation of wastes be minimized, wherever practicable wastes should in order of priority be reused, re-cycled, recovered and disposed safely in a manner that avoids creating adverse effect or if this is not practicable is least likely to cause adverse effects. The proposed Construction of Bus Terminal and Commuters' Bus Stand will comply with the objective of this Act by ensuring effective implementation of the Environmental Management Plan including public participation in project development and waste management plan in each phase of the project development.

The provisions of Part V section 60(1) requires that an applicant for water use permit issued under relevant laws governing management of water resources, abstraction and use of water shall be required to make a statement on the likely impact on the environment due to the use of water requested.

The provisions of Part VI section 81(1) requires that any person being a proponent or a developer of the project or undertaking of any type specified in the third schedule of this act to which environmental Impact Assessment is required to be made by the law governing such project or undertaking or in the absence of such law by regulation made by the minister shall undertake or cause to be undertaken at his own cost environmental Impact Assessment study.

The proposed Bus Terminal and Commuters' Bus Stand subproject are listed as the project which requires EIA in the third schedule section 3 of this Act. The project complies with the provisions of this section by conducting EIA prior to project design and execution.

The provisions Part VI section 83(1) require that Environmental Impact Assessment shall be carried out by experts or firms of experts whose names are registered as such by the council. The projects Complies with the provisions of this section by ensuring that the Construction of Bus Terminal and Commuters' Bus Stand, EIA has been conducted by registered experts under a registered firm of experts known as Norplan (T) Limited

The provisions of Part VIII, section 106(6) dictates that, it shall be an offense for any person to discharge a contaminant or to emit noise without taking practicable measures prescribed in the regulation. The Bus Terminal and Commuters' Bus Stand subproject will comply with the provision of this section by ensuring that all wastes generated during execution of the project are collected re-used or disposed as required by the law and as recommended in the Environmental Management Plan.

Subject to the provisions of section 110(2) which requires that a person who discharges any hazardous substances, chemical oil or mixture containing oil in any water or any other segment of the environment commits an offense. And (4) it will be the duty of every organization producing, transporting, trading, storing and disposing of such wastes.

The proposed subprojects will comply with the provisions of this section by ensuring proper management of hazardous substances, chemicals and oils as recommended in the Environmental Management Plan.

3.5.2 Water Resources Management Act No 11 of (2009)

The Act provides a description of the water resource management framework in Tanzania including roles and responsibilities of every actor and related stakeholders. One of the Key objectives of this Act in Part II section 4 (1) is to ensure that the nation's water resources are protected, used, developed, conserved, managed and controlled in ways which take into account the fundamental principles of sustainability including subsection (h) preventing and controlling pollution and degradation of water resources. The proposed Bus Terminal and Commuters' Bus Stand subproject will adhere to the objective of this Act by ensuring that water sources are protected from pollution during construction.

The provision of Part VI, section 39(1) requires that the owner or occupier of land on which any activity or process is performed which is likely to cause pollution of a water source, shall take all reasonable measures to prevent any such pollution from occurring, continuing or recurring. The proposed Bus Terminal and Commuters' Bus project will comply with this Act by adhering to proper waste management practices during Construction of Bus Terminal and Commuters' Bus Stand construction activities.

The provision of Part VII, section 43(1) requires that any person who diverts, dams, stores, abstracts or uses water from surface or underground water source, or for any such purpose constructs or maintains any works, shall apply for a Water Use Permit in accordance with this Act. And subject to section 45(2) The Basin Water Board may grant the applicant a temporary Water Use Permit for any purpose under such conditions as may be deemed fit. In addition to section 48 (b) as the user of water use permit granted under this Act you are required to prevent any damage to the source from which water is taken, or to which water is discharged after use

The Bus Terminal and Commuters' Bus Stand subproject will comply with this Act, water will be obtained from streams and river which shall require water use permit to be granted under requirement of this Act and ensures conservation of its water sources within or near the project site during construction phase.

The provisions of Part VIID, section 63(1) requires that a person who wishes to discharge effluents from any commercial, industrial or agricultural source or from any sewerage works or trade waste systems or from any other source into surface water or underground strata shall apply to the Basin Water Board for a Discharge Permit in accordance with this Act.

The Proposed Bus Terminal and Commuters' Bus Stand subproject shall comply with this Act by obtaining water abstraction permit; drilling permit and discharge permit as required by this provision so as to ensure water abstraction from sources and liquid waste are well managed.

3.5.3 Occupational Health and Safety Act (2003)

This act provides guidance on the health and safety administrative system and responsibilities of every actor, requirements and procedures for registration of workplaces, safety provision, health and welfare provisions, safety special provision, hazardous material and processes, chemical handling provisions, offenses, penalties and legal proceedings.
The provisions of Part III, section 15 requires that there shall be a register of workplace in which inspector shall enter such particulars in relation to every work place

The provisions of Part IV section 24, requires that all employees will be provided periodic

occupational medical examination carried out by a qualified occupational health physician for fitness for employment and all the expenses and prescribed fee will be paid by the employer.

Also subject to the provisions of Part IV, section 50(1)a), the employer shall ensure that the workplace is equipped with fire extinguishers which shall be adequate and suitable having regard to fire risks; and paragraph (b) stocks of inflammable materials should be kept in a safe place

The proposed subproject will comply with the provisions of part IV of this Act by ensuring that all protection needed for safety of employees are provided as required.

The provisions of Part V, section 54(1), requires that the employer shall ensure supply of safe and clean drinking water that is readily accessible to all employees;
The Proposed Bus Terminal and Commuters' Bus Stand project will comply with the provisions of Part V of this Act by ensuring that all requirements are met including providing clean drinking water and hygiene services.

The provisions of Part X, section 89(1) requires that there should be posted an abstract of this Act at work place and any other notice and document required by this Act in both Kiswahili and English. Subject to section 103 requires that no employer shall dismiss an employee, reduce rate of his remuneration, alter terms or his employment or position to his advantages by the reason of the fact or because he suspects or believes whether or not the suspicion is justified or not, However in subsection (2) the employer may terminate the employment of employee if is unable to work for reasons of health condition.

The proposed Bus Terminal and Commuters' Bus Stand subproject will comply with the provisions of part X of this Act by ensuring that all safety rules are posted and understood by construction workers, safety policies are developed and implemented, employment rights are observed and Health and Safety protection measures are adhered to

3.5.4 HIV and AIDS (Prevention and Control) Act No. 28/08 (2008)

The HIV and AIDS Act gives provision of general duties by specifying general responsibilities of every actor, emphasize on provision of public education and programs on HIV and AIDS, testing and counselling, confidentiality, health and support services, stigma and discrimination, rights and obligations of persons living with HIV and offences and penalties.

The provisions of Part II, section 4(1) a) requires that Every person, institution and organization living, registered or operating in Tanzania shall, be under the general duty to promote public awareness on causes, modes of transmission, consequences, prevention and control of HIV and AIDS; also subsection (2) a) and b) integrate or priorities on HIV and AIDS in their proceedings and public appearances; and advocate against stigma and discrimination of people living with HIV and AIDS. The proposed project will comply with the provisions of this Act by ensuring that HIV and AIDS awareness and education is provided to workers and all people living along the terminal where the project is taking place.

Subject to the provisions of section 6 (1) that every ministry, department, agency, local government authority, parastatal organization, institution whether public or private, shall design and implement gender and disability responsive HIV and AIDS plans in its respective area and such plans shall be mainstreamed and implemented within the activities of such sector. Subject to subsection (4) every

sector preparing a plan or programme under this section shall before implementation of such plan or programme, submit them to TACAIDS for coordination and advice.

HIV/AIDS awareness and education will be provided by the contractor to the workers and communities. The contractor shall be responsible for provision of free condoms to construction workers and voluntary HIV testing to both communities and workers.

3.5.5 Local Government Laws (Miscellaneous Amendments), No. 13 (2006)

The local government Laws (Miscellaneous Amendments) provides amendments of local government (district authorities) Act, amendment of local government Act (urban authorities), amendment of local government (elections Act), amendment of the regional administration Act. The law has specified roles and responsibilities of every authority and related stakeholders.

The provisions of Part II, section 2, of this Act gives instructions that this part shall read as one with the Local Government (District Authorities) Act, in this Part referred to as the "principal Act".The principal Act is amended in section 54A (a) in Part III, section 20 (h)of this Act requires to provide and secure enabling environment for successful performance of the duties of the urban authority; paragraph (i) ensure compliance by all persons and urban authorities with appropriate government decisions, guidelines in relation to the promotion of the local government system; and paragraph (j) do such acts and things as shall facilitate or secure the effective, efficient and lawful execution by the urban authorities of the statutory or incidental duties."

Proposed Bus Terminal and Commuters' Bus Stand subproject Subprojects will comply with the provisions of this Act by ensuring consultation with all levels of local government, including Mbeya city council, ward executive officers and Mtaa executive officers to promote the local government system

3.5.6 Public Health Act of 2008

An Act provide for the promotion, preservation and maintenance of public health with the view to ensuring the provision of comprehensive, functional and sustainable public health services to the general public and to provide for other related matters. Section 54 of this law states that *"A person shall not cause or suffer from nuisance, likely to be injurious or dangerous to health, existing on land, premises, air or water".*

Therefore GoT through PO-RALG shall ensure the communities are protected and their health are not impacted by project's activities during both construction and operation phases.

3.5.7 Land Act Cap 113 of 2019

This Act has provided general amendments of the Land Act of 1999 by adding section 2 which identifies a "sale" be used as transfer of interest in or over land on condition attached to a granted right of occupancy. Section 19 requires that a person who is in a corporate body or company made under company ordinance including a corporate body the majority of whose shareholders or owners are non-citizens, may only be offered the right of occupancy approved by Tanzania Investment Act 1997 to facilitate compliance with development. Section 20 which clarifies that land acquired by non-citizen will have no value except shall be paid compensation on unexhausted improvement. Section 37 explains the sale of right of occupancy and repeal and substation of part X that gives guidance on mortgage, Mortgage right of occupancy, lease, sublease and subsequent mortgage. And also explains rights and responsibility of all actors and stakeholders including mortgagor and mortgagee.

The Proposed Central Bus Terminal and Commuters' Bus Stand subproject will use the land that is owned by Mbeya City Council and earmarked on the Master plan for old airport redevelopment; hence there won't be any land acquisition to this subproject.

3.5.8 Land Acquisition Act Cap 118 2019

The act offers clarification on the power of the president to acquire land in the public interest or national economy, compensation on land acquired and related conditions, notice and proceedings where the land is withheld and declaration of right of occupancy.

The provision of part II, section 3 clarifies that the President may, subject to the provisions of this Act, acquire any land for any estate or term where such land is required for any public purpose. Subject to paragraph (a) subsection (1) section 5 which clarifies that as seen fit by the president that land in certain locally should be examined for the view to its possible acquisition for public interest then workmen authorized by the minister in his behalf are then allowed to enter the land for survey and paragraph (d) to clear, set out and mark the boundaries of the land proposed to be taken and the intended line of the work proposed.

Subject to subsection (2) that as soon as conveniently may be after any entry made under subsection (1), the Government shall pay for all damage done in consequence of the exercise of any of the powers conferred by subsection (1), and, in the case of a dispute as to the amount to be paid, either the Minister or the person claiming compensation may refer such dispute to the Regional Commissioner for the region in which the land is situate and the decision of the Regional Commissioner shall be final.

The provisions of part II (b), section 11 subsection (1) required that, where any land is acquired by the President under section 3 the Minister shall on behalf of the Government pay in respect thereof, out of moneys provided for the purpose by Parliament, such compensation as may be agreed upon or determined in accordance with the provisions of this Act. Section 12(2) whether such land is in an urban area or in a rural area, any compensation awarded shall be limited to the value of the unexhausted improvements of the land.

Also subject to the provisions of paragraph (a-d) section 30 clarifies that it shall be lawful for the President to require any corporation to which land has been declared for use to enter a contract with the Government with regard to payment of compensation cost of acquired land, terms of land use, time of land to be used and terms to which the public will be entitled to use and benefit from the work done by corporation.

The provisions of section36, subsection (1) requires that the minister will grant development proponent a right of occupancy over the land for proposed project, the provision of section 37(3) requires that the development proponent make full disclosure of all trust and other referred interests on the land in a specified time without which or by falsifying the statement shall be convicted. Section 38(1) and (2) specify that no fees or stamp duty shall be paid under land ordinance for such granted right of occupancy on the first registration.

The Proposed Central Bus Terminal and Commuters' Bus Stand project will use the land that is owned by Mbeya City Council and earmarked on the Master plan for old airport redevelopment; hence there won't be any land acquisition to the Subproject

3.5.9 Contractors Registration Act (2003)

This Act provides general provisions on roles and responsibility of contractor's Board and every other related actor, gives guidance on registration procedures and necessary conditions.
The provisions of section 7 subsection (1) part III, states that the Registrar shall keep and maintain registers of contractors of different types, categories and classes in which the name of every person entitled to have his name in them as a registered contractor. Subject to this is subsection (6) in the case of an individual, the qualifications and skills as prescribed by the Board necessary to enable him to discharge in satisfactory manner the obligations which he may reasonably be expected or called upon to undertake as a contractor belonging to the category, type and class in respect of which registration is being sought.

The provision of section 10(3) requires that upon registration, the person shall be issued with a certificate of registration indicating the registration number, type, and category, and class, date of registration and duration of registration. Subject to this provision is section 32b) which gives warning that any fraudulently procures or attempts to procure, whether for himself or for any other person, registration as a contractor or a trading license for a contractor; or commits an offense.

The proposed Central Bus Terminal and Commuters' Bus Stand subproject will ensure compliance with the provisions of this Act by employing contractors that are registered following the procedures underlined by this Act and with relevant certificates of registration

3.5.10 Engineers Registration Act 1997 (Amendments 2007)

This Act provides general Amendments of engineers' registration Act of 1997 by deleting and substituting new paragraphs, sections and subsections including redefining engineering projects, organizations, institutions, registered engineers and firms. Also clarify the responsibility of the Board, engineers and firms' registration procedures and conditions as well as adding substitutions to help engineers graduate and technicians to get opportunities of being linked to employers and learning.

The provision of subsection 7; the principal Act is amended by adding immediately after section 12 the new section 12A (1) every professional engineer or consulting engineer who has been registered under this Act, shall in addition to such registration possess a practicing certificate. Subject to subsection (3) a person who practices engineering activities without valid practicing certificate, commits an offense and can be convicted

Provision of subsection 9; Section 14 of the principal Act is amended in paragraph (a) by deleting subsection (1) and substituting for subsection (1) which requires that a person shall not employ as an engineer any person who is not a professional engineer or consulting engineer, or cause to undertake engineering works or services without employing the services of a professional engineer or consulting engineer. Subject to subsection (5) where an employer employs any person as a trainer engineer or incorporated engineer, this section shall not apply to that employee's employer.

The Proposed subproject under TACTIC project has employed Norplan Limited, a registered Engineering Consulting Firm to conduct studies and design of this infrastructure.

3.5.11 Employment and Labor Relations Act (2004)

This Act gives provisions for fundamental rights of employees including child labor, forced labor discrimination and freedom of association; Employment standards including hours, remuneration,

leave and unfair termination of employment; Trade unions, employer association and federation; Organizational rights; collective bargaining; strikes and lock outs and dispute resolutions.

The provision of Part II subpart A, section 5 (1)requires that no person shall employ a child under the age of fourteen years, and subsection (2) a child under eighteen should not be employed in a workplace considered hazardous. Also subject to Subpart B section 6(1) which clarifies that any person who procures, demands or imposes forced labor, commits an offense. Subpart C, subsection 7(2) requires that an employer shall register, with the Labour Commissioner, a plan to promote equal opportunity and to eliminate discrimination in the work place. And Subpart D section 9 (1) a) every employee shall have the right to form and join a trade union; and section 10(1) a) every employer shall have the right to form and join an employer's association;

The provisions of Part III, subpart A, section 14(1) requires that a contract with an employee shall be of the specified period of time and task. Section 15(1) requires that an employer shall provide an employee with a written statement of particulars and a statement of employee's right in a prescribed form. Subpart B, section 19(1), (3) and (5) requires that an employer shall not require or permit an employee to work more than 12 hours in any day or work overtime unless with agreement and be paid not less than one and one half times the employee's basic wage for any overtime worked. Section 20 (2) (a)and (b) requires that pregnant employees should not work night shift 2months before their due date as well as nursing mothers 2months after birth; subsection (4) an employer shall pay an employee at least 5% of that employee's basic wage for each hour worked at night as an overtime. Section 21(1) and 24(1) dictates that employees shall be given a 60 minutes break in a working day and a day off for rest and 24 hours rest a week. Subpart C section 26(1) and 28(1) a) requires calculation of wage rates applicable hourly, daily, weekly or monthly rate of pay, no deduction shall be made unless agreed by the employee for respect of debt. Subpart D section 31 (1) and (4) an employee should be given leave with paid remuneration as if he was working. Section 32(1) requires that an employee shall be entitled to sick leave and section 33(1) three months maternity leave. And Subpart E, section 37(1) it shall be unlawful for an unfair termination of an employee.

The provisions of Part IV, section 45 (1) Employer shall register into a trade union or employers' association. Part V, section 61(1) an employer shall deduct dues of a registered trade union from an employee's wages if that employee has authorized the employer to do so in the prescribed form. Section 67 (1) recognition as exclusive bargaining agent of employees and section 68(1) an employer or employers Association shall bargain in good faith with a recognized trade union.

The proposed subprojects under TACTIC will employ approximately 150 -200 direct employment, notwithstanding the provisions of this Act, the project will comply with the provisions of this Act by ensuring that all the requirements, restriction and rights of employees are respected and guided as underlined by this Act.

3.5.12 Urban Planning Act (2007)

This Act provides the provisions of fundamental principles of urban planning, institutional framework and responsibilities of every actor, the planning processes, land acquisition and compensation and supplementary planning power.

The provisions of Part II section 3a) states that with a view to giving effect to the fundamental principles of the National Land Policy and the Human Settlements Development Policy, all persons and authorities exercising powers, applying or interpreting the provisions of this Act shall be under the

duty to improve the level of the provision of infrastructure and social services for sustainable human settlements development.

Provision of part IV, section 29(I) requires that no person shall develop any land within a planning area without planning consent granted by the planning authority or otherwise than in accordance with planning consent and any conditions specified. Subject to the provision of subsection (3) that Where in connection with an application for planning consent to develop land and subject to any other relevant law, the planning authority is of the opinion that proposals for industrial location, dumping sites, sewerage treatment, quarries or any other development activity shall have injurious impact on the environment, the applicant shall be required to submit together with the application of an environmental impact assessment report.

The provisions of Part IV, section 52(1) requires that no person shall carry out a development on a conservation area without consent of the planning authority. Subject to the provision of part V, section 63(2) that in giving planning consent under the provisions of this Act to the temporary development of any land within a planning area, the planning authority concerned may give such planning consent on the condition that the value of such temporary development shall not be taken into account for the purposes of assessing any compensation payable to the landholder of such land and, in such case the value of any temporary development shall not be taken into account for the purpose of assessing compensation payable. Subject to section 64(1), However if land is injuriously affected by the coming into operation of the development project compensation will be done, and section 67 that the compensation under this section shall be paid as provided for under the Land Act and the Village Land Act.

Proposed Central Bus Terminal and Commuters' Bus Stand Subproject will ensure to comply with the provisions of this Act by consulting planning authority for fulfilment of all required procedures, has conducted Environmental Impact Assessment and the report will be submitted to the authority, will also ensure compensations are paid at rates required by this Act

3.5.13 The Workers Compensation CAPS 263 R.E 2015.0

This Act provides general provisions for rights for workers to compensate for occupational accidents and diseases. It includes workers compensation funds, board of trustees and its responsibility, right of compensation and protection, claims for compensations and relevant procedures, determination of compensation including medical and rehabilitation benefits and the roles and responsibilities of an employer to ensure workers compensations and settling of disputes.

The provisions of Part I section 3 provides the objectives of this Act including Paragraph (a) to provide for adequate and equitable compensation for employees who suffer occupational injuries or contract occupational diseases arising out of and in the course of their employment and in the case of death, for their dependents.

The provision of Part IV section 19 (1) requires that where an employee has an accident resulting in the employee's disability or death, the employee or the dependents of the employee shall, subject to the provisions of this Act, be entitled to the compensation provided under this Act. Subject to section 20 that any accident during the conveyance of an employee to or from his place of employment for the purpose of his employment by any means of conveyance shall be compensated. Also subject to provisions of section 22 (1) Where an employee contracts a disease and the disease has arisen out of and in the course of the employee's employment, the employee shall be compensated

Subject to the provision of Part VI section 58 (I) the manner in which calculation for compensation shall be done will be through calculating the earnings of an employee in the monthly rate at which the employee was being remunerated by the employer at the time immediately before the accident.

Provisions of Part VIII section 71 (1) requires that an employer carrying on business in Tanzania within the prescribed period shall register to the Director General in the prescribed form and shall submit prescribed particulars as he may require, and section (4)that failure to do that will result in conviction. Subject to the provision of this section 74 that employer will be assessed by the Director General according to a tariff of assessment calculated on the basis of the percentage of annual earnings of the employer's employees as the Board may with due regard to the requirements of the Fund for the year of assessment deemed necessary.

Provision of section 76(1) requires that where a mandatory in the course of or for the purposes of his business enters into an agreement with a contractor for the execution by or under the supervision of the contractor of the whole or any part of any work undertaken by the mandatory, the contractor shall, in respect of the employees of the contractor employed in the execution of the work, register as an employer in accordance with the provisions of this Act and pay the necessary assessment.
The provision of section 78 requires that an employer or the relevant trade union shall notify any employee who is injured in an accident or who contracts an occupational disease of his rights and the procedures to be followed in order to claim compensation under this Act.

Proposed Bus Terminal and Commuters' Bus Stand subproject under TACTIC will ensure compliance with the requirements of this Act by ensuring that the contractor for project execution will register as an employer and pay the necessary assessment fees as required by this Act. Also, throughout project execution, employees' rights as regard to compensation in case of occupational accidents or disease will be done according to the provision of this Act

3.5.14 The Sexual Offenses Special Provisions Act 1998

An Act provide special provisions in regard to sexual and other offences to further safeguard the personal integrity, dignity, liberty and security of women and children.
The provision of Section 138D subsection (3) requires that for the avoidance of doubt, unwelcome sexual advances by words or action used by a person in authority, in a working place or any other place, shall constitute the offence of sexual harassment.

Central Bus Terminal and Commuters' Bus Stand Subproject under TACTIC will ensure compliance with the provisions of this Act by ensuring that sexual harassment offenses are translated at work place for every employee to know their rights

3.5.15 Law of Marriage Act, CAP 29 2019

This Act provides the general provisions of Marriage, marriage registration, annulments and divorces and evidence of property, rights, liabilities and status marriage as well as matrimonial proceedings and offenses.

Proposed Central Bus Terminal and Commuters' Bus Stand Subproject under TACTIC will ensure compliance with this Act by respecting marriage, employees will be required to respect their marital status and of others. In addition to this, employees and the public will be offered regular HIV and AIDS and gender education and awareness

3.5.16 Law of the Child Act CAP 13 2019,

This Act provides general provisions of rights and welfare of the child including care and protection of a child's conditions. Also clarifies responsibilities of different actors including parents in ensuring the rights of a child whether at home, foster home, school, institutionalized care, and workplace or in custody.

The provision of part VII, Section 88, states the minimum age at which a child may commence an apprenticeship with a craftsman shall be fourteen years or after completion of primary school education

The provision of Part II section 12 requires that a person shall not employ or engage a child in any activity that may be harmful to his health, education, mental, physical or moral development.

The provisions of Part VII, section 78(1) a person shall not employ or engage a child in any kind of exploitative labor. Subject to the provision of subsection (2) that every employer shall ensure that every child lawfully employed or engaged in accordance with the provisions of this Act is protected against any discrimination or acts which may have negative effect on him taking into consideration his age and evolving capacities. In addition to section 79(1) the child shall not be employed or engaged in a contract of the service performance which shall require a child to work at night. And subject to provision of section 81 (1) a child has a right to be paid remuneration equal to the value of the work done.

Proposed Central Bus Terminal and Commuters' Bus Stand Subproject under TACTIC will comply with the provisions of this Act by ensuring no child is employed, not involve child labour or impose a forced child labour in any phase of project execution

3.5.17 Land Use Planning Act (2007)

45. – (1) An approved plan published under section 38 shall apply to the area or zone to which it relates, whether or not it is embodied in a local government authority by-law, and every person, agency or the relevant planning authority shall comply with the requirements of the approved plan.

(2) Upon approval of the plan and, unless the planning authority otherwise determines, no development shall take place on land unless it is in conformity with the approved plan.

47. – (1) Any landholder or occupier of land shall take all steps necessary to ensure voluntary compliance with the aspects of an approved plan that are relevant to activities carried out on the land he holds or occupies.

Part VII section 48(I) of the Act also stipulates that "Where it comes to the notice of planning authority that the development of land has been, or is being carried out after the commencement of the Act, otherwise than in accordance with applicable land use plan, the planning authority may serve an enforcement notice to the owner, occupier or developer of that land.

The proposed site for Bus Terminal and Commuters' Bus Stand is compatible with the current land use master plan of the area.

3.5.18 The Environmental Management (Hazardous Control and Management) Regulation 2021

The construction contractor shall abide to all hazardous waste control measures by ensuring all hazardous waste during construction phase are managed as per the Hazardous waste management guidelines and operation phase of the project all vehicles will be provided with hazardous waste management guidelines to ensure no waste oil is discharged in proper ways..

3.5.19 The Employment and Labor Relations Act Cap 366 R.E 2019.

The Act makes provisions for core labor rights, establishes basic employment standards, provides a framework for collective bargaining and provides for the prevention and settlement of disputes and provides.

Section 5(1)(2)(3) provides for the age classification of child labor and type of work to be employed without prejudicing his/her social development. Also Section 7(1) provides for the details on conditions of a good and reliable employment environment.

Therefore, the construction contractors of Proposed Bus Terminal and Commuters' Bus Stand under TACTIC will adhere to this law by not employing minor or by employing skilled personnel in areas where there is a need of having skilled personnel and by observing all rights of employees are observed.

3.5.20 The Environmental Management (Standards for the Control of Noise and Vibration Pollution) Regulations, 2014.

The Regulation enforce the control of noise and vibration level on the facility Regulation 7 (1) provides that Except as otherwise provided in these Regulations, no person shall make or cause to be made any loud, unreasonable, unnecessary or unusual noise that annoys, disturbs, injures or endangers comfort, repose, health or safety of others and that of the environment.

Regulation 8(1) except as otherwise provided in these Regulations, no person shall (a) make cause to be made excessive vibrations which annoy, disturb, injure or endanger the comfort, repose, health or safety of others and the environment or (b) Cause to be made excessive vibrations which exceed 0.5 centimetres per second beyond any source property boundary or 30 meters from any moving source.

3.5.21 The Environmental Management (Soil Quality Standards) Regulations, 2007.

Regulation 16 (1) prohibits soil pollution. It requires that no person shall discharge any hazardous substance, chemical, oil mixture containing oil on any soils except in accordance with what is prescribed under this regulation.
The contractors shall abide by this Regulation by the directives stipulated in this Regulation as it calls for the maintenance of prescribed soil quality standards and the monitoring and control of soil pollution.

3.5.22 The Environmental Management (Air Quality Standards) Regulations, 2007.

The purpose of regulation is to set baseline parameters on air quality and emission based on a number of practical considerations and acceptable limits, enforce minimum air quality standards prescribed by the committee and ensure protection of human health and environment from various sources of pollution. Regulation 8 prohibits the release of hazardous substances, chemical, gas or mixture containing gaseous and hazardous substances into the environment unless the emission or release is permitted under this regulation.

3.5.23 The Environmental Management (Water Quality Standards) Regulations, 2007.

The regulation provides for the protection human health and conservation of environment, enforce minimum water quality standards prescribed by the environmental standards, to enable the committee to determine water usage for purposes of establishing environmental quality standards and values for

each usage and to ensure all discharges take account the ability of the receiving waters to accommodate contaminants without detriment tom the uses specified for the water concerned.

Regulation 5(1) (a) provides for protection of water sources and ground water where by it states that "any person who knowingly put or permit to be put or to fall to be carried into any stream, so as either singly or in combination with other similar acts of the same nature or interference with its due flow pollute its water" Regulation 5 (1) (d) "pollutes water sources or interferes with soil and vegetation that protect water sources" commits an offense.

Therefore, contractor should abide by this Regulation by not discharging pollutants to or near water sources

3.5.24 The Environmental (Registration of Environmental Experts) Regulations, 2021

These regulations shall apply to all individual environmental experts and firms of environmental experts certified and registered under these Regulations. Regulation 14 to this regulation provides that "No person shall conduct an environmental impact assessment or carry out any activity relating to the conduct of an environmental impact study, or environmental audit as provided for under the Act, unless that person has been duly certified and registered in accordance with this regulation."
This ESIA has been undertaken by Norplan Limited, an Environmental Registered Firm of Expert by NEMC.

3.5.25 The Urban Planning (Planning Space Standards) Regulations, 2018

These regulations shall apply to all planning areas declared by the Minister under section 8 of the Act. The Regulations provides for the requirement of space in each projects where by the law require a proponent to consider the space standards of the area before construction and observe the requirement of the law. Whereby under the Schedule item 12 categories 12.3 provides for the required space standards for parking lots as indicated in the table below

12.3 Parking Lots

Type of car	Angle of parking	area
Buses and coaches	-	40–50m^2
Car parking	a) in line parking	25–30m^2
	b) in 45 degrees	20–30m^2
	c) in 90 degrees	20–25m^2

Therefore, PO-RALG will comply with this regulation by considering space standards required for the bus stand

3.5.26 The Environmental (Solid Waste Management) Regulations, 2009 as amended in 2016.

These Regulations apply to a matters pertaining to solid waste management, Where by Regulation 6 provides for the duty to safeguard the environment from adverse effects of solid waste which provides that "Every person living in Tanzania shall have stake and duty to safeguard the environment from the adverse effects of solid waste and to inform the relevant authority on any activity or phenomenon resulting from solid waste that is likely to adverse effect the public health and environment". Also under the first Schedule this provides for the types of solid waste and its management.

The contractor shall comply with this Regulation by making proper sorting of solid waste generated and disposed according to the requirement of Law through licensed waste collector

3.6 Administrative Framework

In general the key authority responsible for environmental protection and natural resources management is the Ministry of Natural Resources and the Environment through Division of Environment (DoE) and National Environment Management Council (NEMC). The Ministry is empowered by legislation which governs the use of the natural resources and environment. The Ministry is aided by other government ministries and local government authorities to safeguard the environment.

Below are relevant Institutions, their Roles and Responsibilities to the Proposed Central Bus Terminal and Commuters' Bus Stand Subproject.

3.6.1 National Environmental Authorities

The envisaged institutional framework for environmental management in the country includes the following levels of governance:

- The Minister responsible for the environment;
- National Environmental Advisory Committee
- The Office of the Director of Environment (DOE);
- Sector ministries and their environmental sections;
- Regional administrative secretariats (RASs); and
- Local government authorities (LGAs)are: city, municipal, district, township, ward, village, mtaa and kitongoji.

The Environmental Management Act of 2004 (EMA) contains detailed descriptions of roles and responsibilities. A brief overview is as follows: Minister Responsible for Environment

The Minister is responsible for matters relating to the environment, including giving policy guidelines necessary for the promotion, protection and sustainable management of the environment in Tanzania. The Minister approves an EIA and may delegate the power of approval for an EIA to the DOE, Local Government Authorities or Sector Ministries. The Minister also:

- Prescribes (in the regulations) the qualifications of persons who may conduct an EIA;
- Reviews NEMC reports on the approval of an EIA;
- Issues an EIA certificate for projects subject to an EIA;
- Suspends an EIA certificate in case of non-compliance

3.6.2 National Environmental Advisory Committee

The National Advisory Environmental Committee is composed of members with experience in various fields of environmental management in the public and private sector and in civil society. The committee advises the Minister on any matter related to environmental management. Other functions include:

- Examine any matter that may be referred to it by the Minister or any sector Ministry relating to the protection and management of the environment;
- Review and advise the Minister on any environmental plans, environmental impact assessment of major projects and activities for which an environmental impact review is necessary;
- Review the achievement by the NEMC of objectives, goals and targets set by the

Council and advise the Minister accordingly;
- Review and advise the Minister on any environmental standards, guidelines and regulations;
- Receive and deliberate on the reports from Sector Ministries regarding the protection and management of the environment;
- Perform other environmental advisory services to the Minister as may be necessary.

3.6.3 Division of Environment (DoE)

The functions of the Division of Environment include:

- Coordination of various environmental management activities undertaken by other agencies;
- Promotion of the integration of environmental considerations into development policies, plans, programmes, strategies, projects;
- Undertaking strategic environmental risk assessments with a view to ensuring the proper management and rational utilization of environmental resources on a sustainable basis for the improvement of quality of human life in Tanzania;
- Advise the Government on legislative and other measures for the management of the environment or the implementation of the relevant international environmental agreements in the field of environment;
- Monitoring and assessing activities undertaken by relevant Sector Ministries and agencies;
- Preparation and issuing of reports on the state of the environment in Tanzania through relevant agencies;
- Coordination of issues relating to articulation and implementation of environmental management aspects of other sector policies and the National Environment Policy

3.6.4 National Environment Management Council (NEMC)

The NEMC's purpose and objective is to undertake enforcement, compliance, review and monitoring of EIA's and to facilitate public participation in environmental decision making.

According to the Environmental Management Act (2004) the NEMC has the following responsibility pertaining to ESIA in Tanzania:

- Registers experts and firms authorized to conduct EIA; Registers projects subject to EIA;
- Determines the scope of the EIA;
- Set-ups cross-sectoral Technical Advisory Committee (TAC) to advise on EIA reviews;
- Requests additional information to complete the EIA review;
- Assesses and comments on EIA, in collaboration with other stakeholders,
- Convenes public hearings to obtain comments on the proposed project;
- Recommends to the Minister to approve, reject, or approve with conditions specific EIS;
- Monitors the effects of activities on the environment;
- Controls the implementation of the Environmental Management Plan (EMP);
- Makes recommendations on whether to revoke EIA Certificates in case of non-compliance;
- Promotes public environmental awareness;

- Conducts Environmental Audits

3.6.5 Sector Ministries

The existing institutional and legal framework the Sector Ministries are required to establish Sector Environmental Sections headed by the Sector Environmental Coordinator.

The Sector Ministries' Environmental Sections;

- Ensure environmental compliance by the Sector Ministry;
- Ensure all environmental matters falling under the sector ministry are
- implemented and report of their implementation is submitted to the DOE;
- Liaise with the DOE and the NEMC on matters involving the environment and all matters with respect to which cooperation or shared responsibility is desirable or required;
- Ensure that environmental concerns are integrated into the ministry or departmental development planning and project implementation in a way which protects the environment;
- Evaluate existing and proposed policies and legislation and recommend measures to ensure that those policies and legislation take adequate account of effect on the environment;
- Prepare and coordinate the implementation of environmental action plans at national and local levels;
- Promote public awareness of environmental issues through educational programmes and dissemination of information;
- Refer to the NEMC any matter related to the environment;
- Undertake analysis of the environmental impact of sectoral legislation,
- regulation, policies, plans, strategies and programmes through strategic environmental assessment (SEA);
- Ensure that sectoral standards are environmentally sound;
- Oversee the preparation of and implementation of all ESIA's required for investments in the sector;
- Ensure compliance with the various regulations, guidelines and procedures issued by the Minister responsible for the environment and;
- Work closely with the ministry responsible for local government to provide environmental advice and technical support to district level staff working in the sector.

The Regional Secretariat, which is headed by the Regional Environmental Management Expert, is responsible for the co-ordination of all environmental management programmes in their respective regions. The Regional Environmental Expert:

- Advises local authorities on matters relating to the implementation of and enforcement of environmental laws and regulations;
- Creates a link between the region and the DOE and the Director General of the NEMC.

3.6.5.1 Local Government Authorities

Under the Local Government Act of 1982 (Urban and District Authorities), Local Government Authorities include the City Councils, Municipal Councils, District Councils, Town Councils, Township, Kitongoji, Ward, and Village.

The Environmental Management Committee of each jurisdiction:

- Initiates inquiries and investigations regarding any allegation related to the environment and implementation of or violation of the provisions of the Environmental Management Act;
- Requests any person to provide information or explanation about any matter related to the environment;
- Resolves conflicts among individual persons, companies, agencies non-governmental organizations, government departments or institutions about their respective functions, duties, mandates, obligations or activities;
- Inspects and examines any premises, street, vehicle, aircraft or any other place or article which it believes, or has reasonable cause to believe, that pollutant or other articles or substances believed to be pollutant are kept or transported;
- Requires any person to remove such pollutants at their own cost without causing harm to health and;
- Initiates proceedings of civil or criminal nature against any person, company, agency, department or institution that fails or refuses to comply with any directive issued by any such Committee.

Under the Environmental Management Act (2004), the City, Municipal, District and Town Councils are headed by Environmental Inspectors who are responsible for environmental matters. The functions of the inspectors are to:

- Ensure enforcement of the Environmental Management Act in their respective areas;
- Advise the Environmental Management Committee on all environmental matters;
- Promote awareness in their areas on the protection of the environment and conservation of natural resources;
- Collect and manage information on the environment and the utilization of natural resources;
- Prepare periodic reports on the state of the local environment;
- Monitor the preparation, review and approval of EIA for local investors;
- Review by-laws on environmental management and on sector specific
- activities related to the environment;
- Report to the DOE and the Director General of the NEMC on the implementation of the Environmental Management Act and;
- Perform other functions as may be assigned by the local government authority from time to time.

4 BASELINE CONDITIONS

4.1 Overview

Baseline information provides the basis for predicting and monitoring environmental, socio-economic and climate change effects and helps to identify environmental problems and provide alternative ways of dealing with them. The identification of environmental, socio-economic and climate change conditions/issues of particular significance in the planning area provides an opportunity to define key issues for this subproject and to improve and refine objectives and options.

This section describes the current existing situation and highlights the key issues identified within the planning area. It does not attempt to cover all the issues but identifies those that are considered to be a priority in terms of the environmental sustainability and social acceptability of the planning area.

4.2 Biophysical Environment

4.2.1 Location and Administration

Mbeya City Council is one among the seven (7) councils in Mbeya region, others being Chunya, Mbarali, Kyela, Rungwe, Busokel and Mbeya district. Mbeya City lies between latitude 8^0 50` - $8^0$ 57` South of Equator and Longitude 33^0 30` - $35^0$ 35` East of Greenwich. The City is surrounded by Mbeya district in all directions except in the North-East part of which is boarded by Mbarali district.

Mbeya City is the administrative center of Mbeya region and harbors Mbeya District Council; it is a major centre for commercial and trading activities in the Southern highlands zone and neighboring countries of Malawi, Zambia and Democratic Republic of Congo (DRC). Administratively, the proposed Bus Terminal and Commuters' Bus Stand subproject is located in Iyela Wards within Mbeya City Council. Figure 4-1 below shows the administrative wards.

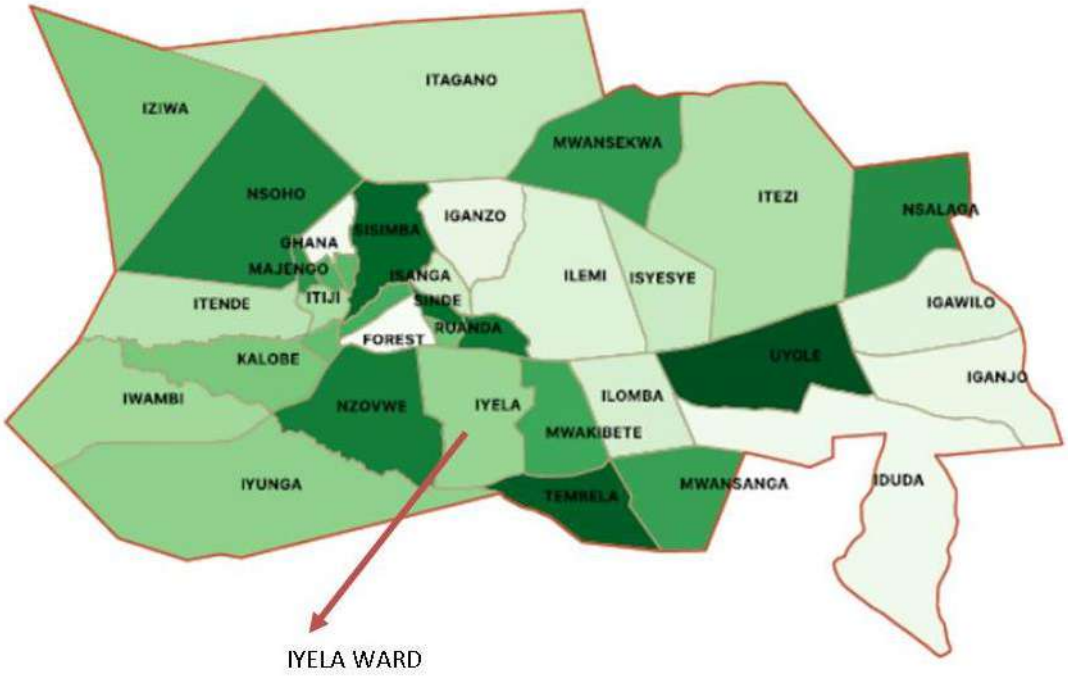


Figure 4-1: Administrative Wards in Mbeya Region
Source: Mbeya City Master Plan

4.2.2 Topography

Mbeya City is situated on a rugged terrain surrounded by two mountain ranges (Mbeya Peak and Loleza Mountain Ranges in the North West and Uporoto Mountains in the South East), at an altitude rising from 1600 to 2400 meters above sea level. The terrain caused by erosion during the past 150 million years generally descends from over 2000 meters in a southward direction to Meta river valley (about 1650 metres) from where it ascends to 1780 meters and drops again to1600 meters above sea level along Nzovwe river valley. Other rivers cutting across the City include Loleza, Meta, Sisimba and Nsalaga.

The Central Bus Terminal and Commuters' Bus Stand subproject will be designed such that it will follow existing topography as much as possible. Topography of Mbeya will be affect by the proposed Bus Terminal and Commuters' Bus Stand as the construction shall follow the favorable conditions of construction.

4.2.3 Geology

The geology of Mbeya is made up mostly of genesis and comprises of the Rungwe volcanic field (basaltic volcanics and carbonatites) in the South and the Ubendian-Usangaran Belt (basement rocks) in the North. The following rock types are found around the project area: tuff and pumice, a situation which probably extends further North. Hot springs are to be found in the lakebed limestone at the northern end of the Mbeya Range

The design shall consider geology of the Central Bus Terminal and Commuters' Bus by conducting material and soil analysis to determine nature of the rocks for sustainability of the terminal. Moreover, proposed Bus Terminal and Commuters' Bus Stand will affect the geology of the as the construction shall require excavation and drilling to project site for concrete and foundation works

4.2.4 Soil

The soils in Mbeya region vary from the shallow rocky and Stony (Chromic ambisolseutric Cambisol) suitable for forestry and grazing and a variety of food crops to deep Brown clay loams (Mollic Andosol and Ha lic Andosol), deep red clays (Ferralic Cambisol), shallow gravelly (Iron stone overlying soft weathering rock, orthic Ferrasol), deep sandy clay over sandy loam (Albic Arenosol, Fine Sodic Eutric Gleysol); Excessively drained highly sodic soils (Sodic Regosols, Gleyic Solonetz); dark brown to yellow brown loam calcareous an saline (Calcic Cambisoleutric). These soil types define the agro-ecological regime for Mbeya Region. In the arable areas, soils are most commonly of moderate fertility, coarse or medium in texture and varying from sandy loam and alluvial soils to cracking clays. Large part is dominated by crystalline and mainly fersic gneiss and granite rocks covered with thick layers of volcanic and Alkali basalt.

Soil analysis shall be conducted to identify the parent materials that might have interacted due to the climate of the area to produce the matured soil which is ferruginous and can withstand structures, causing erosion to the Central Bus Terminal and Commuters' Bus being proposed. The proposed Central Bus Terminal and Commuters' Bus subproject will affect project site soil as for Terminal construction specific type of soil shall require during levelling period hence removal of top soil will be unavoidable.

4.2.5 Climate

4.2.5.1 Temperature & Rainfall

Mbeya Municipality has four distinct climate periods (December – February; March – May; June – September and October – November), which characterize this distribution of rainfall and temperatures within the region as follows the general circulation. Mbeya climatic characteristics in temperature and rainfall are summarized in Table4.1 below.

Table 4-1: Temperature and Rainfall Distribution in the Mbeya City

Dry Season		May-November
Wet Season		December-April
Average Annual Rainfall		1,017mm
Average Annual Evaporation		1,420mm
	Max	24 ˚C
Temperatures	Min	10 ˚C
	Mean Average	17˚C

Figure 4-2: Monthly Average Temperature for Mbeya
Source: https://www.worldweatheronline.com/mbeya-weather-averages/mbeya/tz.aspx

Figure 4-3: Yearly Average Temperature for Mbeya
Source: https://www.worldweatheronline.com/mbeya-weather-averages/mbeya/tz.aspx

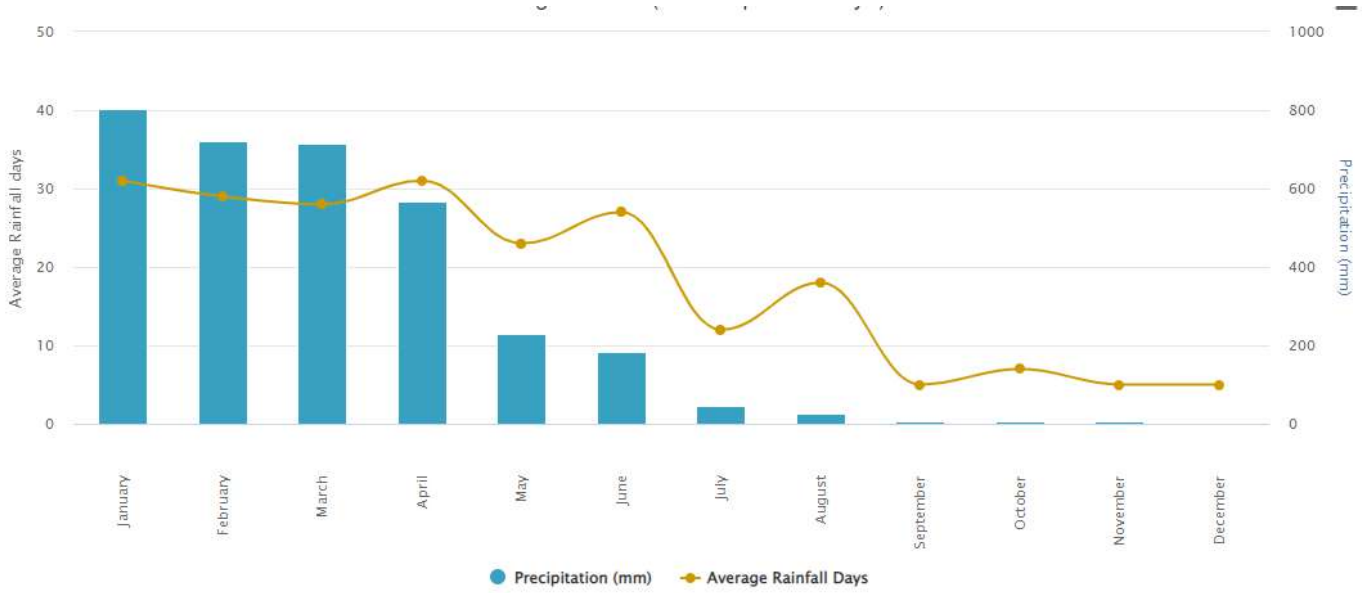


Figure 4-4: Monthly Average Rainfall for Mbeya
Source: https://www.worldweatheronline.com/mbeya-weather-averages/mbeya/tz.aspx

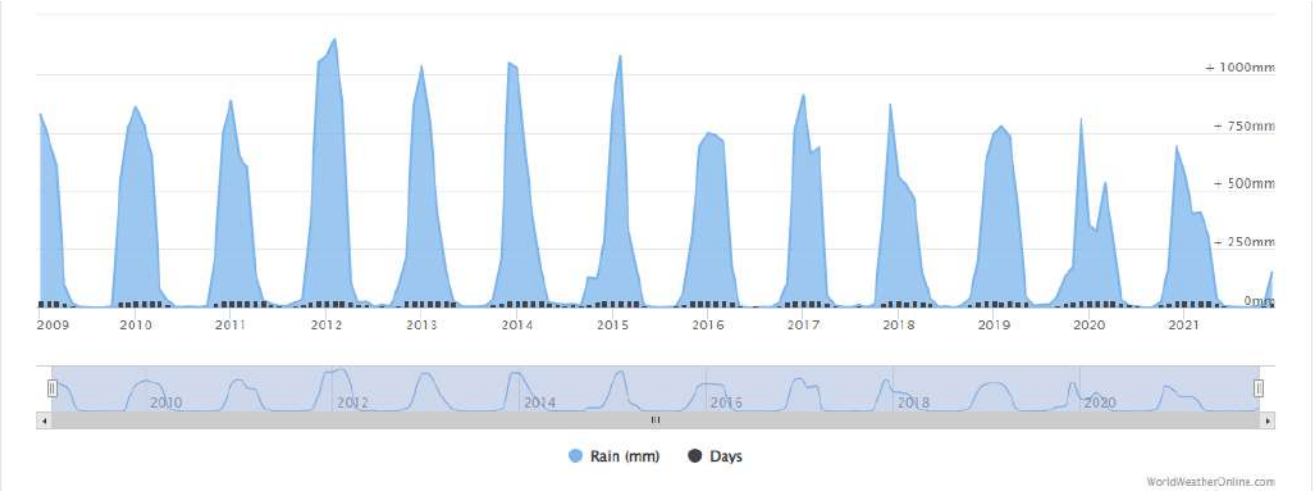


Figure 4-5: Yearly Average Rainfall for Mbeya
Source: https://www.worldweatheronline.com/mbeya-weather-averages/mbeya/tz.aspx

Mbeya City lies within Mbeya Mountain ranges at an altitude of between 1600 and 2400 meters above sea level. It has an average annual rainfall of 1200 mm and an average annual temperature of 250C. The daily minimum and maximum average temperature range between 11˚C and 28˚C. In general, the City lies within highland areas that have normal temperatures and adequate rainfall.

Climate change predictions from previous studies indicate Mean annual temperature increase of 2.3°C by 2050, the daily temperature range is expected to decrease and Cold days and nights are expected to decrease to almost zero.

4.2.5.2 Climate Change Projection

4.2.5.2.1 Temperature

RPC4.5 has been used to project temperature changes during the project's operation period, annual temperatures between of 1979-2005 have been considered as reference for projection period of 2020-2040.

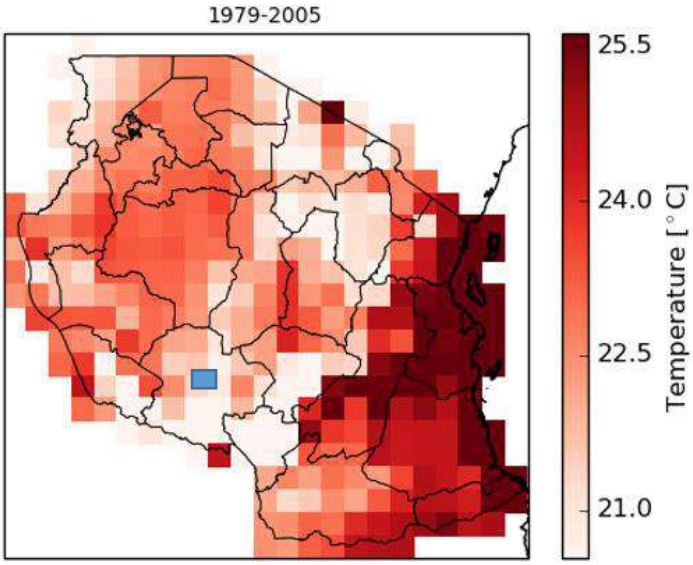


Figure 4-6: Temperature average over the reference period 1979-2005. This map is based on the EWEMBI dataset.
Source: http://regioclim.climateanalytics.org/choices

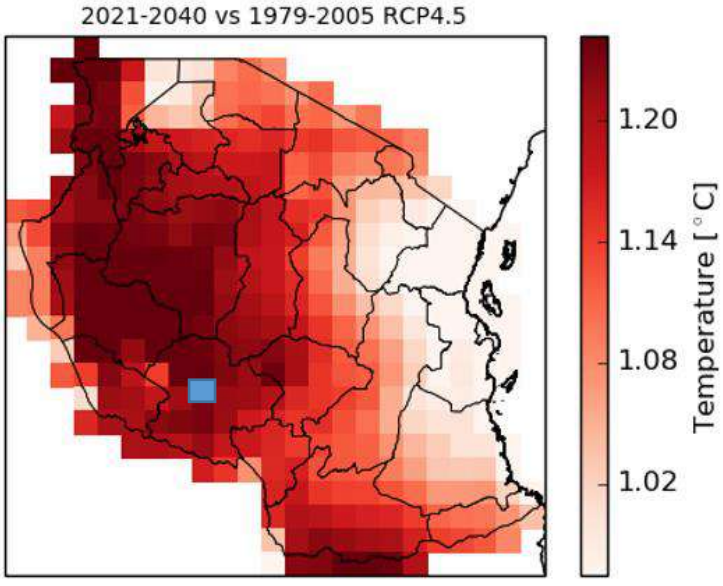


Figure 4-7: Projected change in temperature for 2021-2040 compared to the reference period 1979-2005. Here the ensemble mean of regional climate model projections is displayed. Grid-cells for which a model-disagreement is found are coloured in grey. The projections are based on the emission scenario RCP4.5.
Source: http://regioclim.climateanalytics.org/choices

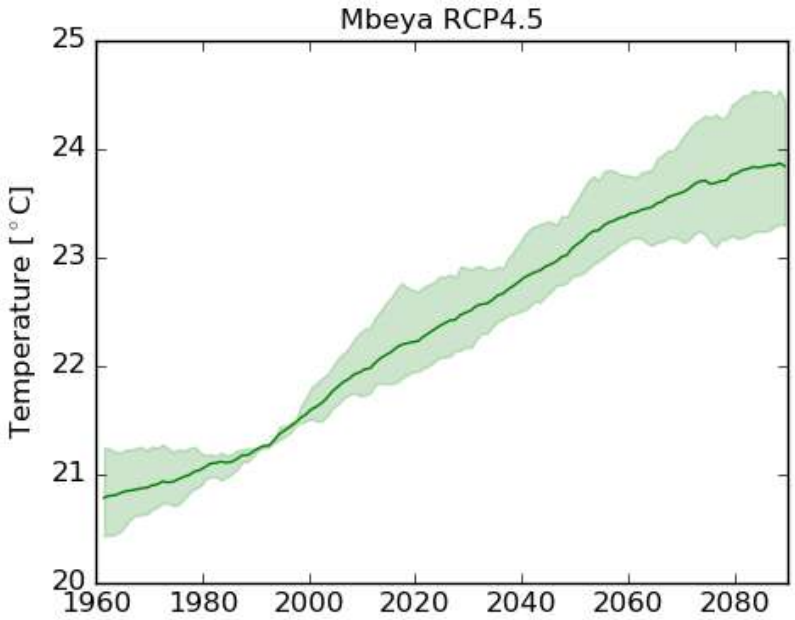


Figure 4-8: Regional climate model projections for temperature displayed as 20 year running mean. The line represents the ensemble mean while the shaded area represents the model spread. The projections are based on the emission scenario RCP4.5.
Source: http://regioclim.climateanalytics.org/choices

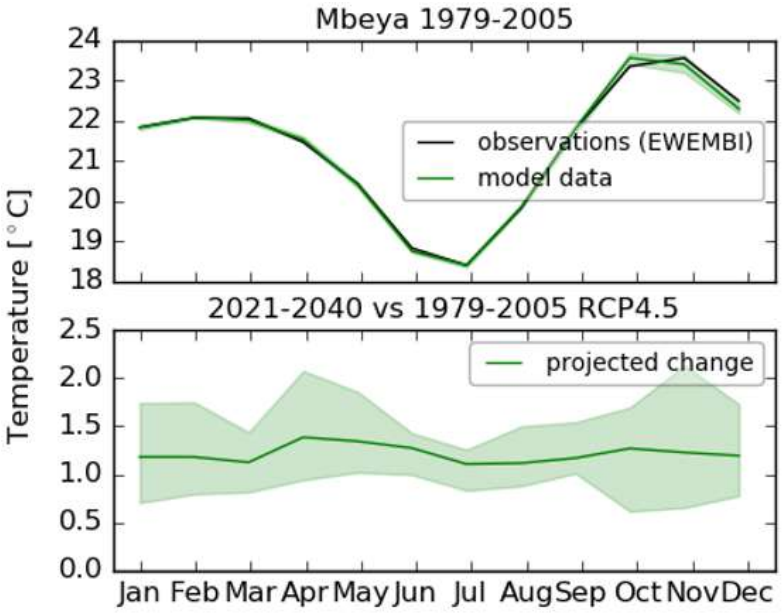


Figure 4-9: Top: Annual cycle of temperature for the period 1979-2005. Bottom: Changes in annual cycle projected for 2021-2040 compared to the reference period 1979-2005. EWEMBI data is shown in black, regional climate model simulations in green. The green line represents the ensemble mean while the shaded area represents the model spread. The projections are based on the emission scenario RCP4.5.
Source: http://regioclim.climateanalytics.org/choices

Temperature is predicted to increase throughout from year 2021 to 2040, figure 6-8 indicates the highest increase of 1.3˚C in April and the lowest of 1.1˚C in March. Notable period of steady

temperature increase is between April and June. Climate change might result into increased temperature by an average 2.3°C by 2050 which is likely to impact the Central Bus Terminal and Commuters' Bus Stand subproject in future only if climate change adaptation measures shall not be taken into consideration on the design and construction of the proposed project.

4.2.5.2.2 Hot Extreme

Hot extreme conditions have been projected for Mbeya by using RCP4.5 as indicate in figures below.

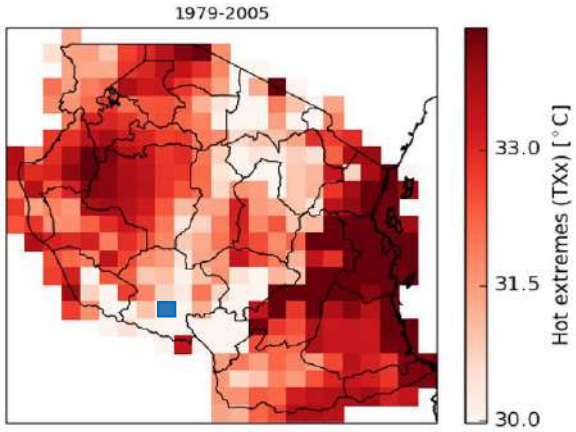


Figure 4-10: Hot extremes (TXx) average over the reference period 1979-2005. This map is based on the EWEMBI dataset.
Source: http://regioclim.climateanalytics.org/choices

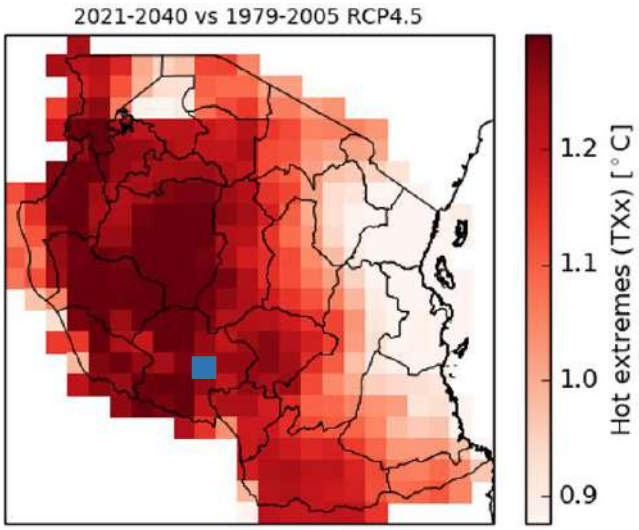


Figure 4-11: Projected change in hot extremes (TXx) for 2021-2040 compared to the reference period 1979-2005. Here the ensemble mean of regional climate model projections is displayed. Grid-cells for which a model-disagreement is found are colour in gray. The projections are based on the emission scenario RCP4.5.
Source: http://regioclim.climateanalytics.org/choices

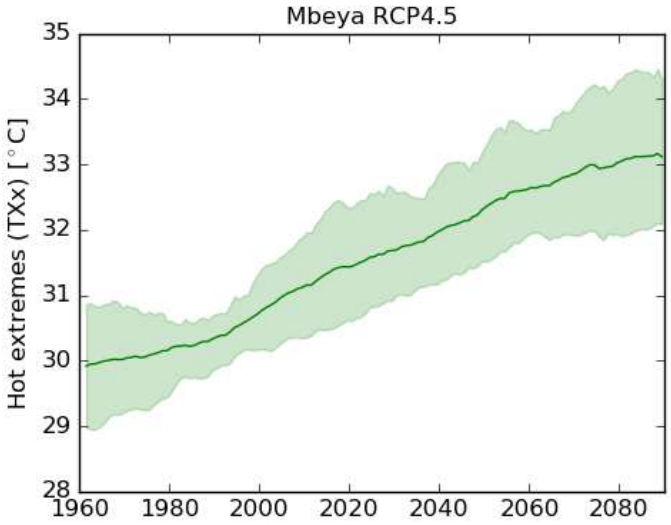


Figure 4-12: Regional climate model projections for hot extremes (TXx) displayed as 20 year running mean. The line represents the ensemble mean while the shaded area represents the model spread. The projections are based on the emission scenario RCP4.5.
Source: http://regioclim.climateanalytics.org/choices

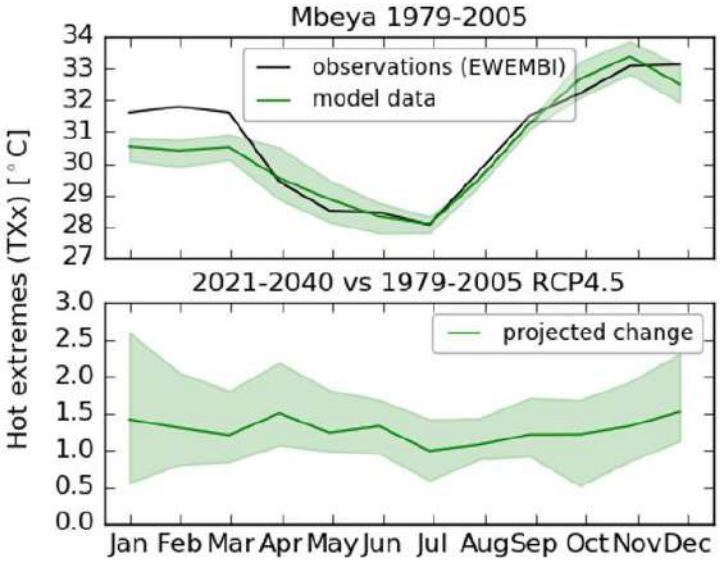


Figure 4-13: Top: Annual cycle of hot extremes (TXx) for the period 1979-2005. Bottom: Changes in annual cycle projected for 2021-2040 compared to the reference period 1979-2005. EWEMBI data is shown in black, regional climate model simulations in green. The green line represents the ensemble mean while the shaded area represents the model spread. The projections are based on the emission scenario RCP4.5.
Source: http://regioclim.climateanalytics.org/choices

Mbeya city is continuing to experience hot weather extremes, currently is experiencing an average of 31˚C with projected yearly slight increase, in 2040 hot extreme expected to attain 31˚C. Highest hot extreme weather is and shall be experienced in April. Hot extreme is among the climate variable that will contribute to early aging of the building structure.

4.2.5.2.3 Rainfall

Rainfall projection was made with reference period 1979-2005 and projection from 2020-2040.

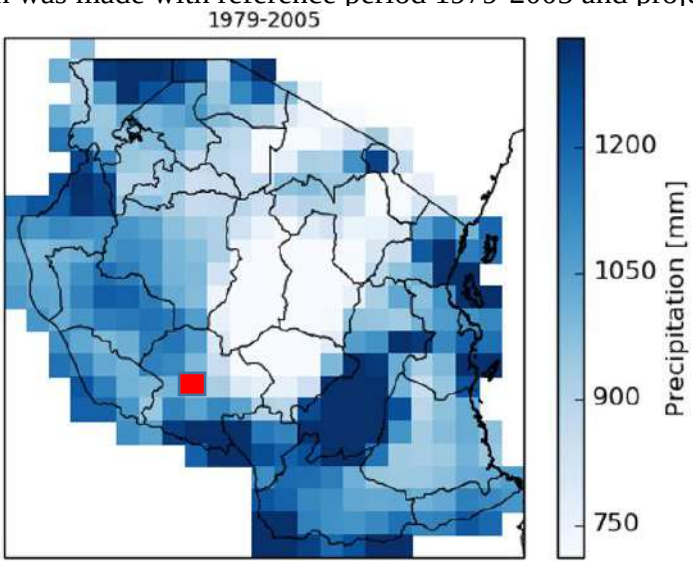


Figure 4-14: Precipitation sum over the reference period 1979-2005. This map is based on the EWEMBI dataset.
Source: http://regioclim.climateanalytics.org/choices

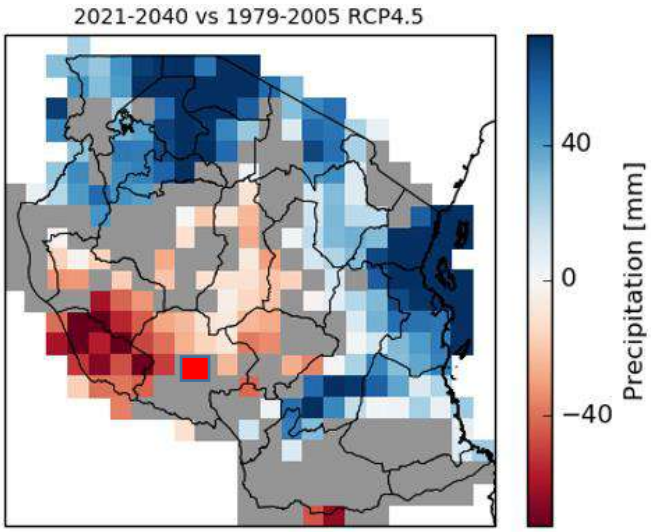


Figure 4-15: Projected change in precipitation for 2021-2040 compared to the reference period 1979-2005. Here the ensemble mean of regional climate model projections is displayed. Grid-cells for which a model-disagreement is found are coloured in grey. The projections are based on the emission scenario RCP4.5.
Source: http://regioclim.climateanalytics.org/choices

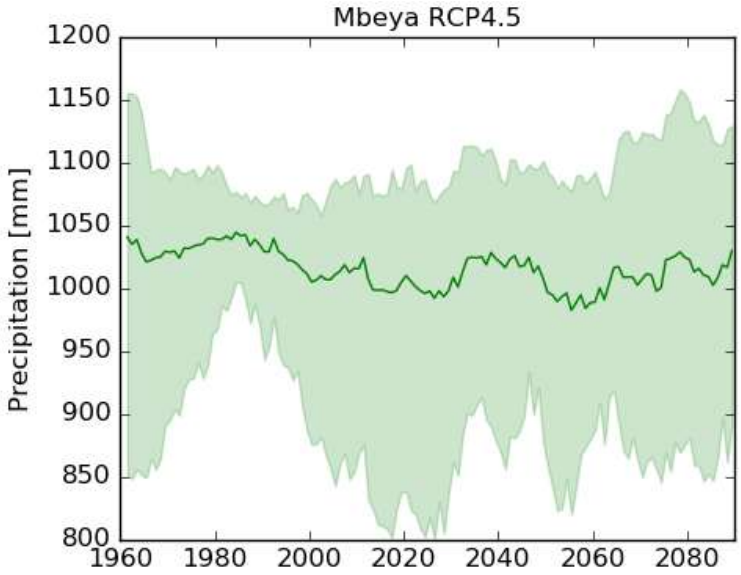


Figure 4-16: Regional climate model projections for precipitation displayed as 20 year running mean. The line represents the ensemble mean while the shaded area represents the model spread. The projections are based on the emission scenario RCP4.5.
Source: http://regioclim.climateanalytics.org/choices

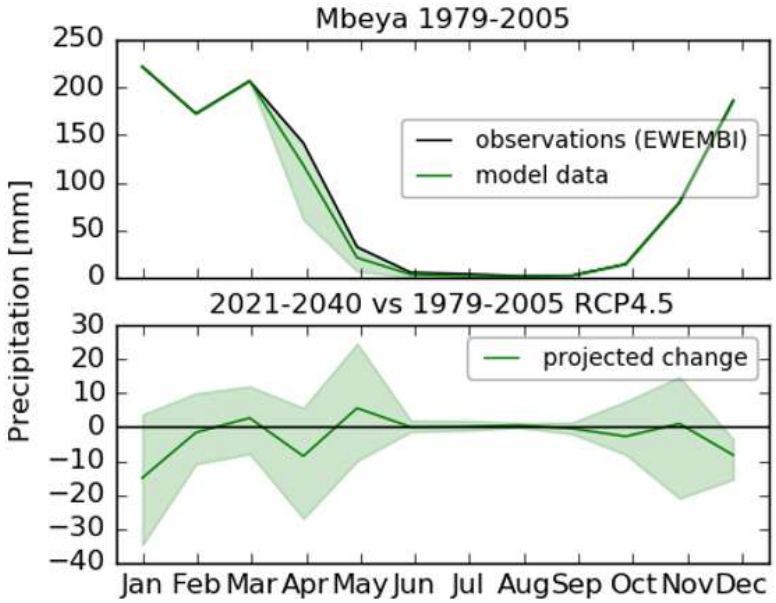


Figure 4-17: Top: Annual cycle of precipitation for the period 1979-2005. Bottom: Changes in annual cycle projected for 2021-2040 compared to the reference period 1979-2005. EWEMBI data is shown in black, regional climate model simulations in green. The green line represents the ensemble mean while the shaded area represents the model spread. The projections are based on the emission scenario RCP4.5.
Source: http://regioclim.climateanalytics.org/choices

From the analysis, the Mbeya City will experience an average of 975mm rainfall up to 2029 and start increasing from 2030 to 2045 at an average of 1025mm. In comparison with the reference period of 1979-2005, the month of May will be experiencing an average rainfall increase of 5mm.

Extreme rainfall shall increase surface runoffs and incapacitate drainage systems of the project area and ultimately create flooding/pooling of bus stand and surrounding environment and disrupt transportation services

4.2.5.2.4 Wet Extreme

This indicates much rain falling too fast that can trigger floods in the project area.

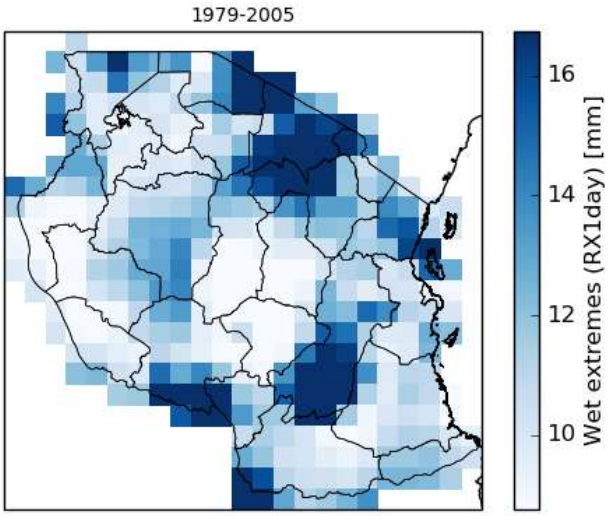


Figure 4-18: Wet extremes (RX1day) average over the reference period 1979-2005. This map is based on the EWEMBI dataset.
Source: http://regioclim.climateanalytics.org/choices

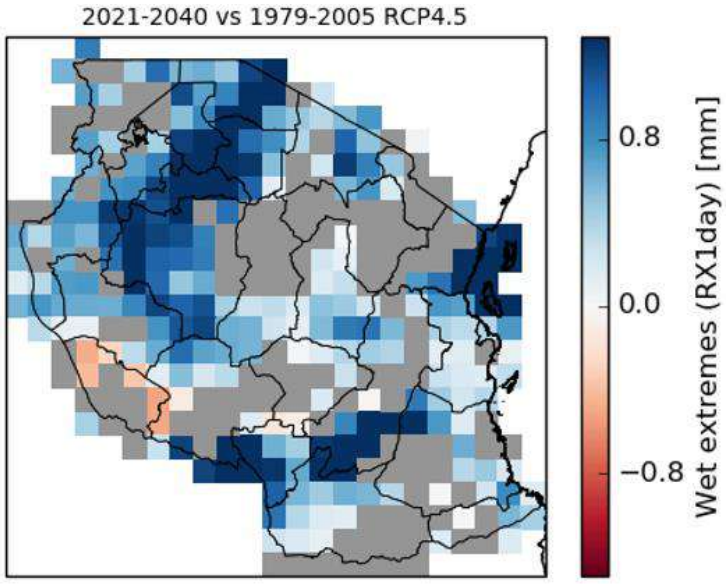


Figure 4-19: Projected change in wet extremes (RX1day) for 2021-2040 compared to the reference period 1979-2005. Here the ensemble mean of regional climate model projections is displayed. Grid-cells for which a model-disagreement is found are coloured in grey. The projections are based on the emission scenario RCP4.5.
Source: http://regioclim.climateanalytics.org/choices

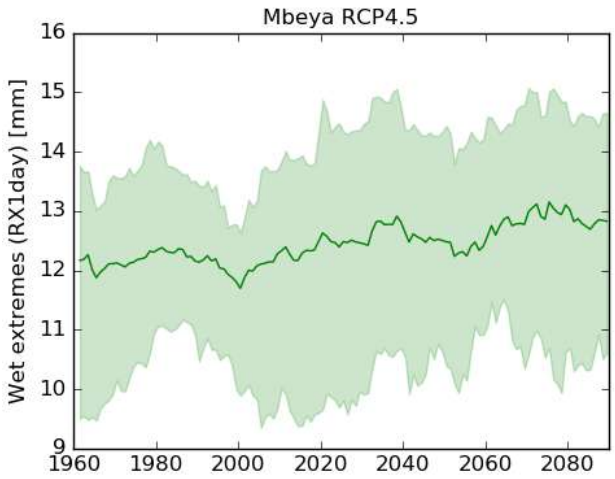


Figure 4-20: Regional climate model projections for wet extremes (RX1day) displayed as 20 year running mean. The line represents the ensemble mean while the shaded area represents the model spread. The projections are based on the emission scenario RCP4.5.
Source: http://regioclim.climateanalytics.org/choices

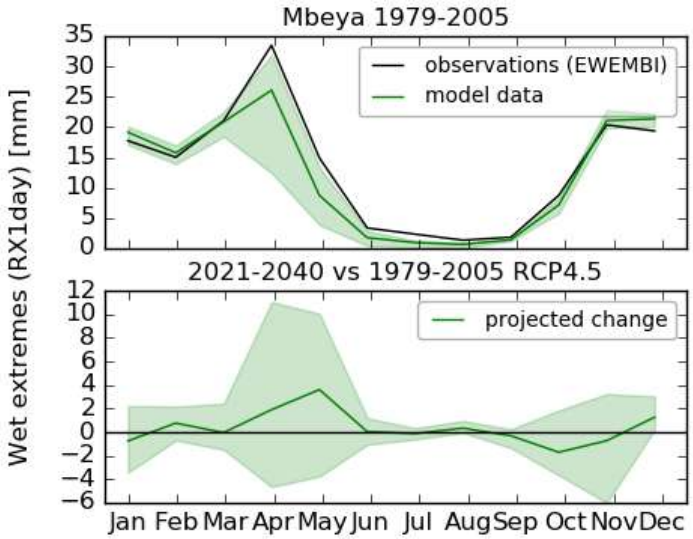


Figure 4-21: Top: Annual cycle of wet extremes (RX1day) for the period 1979-2005. Bottom: Changes in annual cycle projected for 2021-2040 compared to the reference period 1979-2005. EWEMBI data is shown in black, regional climate model simulations in green. The green line represents the ensemble mean while the shaded area represents the model spread. The projections are based on the emission scenario RCP4.5.
Source: http://regioclim.climateanalytics.org/choices

Analysis from the model indicates wet extremes from 2030 to 2039, i.e. during the period between Mbeya will experience constant extreme precipitation increase. A sharp increase of extreme precipitation has been observed from March to May.

The Central Bus Terminal and Commuters' Bus Stand subproject should be design to withstand the increase of precipitation. The increase of precipitation shall hinder visibility impairments, also high winds, and temperature extremes shall affect driver capabilities, vehicle performance on the proposed Central Bus Terminal and Commuters' Bus Stand.

4.2.6 Seismicity

The Mbeya area is situated on the accommodation zone between the South Rukwa and the North Malawi Rift Basins, belonging to the western branch of the East African Rift System (EARS). It corresponds to the intersection of this NW-SE rift valley with the NE-SW trending Ruaha-Usangu depression. The latter being one of the southward prolongations of the eastern branch of the EARS (Kenya Rift). The Rungwe volcanic province developed at the intersection of these two rift directions. The area is known to be seismically active, with volcanic eruptions occurring till historical times and hot springs activity is still noticeable. Uplift, erosion and sedimentation are also important active processes.

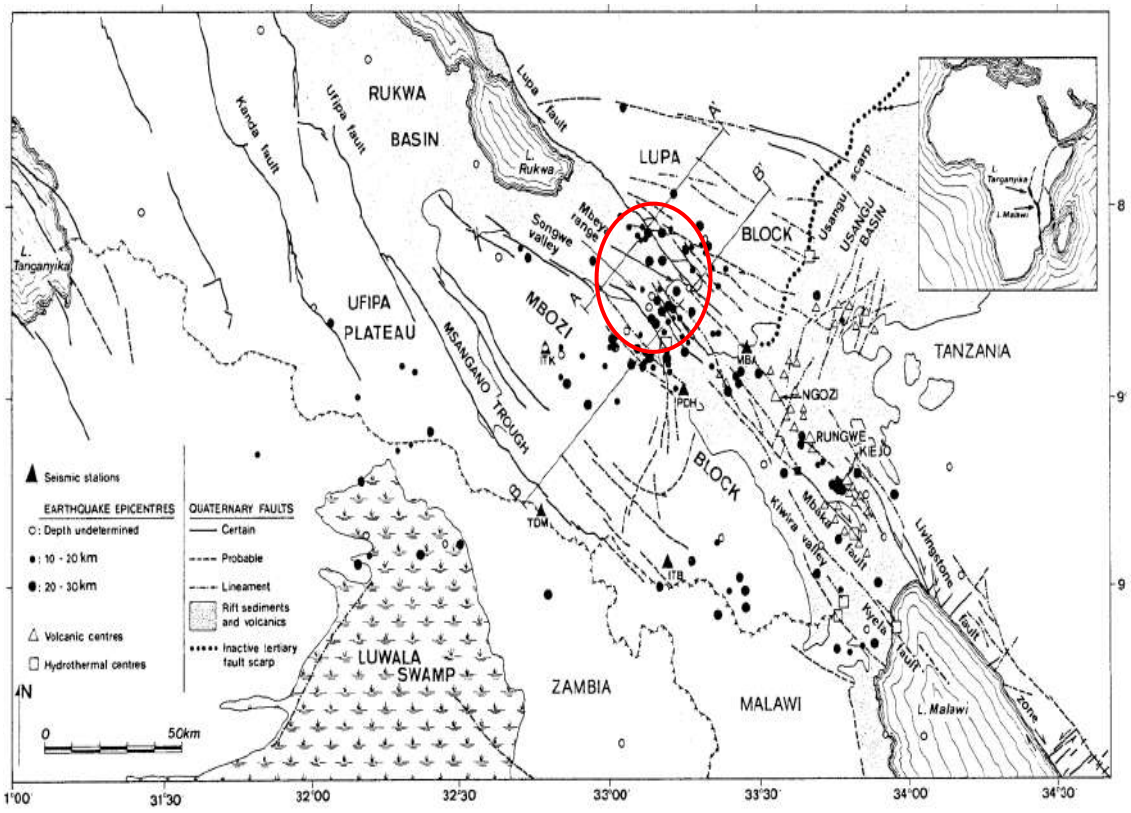


Figure 4-22: Neo tectonic map from the South Rukwa - North Malawi area. Red Circled Area is Mbeya Municipality
Source: D.F. Delvaux and M. Hanon, 1993

Mbeya Municipality can also be affected/experience severe ground shaking at 110-230km from epicentre by earth quake activities with magnitude of 6.5.

The Central Bus Terminal and Commuters' Bus Stand subproject might be impacted by frequent medium to high magnitude earthquakes in the area.

4.2.7 Atmospheric conditions

4.2.7.1 Air Quality

The ambient air quality at all sampling locations were measured in December 2021 using ECO-12 Environmental Air Quality taster with model number L21I-D00277 and Multi-gas monitor TA8421. The devices were placed at a height level of about 1.2 meter from the ground for air quality parameters measurements.

Dust levels in terms of PM_{10} and $PM_{2.5}$ were measured by using ECO-12 Environmental Quality taster with model number L211-D00277. The device was placed at breath height of about 1.2 meter from the ground to monitor dust concentrations at each identified point. This position is assumed a relatively breathing zone of people at their respective locality or working environment. The recorded average values shown in table below compared with prescribed available limit to check their compliance with local and international standards.

The recorded average values shown in Table 4-2 shows the average concentrations of particulate matters are above the standards in many projects site and that is because the roads are rough roads and other activities along the road are on progress. The main source of particulate matters in those sites is dusts from vehicles and transportation.

During Mobilization and construction phase of the Central Bus Terminal and Commuters' Bus Stand subproject, the subproject will crease ambient gases due to movement of vehicels and machines, proper mitigation measures shall be considered during these phases.

4.2.7.2 Noise and Vibration

Noise level was measured using IEC 61672-1 Class 2 Data logger. On noise level Meter range; 30 dB – 130 dB (A). On taking measurements, the device-meter scale was set to the 'A' weighed measurement scale, which enables the device to respond in the same manner as human ear. During measurement, the device was fixed/and or held approximately 1.2 meter above the ground and at least 3 m away from hard reflecting surface or objects. The source of noise at the project area was observed to be vehicles and other human activities.

Vibration levels were recorded by using digital vibration meter with model number TA8663. On taking measurements the device was set to velocity mode and the probe placed on the ground.

The sources of noise at the project area were observed to be vehicles and human activities. It is anticipated that the night and evening noise levels will be even lower, considering the low density of population of these areas, the low frequency of vehicles during the night, and the fact that the population mainly work in the agricultural sector and carry out their core activities during the day.

4.2.8 Flora and Fauna

The Mbeya Region is endowed with a varied flora and Fauna with extensive populations of eucalyptus and pine tree genus. The city like any other urbanized environment has very few remained flora and fauna species due to increased human activities, which have developed over a long time. During construction phase of the terminal and Bus stand some of the vegetation will be cleared. Clearance permit for trees should be sought before construction begins.

Proposed Central Bus Terminal and Commuters' Bus Stand subproject will involve clearance of grasses within the construction zone.

Table 4-2: Air Quality, Noise and Vibration

MBEYA CITY, MBEYA CITY COUNCIL					
COORDINATES (UTM)	**STATION NAME**	**PARAMETERS**	**AVERAGE CONCENTRATION**	**STATUS**	**TBS/WHO STANDARDS (24 HRS)**
36M 550713E 9013994N	AIRPORT-SAMORA-TANESCO SAE KISANJI, AND KABWE BLOCK T – SIDO ROADS 3.2 km	Oxygen O_2 (% volume)	19.6	Commercial residential activities	
		Carbon monoxide CO (ppm)	0.0		4
		Hydrogen Sulphide H2S (ppm)	0.0		
		Combustible Gases LEL (% volume)	16		
		Carbon dioxide CO2 (ppm)	365		500
		Particulate Matter PM2.5 (µg/m3)	35		15
		Particulate Matter PM10 (µg/m3)	44		45
		Noise (dB)	55		
		Vibration (mm/s)	5.2		
36M 550547E 9014450N		Oxygen O2 (% volume)	22.1	Commercial activiti	
		Carbon monoxide CO (ppm)	0.0		4
		Hydrogen Sulphide H2S (ppm)	0.0		
		Combustible Gases LEL (% volume)	16		
		Carbon dioxide CO2 (ppm)	360		500
		Particulate Matter PM2.5 (µg/m3)	39		15
		Particulate Matter PM10 (µg/m3)	52		45
		Noise (dB)	73.9		
		Vibration (mm/s)	3.6		
		TVOC	0.05		
		Benzene	0.02		
36M 550311E 9014656N		Oxygen O2 (% volume)	26.3	Commercial activiti	
		Carbon monoxide CO (ppm)	0.0		4
		Hydrogen Sulphide H2S (ppm)	0.0		
		Combustible Gases LEL (% volume)	16		
		Carbon dioxide CO2 (ppm)	388		500
		Particulate Matter PM2.5 (µg/m3)	35		15

MBEYA CITY, MBEYA CITY COUNCIL					
COORDINATES (UTM)	**STATION NAME**	**PARAMETERS**	**AVERAGE CONCENTRATION**	**STATUS**	**TBS/WHO STANDARDS (24 HRS)**
		Particulate Matter PM10 (µg/m3)	46		45
		Noise (dB)	62		
		Vibration (mm/s)	5.6		
35M 550453E 9014100N	Construction of Central B Terminal at Old Airport	Oxygen O2 (% volume)	26.3	Commercial activiti	
		Carbon monoxide CO (ppm)	16		4
		Hydrogen Sulphide H2S (ppm)	0.0		
		Combustible Gases LEL (% volume)	0.0		
		Carbon dioxide CO2 (ppm)	371		500
		Particulate Matter PM2.5 (µg/m3)	43		15
		Particulate Matter PM10 (µg/m3)	119		45
		Noise (dB)	68.9		
		Vibration (mm/s)	4.2		
36M 550573E 9014270N	Commuters'/Daladala B Stand at Old Airport	Oxygen O2 (% volume)	23.2	Commercial activiti	
		Carbon monoxide CO (ppm)	0.0		4
		Hydrogen Sulphide H2S (ppm)	0.0		
		Combustible Gases LEL (% volume)	17		
		Carbon dioxide CO2 (ppm)	425		500
		Particulate Matter PM2.5 (µg/m3)	47		15
		Particulate Matter PM10 (µg/m3)	90		45
		Noise (dB)	70		
		Vibration (mm/s)	7.2		
		TVOC	0.07		
		Benzene	0.03		

4.3 Socio-Economic and Cultural

4.3.1 Population Size and Distribution

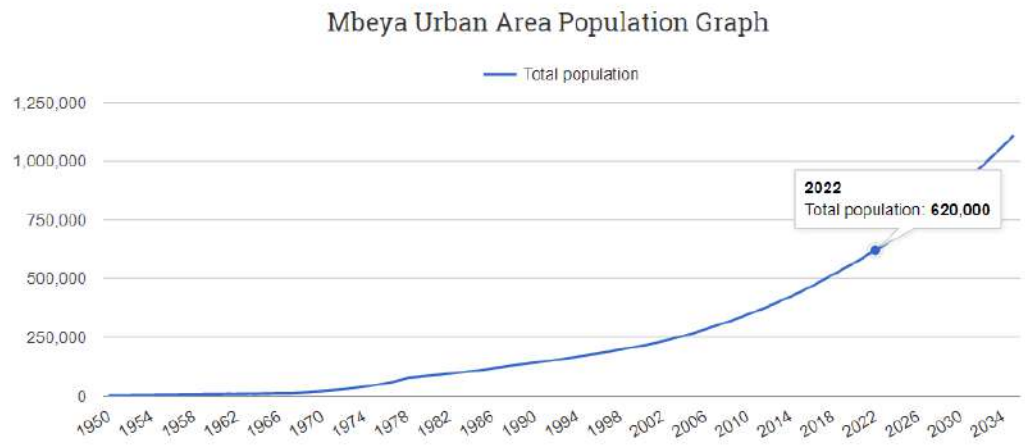
According to the 2012 Population and Housing Census, the total population of Mbeya City was 385,279 persons, out of that 202,659 were females and 182,620 were males. Table 4.3 shows the distribution of population in Mbeya CC by division, ward and sex basing on the 2012 Population and Housing Censuses. Population in Mbeya CC there are 93,475 men and 104,605 women

In addition, there is a similar pattern of population distribution in divisions of Mbeya city between 2002 and 2012 Censuses with the highest share noted in Ilomba and Ilemi with 13.30 % and 10.49 % respectively.

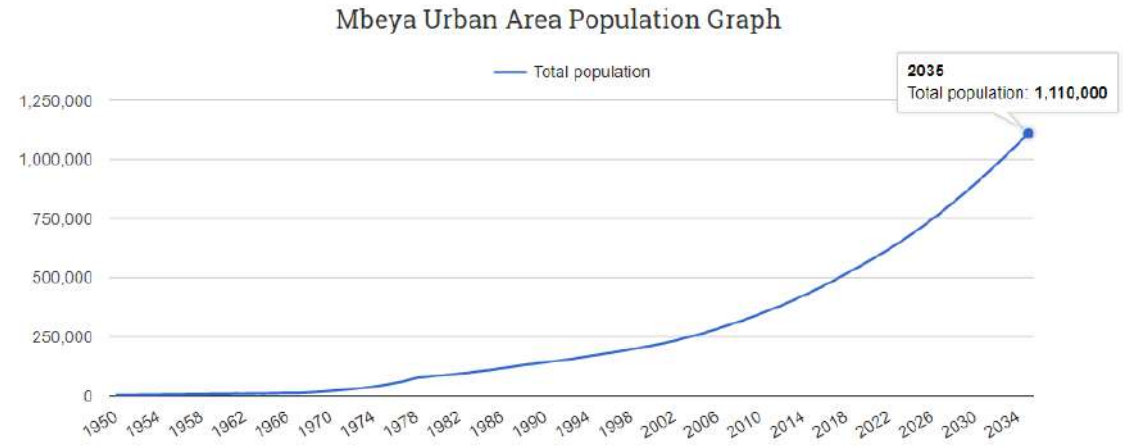
Table 4-3: distribution of population in Mbeya CC by division, ward and sex basing on the 2012 Population and Housing Censuses.

	2012 Population(census			
Ward	**MALE**	**FEMALE**	**TOTAL**	**PERCENT**
Isyesye	3,662	4,308	7,970	3.12
Ilemi	12,845	13,996	26,841	10.49
Iziwa	1,442	1,734	3,176	1.24
Itiji	1,976	2,255	4,231	1.65
Ghana	2,267	2,618	4,885	1.91
Nsoho	876	943	1,819	0.71
Nonde	1,188	1,300	2,488	0.97
Maendeleo	1,345	1,523	2,868	1.12
Itende	1,788	1,702	3,490	1.36
Sub total	**27,389**	**30,379**	**57,768**	**22.58**
Iyela	15,174	16,460	31,634	12.36
Ilomba	16,001	18,020	34,021	13.30
Mwakibete	11,094	12,225	23,319	9.11
Itezi	8,634	9,811	18,445	7.21
Nsalaga	8,975	10,018	18,993	7.42
Kalobe	6,185	6,995	13,180	5.15
Nzovwe	10,823	12,075	22,898	8.95
Ruanda	10,198	11,729	21,927	8.57
Forest	3,036	3,613	6,649	2.60
Sinde	3,355	3,659	7,014	2.74
Sub total	**93,475**	**104,605**	**198,080**	**77.42**
Grand Total	**120,864**	**134,984**	**255,848**	**100**

Source: National Bureau of Statistics, 2002 and 2012 Population Census Report



Projected population in year 2022 is expected to rise to 620,00 for Mbeya city
Source: World Bank, United Nations, Census, GeoNames



Project increase of population in the year is expected to rise to 1,100,000 in a year 2035
Source: World Bank, United Nations, Census, GeoNames

Mbeya population grows at 4%, higher than the national average, this puts more pressure on the existing infrastructure, and the council needs to act now for the sustainability of the project. This will put more pressure on the food markets, transportation, waste management, water, healthcare, etc. Rapid and often unplanned population growth is often associated with population demands that outstrip infrastructure and service capacity and leading to environmental degradation during terminal operation, and increase demand of employment during construction.

During Mobilization and construction phase of the proposed Construction of Grains and fruit market and Improvement of Soweto and Sokomatola Market subprojects, population increase shall be influenced by demand of employment to the construction site, hence raise pressure on the utilities around the project site.

4.3.2 Economic growth

The economy of Mbeya Region is based on agriculture, livestock keeping, bee keeping, commerce and manufacturing. Other economic activities and potentials include mining and tourism. In 2018, Mbeya Regional Gross Domestic Product (GDP) was about TZS 7.31 trillion and per capita income was TZS 3,506,101. The region contributed 5.65% of the national income (GDP) ranking fourth nation-wide after Dar-es-Salaam, Mwanza and Shinyanga regions. Bus Terminal and Commuters' Bus Stand make a crucial contribution to economic development and growth and bring important social benefits. In addition, providing access to employment, social, health and education services makes a road network crucial in fighting against poverty.

Construction of Central Bus Terminal and Commuters' Bus Stand subproject will increase economic activities and business to the community and regional at general due to the reliable improved system of transportation.

4.3.3 Employment Status

Categorization of status in employment helps in understanding composition and dynamics of labour market. Status in employment distinguishes between six important and useful categories namely paid employees, self-employed in agriculture, self-employed in non-agriculture, unpaid family helpers, apprentices and other status such as working on own farm. As can be deduced from Figure 4.23, own non-agriculture persons have the largest share (44.0 %) of total employed persons followed by own agriculture persons (26.0 %) employee (25.5 %) and family workers (2.9 %). The remaining employment statuses contribute less than 1 % of total employment each.

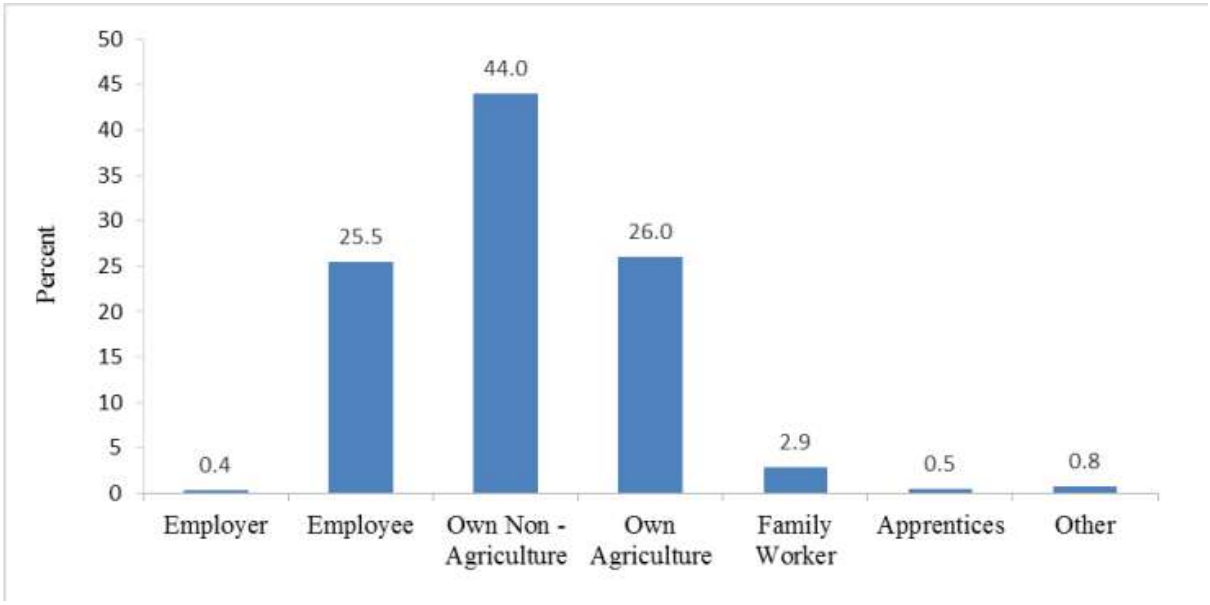


Figure 4-23: Employed Population Aged 10 Years and Above by Employment Status Mbeya City Council, 2012 Census
Source: National Bureau of Statistics, 2012 Population Census Reports

Construction of Central Bus Terminal and Commuters' Bus Stand subproject will create employment to local community, thus increase per capital income to terminal workers, surrounding communities

and the city economic income. Approximately to 150 -200 workers will be employed during construction phase.

4.3.4 Children Labor aged 5–13 years

Around one in four children aged 5–13 years (25%), almost 2.8 million in absolute terms, are in child labour. But these overall estimates marks important differences by individual and household background characteristics. Child labour increases with age and is much higher in rural areas than in cities and towns. Construction of Central Bus Terminal and Commuters' Bus Stand subproject will lead to creation of employment to unskilled workers and related associated activities that shall increase musculoskeletal disorders, physical impairment, and psychological distress to children.

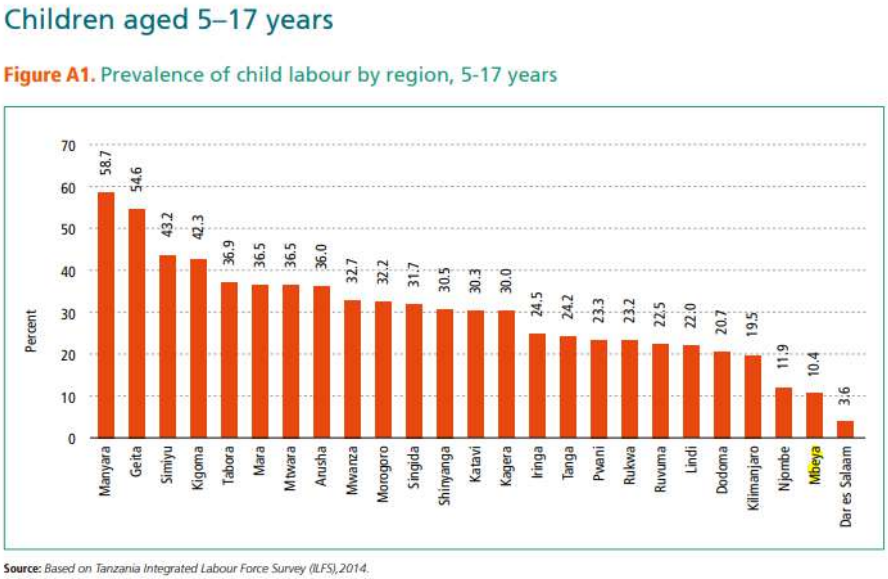


Figure 4-24: Prevalence of child labour by region, 5-17 years
Source: Based on Tanzania Integrated Labour Force Survey (ILFS), 2014.

4.3.5 Gender Based Violence (GBV)

Gender-based violence is widespread and common in Tanzania. Data shows that 40% of women and girls in Tanzania aged 15-49 have experienced physical violence and 17% sexual violence in their lifetime. A violence against children survey found that 27.9 % of girls had experienced sexual violence before their 18th birthday. Moreover Mbeya Region ranked third highest among the 30 regions in Tanzania in HIV prevalence at 11.0 % among females and 6.7 % among males. The region also ranked third highest in prevalence of Intimate Partner Violence (IPV) 67 %, of ever-married women aged 15–49 years reported that they had ever experienced violence from a partner in comparison to the national prevalence of 50.2 %. Proposed Central Bus Terminal and Commuters' Bus Stand subproject shall create gender violence due to employment opportunity if preference shall be only to male gender.

4.3.6 Ethnic Groups

There are 5 unique major ethnic groups in the city scattered in different wards. Iziwa ward has only one major ethnic group which is Safa while Mwasenkwa, Nsoho, Itende, Tembela and Mwasanga wards have two different major ethnic groups and Iduda ward has three different major ethnic groups. Other wards have at least 5 major unique ethnic groups. The major ethnic groups in the city that are found in all wards include Safa, while Nyakyusa, Ndali, Kinga and Nyiha are found in almost all wards of the city.

Proposed TACTIC Projects construction will attract different people from different places for proposed Construction of Bus Terminal and Commuters' Bus Stand. The interaction of ethics groups will lead to culture transfer or deterioration of moral at different occasion.

4.3.7 Water Sources & Supply

Mbeya city gets water supplies predominantly from 13 sources namely Ivumwe (Iyela), Imeta, Sisimba, Hanzya/Mfwizimo (Nsoho), Nsalaga, Nzovwe, Swaya, Lunji, Mwatezi, Nzovwe at Iyela, Halewa and Idunda. Water before supply is treated to meet recommended Tanzania drinking water quality standards. The present average water production is in Mbeya city is 32,600 m3/d which lower than current average demand of 47,600 m3/d. Mbeya Water Supply and sanitation Authority faces various challenges including old age distribution network, high non-revenue water and the most important is the fast population growth and sprawling of the city. Rapid urbanization in Mbeya city accelerates anthropogenic source of pollutions, which threatens the quality of water resources in the city. The baseline report indicated that about 10% of the city is affected by flooding during rainy seasons which occurs in the months of February and April each year. Flooding seriously affects the quality of water resources. For sustainable water supply, surface water quality monitoring is important. Generally, water quality monitoring should be done to achieve the following objectives:

- Characterize waters and identify changes or trends in water quality over time;
- Identify specific existing or emerging water quality problems;
- Gather information to design specific pollution or remediation programmes;
- Determine whether program goals such as compliance with pollution regulation or implementation of effective pollution control actions are being met;
- Respond to emergencies such as spills and floods.

Thus surface water quality has been conducted to achieve the above objective, all aiming at safe guarding lives of consumers and aquatic environment.

Surface water quality monitoring for Kagera spring in Ilomba ward (S 08^0 54.59849: E033^0 28.5192), Nzovwe spring and Meta river in Itende ward, Iringo spring and Kwa Allen at Iziwa ward, Mto Mbata in Ghana ward have taken consider anthropogenic activities including urban agriculture, solid wastes and industrial activities carried along water bodies. For reference on the quality water analysis see annex (18).

Proposed Central Bus Terminal and Commuters' Bus Stand subproject shall create pressure on the water demand during construction phase to both workers and construction related works on Central Bus Terminal and Commuters' Bus Stand subproject.

4.3.8 Health

4.3.8.1 Health Services

Mbeya city has five hospitals of which three hospitals are government hospitals and two are non-government. Sisimba division has one government hospital and Iyunga division has four hospitals of which two are government and two are non-government hospitals. Results further reveal that there are seven health centres in the council whereby Sisimba division had one government health centre and one non-government health centre while Iyunga division has five health centres of which two are owned by government and three are non-government. In addition there are 34 dispensaries whereby 17 dispensaries are owned by governments and 17

dispensaries are non-government dispensaries. More dispensaries are found in Iyunga division of which 12 are government dispensaries and 15 non-government dispensaries compared to Sisimba division with 5 government dispensaries and 2 non-government dispensaries.

The accessibility to health facilities in the project area is good since a number of dispensaries and hospital can easily be accessed. The proposed Central Bus Terminal and Commuters' Bus Stand subproject shall involve employment approximately to 150 -200 workers which lead to pressure on the health services, as a result of injuries and accidents from the construction activities.

4.3.8.2 Diseases & HIV/AIDS Prevalence

The major diseases found in the project area include malaria, diarrhea, respiratory infections including coughing, and TB, pneumonia and skin diseases. Malaria has been ranked the main killer disease in the project area.

With respect to HIV/AIDS infection HIV prevalence peaks at 12% among females aged 45 to 49, as compared to a peak of 8.4% among males aged 40 to 44. HIV prevalence among 15 to 24 year olds is 1.4% (2.1% among females and 0.6% among males). The disparity in HIV prevalence between males and females is most pronounced among younger adults, with prevalence among women in age groups 15 to 19, 20 to 24, 25 to 29, 30 to 34, and 35 to 39 more than double that of males in the same age groups. Among adults 15 years and older, HIV prevalence varies geographically across Tanzania, ranging from 11.4% in Njombe followed by 9.3 in mbeya region.

Proposed Central Bus Terminal and Commuters' Bus Stand subproject shall attract different people searching for employments. Through interactions with the communities, sexual relationships shall emerge and likely to increase transmission of HIV/Aids.

4.3.8.3 Covid- 19

A number of COVID-19 cases were confirmed during the 1st, 2nd and 3rd wave in Tanzania as indicated in the table below. Mbeya was recorded with 0 confirmed cases in 2020. Measures have been undertaken to ensure Covid-19 will not be transmitted including, washing hands on the working environment and ensure daily self-test

Table 4-4: A number of COVID-19 cases in Tanzania

Reporting Country/ Territory/Area	Total confirmed cases	Total confirmed new cases	Total deaths	Total new deaths	Transmission classification	Days since last reported case
United Republic of Tanzania	480	0	18	0	Clusters of cases	6

Source: Situation Report – 107 Data as received by WHO from national authorities by 10:00 CEST, 6 May 2020

The pandemic and its disruption of global supply chains have increasingly affected construction activities, with shortages of raw materials and other inputs, contractors and subcontractors, and workers. Some building material supply chains have suspended production and distribution. Builders have reported delays and increasing costs for imported raw materials (steel, coils, tiles) and off-site

construction components (cabinetry, internal fittings), as many factories have been closed for extended periods.
The project will expose workers to covid-19 environment and thus increased transmission within the project areas.

4.3.9 Land Use Planning

Land use planning is a key aspect of development for both urban and rural areas of any council in the country. The land needs in urban areas are basically for building plots for residential, commercial, institutional or industrial purposes. In rural areas, land is highly demanded for agriculture and other social economic production activities. Proposed Central Bus Terminal and Commuters' Bus Stand subproject is built on an area designed for construction of bus terminal and bus stand. Moreover the sub project shall enhance commercial activities and industrial areas taking into account the improved transportation network.

4.3.9.1 Land area

Mbeya City Council has a total area of 250.219 square kilometre of which the land area is 250.079 square kilometres and water area is 0.140 square kilometre

Table 4-5: Land and Water Area in Square Kilometres by Division and Wards covered by TACTIC project, Mbeya City Council

Division	Ward	Land Area	Water Area	Total Area	Percent of Land Area	Percent of Water Area
	Isyesye	6.312	0.001	6.313	2.5	0.7
	Ilemi	10.452	0.000	10.452	4.2	0.0
Sisimba	Itiji	1.111	0.001	1.112	0.4	0.7
	Nonde	0.956	0.005	0.961	0.4	3.6
	Maendeleo	0.534	0.001	0.535	0.2	0.7
	Majengo	0.341	0.000	0.341	0.1	0.0
	Itende	10.364	0.007	10.371	4.1	5.0
	Sub Total	**29.729**	**0.014**	**30.085**	**11.9**	**10.7**
	Iyela	7.520	0.002	7.522	3.0	1.4
	Ilomba	10.364	0.000	10.364	4.1	0.0
	Mwakibete	8.904	0.000	8.904	3.6	0.0
	Itezi	14.505	0.001	14.506	5.8	0.7
Iyunga	Nsalaga	23.913	0.013	23.926	9.6	9.3
	Nzovwe	7.421	0.002	7.423	3.0	1.4
	Ruanda	1.435	0.000	1.435	0.6	0.0
	Forest	1.436	0.000	1.436	0.6	0.0
	Sub Total	**75.498**	**0.018**	**75.516**	**29.3**	**12.8**
Grand Total		**105.227**	**0.022**	**105.601**	**41.2**	**23.5**

Source: Mbeya City Land Office (2015)

4.3.10 Road Network Classification

Road network in Mbeya city shows that out of 559.2 total kilometres in the City Council, 44.8 % of the road network is earth road, 39.9 is gravel and 15.3 is tarmac. Existence of longest earth road network in the council indicates limitations of possibility during the rainy seasons. Furthermore, the longest earth road network is in Iyunga division with 164.4 kilometres compared to Sisimba division with 86.2 kilometres. Iyunga division has the longest tarmacked road network with 53.3 kilometres while Sisimba division has 32.4 kilometres. On other hand Sisimba ward had the longest tarmacked road network of 6.4 kilometres followed Forest with 6.3 and Mbalizi ward with 4.7 kilometres. Iziwa, Nsoho, Itende, Tembela and Mwasanga wards do not have tarmac networked roads at all.

Upgrading of Central Bus Terminal and Commuters' Bus Stand subproject will influence construction of the road to serve the intended population and to facilitate easily movement of vehicles to and from the terminal.

4.3.11 Agriculture

Maize production accounts for the largest area under cultivation with an average of 1,208 ha in Sisimba division and 2,801 ha in Iyunga division.

Table 4-6: Estimated Land Area (ha) under Major Food Crops by Division, Mbeya CityCouncil, 2011 – 2015

Division	Crops	2011	2012	2013	2014	2015	Average
Sisimba	Maize	1,458	1,328	1,185	1,126	941	1,208
	Beans	293	270	248	222	196	246
	Peas	19	15	13	11	7	13
	Sub Total	**1,770**	**1,613**	**1,446**	**1,359**	**1,144**	**1,466**
Iyunga	Maize	3,372	3,014	2,785	2,515	2,317	2,801
	Beans	558	513	467	417	379	467
	Round Potatoes	191	176	164	148	133	162
	Cow peas	42	36	28	22	17	29
	Wheat	27	25	23	21	19	23
	Sub Total	**4,190**	**3,764**	**3,467**	**3,123**	**2,865**	**3,482**
Grand Total		**5,960**	**5,377**	**4,913**	**4,482**	**4,009**	**4,948**

Source: Mbeya City Department of Agriculture, Irrigation and Cooperatives

Propose urban Central Bus Terminal and Commuters' Bus Stand subproject will easily facilitate the transportation of farm produce from the farmers to other regional for business through reliable accessibility of transportation network.

4.3.12 Crimes Cases

Mbeya City Council in 2015 had 10 police stations with 357 Police Officers. The data shows that, the number of Violent crimes reported is 11,086 equivalents to 69.5 % out of all crimes reported, followed by 4,787 property crimes equivalent to 30.0 % and drug crimes is the least reported with 74 cases equivalent to 0.5 %.

Proposed Central Bus Terminal and Commuters' Bus Stand subproject will increase the crimes cases during construction phase as it will attract stealing of construction materials such as cement, iron if proper security measures will not be taken into consideration.

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5 STAKEHOLDERS CONSULTATION AND PUBLIC PARTICIPATION

5.1 Overview

Stakeholder engagement refers to a broad, inclusive, and continuous process to engage 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.

Stakeholder engagement enhances the effectiveness, efficacy, and accountability of the ESIA process andthe project as required by TACTIC Stakeholders Engagement Plan (SEP). When undertaken in a transparent,balanced manner, it can reduce conflicts and strengthen the sense of ownership of a project and the project's sustainability.

Stakeholder engagement often collaboratively identifies issues and options, and helps make decisions based on input received via the stakeholder engagement process.

5.2 Objectives of Public Consultations and Engagement

Objectives of public consultations and engagement for the proposed subproject under TACTIC are:

- Provide clear and accurate information about the subproject to the communities
- Disseminate information to affected stakeholders to raise their awareness of the proposed subproject.
- Increase stakeholder understanding about the proposed subproject, including its context, aims, opportunities and constraints.
- Accumulate feedback from affected stakeholders to inform project development and ensure that outcomes appropriately meet the relevant needs of those concerned. Consultation will seek to:
- document stakeholders' concerns and preferences;
- identify any issues and constraints existing in the subproject's areas which may affect the design ;
- Assess and document the commonality and relevance of issues and concerns identified through the consultation to feed the ESIA process.
- Provide updates about consultation outcomes to the stakeholders involved, to keep them informed.
- Influence the perception and attitude among stakeholders consulted to enable and obtain acceptable levels of feedback from stakeholders.
- Inform communities along the way leave about the subprojects' schedule
- Gathering from population and their representatives about main environmental and social concerns and perceptions regarding the upgrading of roads and drainage systems
- Gather opinions and suggestions directly from the communities on their preferred mitigation measures and
- Gather opinions and concerns of the various minority groups of women, children, disabled and youth on the proposed upgrading of roads and drainage systems

5.3 Subproject's Levels of Public Engagement and Consultations

The public engagement and consultations were conducted in phases which are; 1st Round Consultation and 2nd Round Communities' Consultation.

1st Round Stakeholders engagement involved: **(a) To Inform:** Provide stakeholders with balanced and objective information to help them understand the project, the problem, and the solution alternatives (**b) To Consult:** Gather feedback on the information given. This was followed by: 2nd Round communities' engagement which: **(a) Involve:** Worked directly with communities during the process to ensure that their concerns and desired outcomes are fully understood and taken into account and (**b) Collaborate:** Partner with communities on the decision-making, including developing alternative solution ideas and choosing the preferred solution together.

5.3.1 1st Round Stakeholders Engagement Methodology

5.3.1.1 Stakeholders Identification

The main stakeholders for the proposed urban infrastructure under TACTIC Project in Mbeya City included; Mbeya City Council, Fire and Rescue Force, Tanesco, Mbeya-UWSA, Lake Rukwa Basin Water Board, Communities, Focus Groups as indicated in Table 5-1 overleaf.

5.3.1.2 Stakeholders Analysis

After identifying and grouping stakeholders, stakeholder analysis was used to characterize stakeholder groups' interests, how they will be affected by the proposed subproject and to what degree, and how those groups may influence the subproject. The stakeholder analysis process revealed important differences among groups, including their concerns and priorities.

Communities and other stakeholders that will be affected by proposed subproject have to be engaged as early as possible during subproject design. By engaging with stakeholders early, it may be possible to avoid, mitigate, or decrease the subproject's impact. It is generally not practical or feasible to engage with every single stakeholder group at every level.

5.3.1.3 Public Meetings

Dissemination of subproject's information among communities along the proposed/selected Bus Terminal and Commuters' Bus Stand subproject s through MEOs and WEOs and later through meetings was an important aspect of the public participation process, they needed to be appropriately informed about what is planned in their areas.

Each meeting was hosted by local authorities and was conducted for an average of 2-3hrs; ESIA team of three (3) members present; one to act as moderator, and other to take notes for the minutes of the meeting.

5.4 Public Participation Process

Several methodologies were used during the stakeholder consultation process. First, the fieldwork which is necessary to formalize and record public opinion about the potential impacts of the project

which was undertaken by ESIA team of experts. Key informant interviews were used to seek the public opinion. The ESIA experts explained the structure of the proposed development to the identified stakeholders and responded to their questions as appropriate. At the same time, the ESIA experts also inquired of the local environmental history of the site and adjacent areas in order to identify potential environmental impacts. The exercise was conducted through interviews with key informants, field surveys and discussions. The table below shows the Study plan and number of informants consulted by wards

The number of participants was approximately to 134 for communities' consultations [See tables 5-1 below], included: local officials, community leaders, disabled people and groups representing community activities. The consultations were led by Socio expert with the support of the ESIA consultant and community development expert and officers from Mbeya City Council.

Table 5-1: Paticipant Of Stakeholders And Engagement And Consultation

S/NO	WARD	PARTICIPANTS		
		DATE	FOCUS GROUP	NO
1	Mbeya CC	27/12/2021	Council Director	**1**
		27/12/2021	Head of Departments	4
		27/12/2021	Engineer	1
		27/12/2021	CDO	1
4	Mbeya CC	28/12/2021	Stakeholders Mbeya cc	
		28/12/2121	Mbeya CC	13
		28/12/2021	FIRE	1
		28/12/2021	TANESCO	1
		28/12/2021	TARURA	2
		28/12/2021	MBEYA UWSA	1
		28/12/2021	TTCL	1
		28/12/2021	LRBWB	1
10	Iyela	30/12/2021	Ward Leaders	11
20	Bodaboda	02/01/2022	Bodaboda	15
21	Stand Kuu	02/01/2022	Stand Kuu	
		02/01/2022	Women	3
		02/01/2022	Men	49
25	Bajaji	03/01/2022	Bajaji	10
			Sub Total	19
			GRAND TOTAL	**134**

5.4.1 Public Consultation and Engagement

5.4.1.1 Public Meetings

Dissemination of project information among communities within the proposed area for bus terminal and commuters bus stand through MEOs and WEOs and later through meetings was an important aspect of the public participation process, they needed to be appropriately informed about what is planned in their area to the larger groups and later on splits into groups for in-depth interview based upon their characteristics.

The community consultations were conducted with the intention to;

- Provide clear and accurate information about the Project to the communities
- Gathering from population and their representatives about main environmental and social concerns and perceptions regarding the terminal construction
- Gather opinions and suggestions directly from the communities on their preferred mitigation measures
- Gather opinions and concerns of the various minority groups of women, children, disabled and youth on the proposed terminal construction

The meeting started with providing preliminaries information about the Project. Cross cutting issues of Gender Based Violence, HIV/AIDs transmission awareness, Environmental issues taken into account (Respecting Environmental needs and managing its environmental responsibilities, climate change resilience, and treat/mitigate the risks and uncertainties.

Picture 5-1: Councillor of Iyela ward on the left stressing a point during consultative meeting concerning proposed Construction of Bus terminal and Commuter Bus stand subproject
Source: Site Picture Dec 2021/Jan 2022

5.4.1.2 Consultative Meetings with Mbeya CC' & Regional Secretariat and Other Stakeholders

Consultative meetings with other stakeholders included discussions with Council Management Team (CMT) which comprised of technical staff from all departments and Regional Secretariat. Stakeholders' meetings from other sectors included both managerial and technical staff, members from other government institutions i.e. TANESCO, TARURA, TTCL, Mbeya-UWASA, LRBWB e.tc,

During the meeting/discussions', The ESIA team was able to high-lighten an Overview of Project Justifications (Perspective, Purpose and Goal) Networking and Partnerships issues amongst service institutions (TANESCO, Mbeya-UWASA, TARURA, TTCL etc). and pledge to come back for feedback after primary stakeholders consultative meeting (needs assessments and anticipated positive or negative effects of the project.

Picture 5-2: Consultation meeting with Council management team, TTCL, TANESCO, MBEYA-UWASA, BASIN WATER BOARD, TARURA,
Source: Site Picture Dec 2021/Jan 2022

Table 5-2: Stakeholders Views

S/No	Institution/Village/NGO	Name & Position	Issues and Concerns	Responses	Project's Document Ref
	LAKE RUKWA BASIN	Grace Chitanda	-To avoid contamination of water during construction. - Affected source/ springs should be marked and being protected	All necessary requirements before the project start will be taken into consideration	
	MBY-UWASA	Eng. Leonidas Deogratias	-Relocations of pipes can cause damage; standby replacement should be needed so that services do not stop. - The Authority should be responsible for sewage system relocation. - Springs areas will be considered, and if there is no water supply, the quality of water will be determined. -The contractor to be given Water User permit or letter for temporary permit on which source to be used by the contractor. -NORPLAN to officially make a formal contract with institution that will be carrying out the HIV/AIDS preventive awareness campaign	All necessary requirements before the project start will be taken into consideration The contractor shall apply for water permit before starting construction activities	Project's permits

	FIRE	Inspector Peter Mwakalinga (OFO)	-In the Markets, roads infrastructures to be easily accessible for fire trucks - Availability of water infrastructure to the market/ terminal area or nearer (fire hydrants) - Contacts with UWSA to know exactly the point/area of UWASA infrastructures so that should not be damaged - Quality of markets walls between rooms (if one room catch fire other rooms should not be affected.) - Quality roof into the market not easily to catch fire.		
	MBEYA CC	Ande Mwaipape (Procurement) MCC	If the Market building should be flats, should have business priorities to attract for high floors	The design consultant shall consider all FIRE requirements	
	MBEYA CC	Eng.Oswald Kasambala (City Eng)	-He advised, all markets should have a Day care for children (For those Women Traders who come with small kids) - Bus terminal and commuters bus stand to be design with enough space for parking - Drainages system to consider topography of the area	All necessary requirements before the project start will be taken into consideration	
		Ally Abdalah, Ag. (CPEO)	-Markets should be built in phases because to relocate traders it is a complicated procedure - Garbage dumps should be large to accommodate bulk garbage	All necessary requirements before the project start will be taken into consideration	

		Zena Kapama (CCDO)	-Vegetation should be protected. -Trees are not allowed to be removed unless there is a necessity to do so, and the felled trees must be replanted. –Trees belong to the Council the permit to cut those trees will come from the Council and individual/private trees should be identified, and compensated	All necessary requirements before the project start will be taken into consideration	
	TANESCO	Ag. Principal Eng. Mageuzi Mathew	- REA & TANESCO will work together with TARURA to plan for relocation of infrastructures - The councillor will be responsible for compensation, relocation costs and duration will be done and included to the project budget - Underground infrastructure should not be affected during construction, it is good to know how deeply of the drainage	The contractor shall contact with the council before construction activities started	
	TTCL	Eng. Stephen M. Magafu	- Before demolishing or removing old pillars/wires, there must be changed over (we should relocate and rebuilt new pillar/wire then old pillar /wire relocated - There should be permits to drill/cut underground infrastructure or (cut across.) - The Contractors should identify mark, the area with infrastructure, so that next time they will know exactly the are - Removed a pillar may possible affect others, seriously attention is needed. - Before insuring any permits of removed any infrastructures of TTCL, they must go to the site to examine requirements to be considered. -BOQ, payment should made, TTCL will prepare BOQ and present to PO-RALG or consultation about the procedures for relocation	All necessary requirements before the project start will be taken into consideration	

	BODABODA	Charles Bryson	-The proposed Terminal Should be Modern & Big like Magufuli Terminal - Bodaboda should have an office (at the terminal) - Bodaboda allocation should be in or out side of the terminal as long as it is in the perimeter of the Terminal	All necessary requirements before the project start will be taken into consideration Stakeholders visits to the site The design consultant shall consider relocation costs within the project's BOQ	Project's BOQ
	BODABODA	Rajabu Ramadhani, Bodaboda Secretary	-Bodaboda office should be within the main stand -Should be assigned their specific packing arears even if it will be outside of the Terminal -They need Flats & Modern Bus Terminal	All necessary requirements before the project start will be taken into consideration	
		Musa Mgala	-Water drainage channels on both roadsides - should be filled with concrete and constructed in more safe and secured areas - Construct specific lanes to be used by bodaboda, bajaj and pedestrians - Specific number(group) of bodaboda to be given permission to park within the stand		
	BODABODA	Hamad Mponda	-Nothing new, no master plan		
	BUS STAND	Boniface Mbuya Transport Partner	- All necessary services should be available - Clean toilets, Bureau de Change - Users of old main stand insisting of maintain their offices after construction of new terminal, application of rules should be used to avoid corruption Tax and fees should be affordable		
		Sebastian Booking	Modern bus Terminal		

		Officer	- Should accommodate at least 500 buses - Police Station, Modern Hotels, Hospital, Bureau de Change shoud be in place - Should be designed areas for Buses, daladala, bodaboda and bajaj - Application of rules during relocation to a new terminal and participation		
	BUS STAND	Fred Mwambene (Taxi Representative)	Stakeholders should be involved - Humps should be constructed at the road heading to school -Zebra crossing to be placed		
	BUS STAND	Exevery Titus, Agent	-Modern and Best Bus Terminal -Areas should be differentiated, booking offices, mama lishe, shops etc.		
	BUS STAND		- Modern, beautifully with accommodation of many buses, Hotels, Banks - Should be better than Magufuli Terminal in Dar		
	BUS STAND	Salum Juma, Chairperson-Bus Stand	- Modern, Best stand recommended - Its lively and excited areas - Availability of all requirements, like Banks, house for Worship for all Religious Why not out of town/ city to ease congestion in the city centre. (Areas like Uyole and Iwambi)		
	IYELA WARD & Village Leaders	Gregory Sigala Chairperson of Block T	-The road should be wider and adhere all safety signs. -During the rainy season it causes flooding so should be built a very large drainage so that can collect water in one stream. Water from the Pambogo street should be constructed drainage ditches		

			to be one. Exim Bank area have blocked water flows, Puma Petrol Station and Labarafu are rough areas the base on top should be long		
		Enock Mwampagana. Chairperson Airport	He loved participation		
		Oswarld G. Mwalisi, Chairperson Pambogo	-Water from the Pambogo and Mapambano street should built a large canal to flow water to river Nzovwe. -Any damage to the water pipes should returned immediately. -The houses affected by construction should be considered.		
		Saimon Mwandambo (Member from Pambogo Street)	-The project area was so aggressive, that improving it will attract and eliminate the problem		
	IYELA WARD LEADERS Village Leaders	Ally Mwakafula (Member from Airport Street	-Water drainage channels along the road should be firmly built to allow water flow properly instead of cutting across the road. -Employment priority should be given to local youth (Airport street)		
		Beston Jackos MEO, BLOCK T	- Road humps is essential in highly populated areas along the road - Specific lanes for bodaboda, bajaj, pedestrians to be included in the design -About Bus Stand he adviced to copy from others what they have done and should have a special place/area/section at the Bus Stand special for disabled.		
		Mariamu Q. Malo (Govt Street Member)	is happy and believing that 'the future is exciting'		

	IYELA WARD LEADERS	Musa Ismail, Hon councillor of Iyela Ward.	- He is very positive with the project, people be prepared to receive the project with guests, - should be more carefully since there will be interaction of people to avoid communicable diseases like HIV/ AIDS and COVID 19 - Protection of building materials like cement to be stolen, youths of the project areas should be employed as casual labourers -Emphasizing the absence of corruption and to lower the price of human needs like foods, rooms for shelter -The road built earlier were not standardised, so they need quality roads with the presence of road signs -They proposed the construction camp to be allocated within Old Airport		

5.5 Summary of major concerns raised by the stakeholders

- Provision of enough space for BodaBoda and Bajaji within the terminal;
- Association of bus drivers at the current terminal at Sisimba ward, are insisting to maintain their offices after construction of new terminal, data base and rules should be used to avoid corruption, as well tax should be affordable. Mostly suggested to be modern, quality, International, attractive and better than Magufuli Terminal in Dar es salaam.
- Increase business efficiency through time saving and improved reliability for business travellers and logistic operations.
- Increase business investments and innovation by supporting economic scale or new ways of working.
- The Terminal, commuter bus, stands Bajaj and Bodaboda design; will be in one compound, therefore, the design should be unified with the whole.
- The design requires presence of, Hotels, Bureau de Changes, Police Stations, Restaurants, a place of Worship for all religions, and Banks.

6 ASSEMENT OF IMPACTS AND IDENTIFICATION OF ALTERNATIVE

6.1 Overview

This chapter outlines the potential negative and positive impacts that will be associated with the proposed construction of Bus terminal and commuters bus stand subproject at old airport. The impacts are related to activities to be carried out during construction, operation and decommission phases of the subproject.

The impacts of the project during each of its life cycle stages (construction, operation and decommissioning) have been categorized into: impacts on the biophysical environment, health and safety impacts and socio-economic impacts

6.2 Methodologies for Identification of Impacts

6.2.1 Matrix

For identification of subproject related impacts the Consultants team used the matrix method (screening matrix), which is based on identifying and qualifying actions of the sub project comparisons with natural and social environmental conditions. This generated a anthropomorphic actions with impacts to the environment including health and safety to project's communities. The latter was carried out through the use of a cause-effect relationship matrix

6.2.2 Experts Knowledge

Expert or knowledge-based systems were used to assist diagnosis, problem solving and decision-making.

6.2.3 Identification of Impacts

Susceptible Impacts' Generating Actions

Definition of actions in each stage of the project was done, which were considered as actions caused by a simple, concrete, well-defined and located cause of the impact.

Table 6-1: Concrete Actions on the Project Phases

Phase	Action
Mobilization	Permitting and/Licensing
	Delimitation of working zones
	Construction of contractor's provisional facilities (building offices, machinery and equipment warehouses)
	Transportation of equipment, materials and Staff
	Storage of materials, equipment and machinery
Construction	Sourcing/preparation and transport of construction materials, including stone quarrying, gravel, sand and stone borrowing, preparation of cement, timber, reinforcement bars, asphalt, casting of pre-cast materials such as concrete beam etc
	Earth works including removal of top soils,/filling, and compaction
	Construction of Bus terminal and commuters bus stand which will include such activities as welding works, concrete works and metal works
Operation & Maintenanc	Transportation of people and goods
	Road traffic management
	Terminal Maintenance
Site Abandonm	Dismantling and demolition of terminal structures

Decommissioning	
	Cleaning and rehabilitation

6.2.4 Impacts' Generating Actions

In this section, key biological, physical, and social receptors were selected from the baseline data. The impacts of the sub project activities on each of these "Components" were evaluated using a significance ranking process.

The environment complexity and its systemic nature was broken down into several levels to obtain simple and concrete factors:

Table 6-2: Components and Factors of the Environment

Environment	Component		Factor
Abiotic	Climate		Temperature, Rainfall
	Atmosphere		Air Quality
			Dust
	Land		Structure
			Quality
			Relief
	Surface water		Surface drainage (run-off patterns)
			Quality
Biotic	Flora	Terrestrial	Habitat
			Distribution
			Species within any category
	Ecosystem		Biodiversity
Landscape	Landscape		Quality-vegetation cover, soil erosio
Socioeconomic	Economic		Change of land use
			Jobs
			Local and Regional Development
	Services Demand		Water
			Energy
			Communication
			Waste management and disposal

6.3 Identification of Project Impacts

6.3.1 Matrices (Activities-Environment Interactions)

Interactions between the project activities and the environment were identified for each stage of the project, by using a matrix presented below on tables 6-3 - 6-5

Table 6-3: Matrix 1 - Identification and Assessment for the proposed Bus Terminal and Commuters' Bus Stand Project's Environmental Impacts during Planning & Mobilization Phase

Phase	Components / Factors	Clime	atmosphere		Land		Surface Water			Ground Water		Flora		Fauna						Ecosystem	Landscape		Socioeconomic																								
														Terrestrial			Aquatic						Economic																		Services				
	Activities	Climate & Microclimate	Air Quality	Noise & Vibration	Structure/Topography	Erosion/Quality	Surface drainage /Hydrology	Water Quality/Pollution	Downstream Effect	Aquifers recharge	Ground Water Quality	Vegetation Coverage	Species/Category	Habitat	Distribution	Species/Category	Habitat	Distribution	Species/Category	Biodiversity	Quality	Change of Land use	Resettlement	Jobs/Employment	Local and Regional Development	At Risk Population i.e Child Labour	Occupational Health & Safety	Local Life Style	Improved Local Trade	Migrant Population	Gender Based Violence	Spread of HIV/AIDS	Community Stability	Cultural/Religion Values	Improved Transport Condition	Tourism	Water	Energy/Electricity	Energy/Fuel Transfer	Communication	Waste Management & Disposal
Mobilization	Permitting and/Licensing											x													x												x						
	Delimitation of working zones																					x			x																		
	Land Clearance	x						x		x		x			x					x	x	x		x	x										x		x					x	
	Construction of contractor's provisional facilities (building offices, machinery and equipment warehouses)		x	x	x			x		x		x		x	x	x				x	x	x		x	x	x	x			x	x	x			x		x	x			x
	Transportation of equipment, materials and Staff		x	x																x							x			x	x	x		x		x						
	Storage of materials, equipment and machinery				x			x			x				x					x	x						x																

Table 6-4: Matrix 1I -Identification and Assessment of the proposed Bus Terminal and Commuters' Bus Stand Project's Environmental Impacts during Construction Phase

Phase	Components		Climate	atmosphere		Land		Surface Water			Ground Water		Flora		Fauna						Landscape		Socioeconomic																				
															Terrestrial			Aquatic					Economic																		Services				
	Actions	Factors	Climate & Microclimate	Air Quality	Noise & Vibration	Structure/Topography	Erosion/Quality	Surface drainage /Hydrology	Water Quality/Pollution	Downstream Effect	Aquifers recharge	Ground Water Quality	Vegetation Coverage	Species/Category	Habitat	Distribution	Species/Category	Habitat	Distribution	Species/Category	Quality	Change of Land use	Resettlement	Jobs/Employment/ Risk of Child Labo	Local and Regional Development	Traffic	Occupational Health & Safety	Local Life Style	Improved Local Trade	Migrant Population	Gender Based Violence	Spread of HIV/AIDS	Community Stability	Cultural/Religion Values	Improved Transport Condition	Tourism	Water	Energy/Electricity	Energy/Fuel Transfer	Communication	Waste Management & Disposal
Construction	Sourcing/preparation and transport of construction materials, including stone quarrying, gravel, sand and stone borrowing, preparation of cement, timber, reinforcement bars, asphalt, casting of pre-cast materials such as concrete beam etc			x	x																		x		x	x			x						x					
	Earth works including removal of top soils,/filling, and compaction			x	x	x	x	x	x	x	x		x		x	x					x			x	x		x								x		x	x	x	x	x
	Construction of Bus terminal and commuters bus stand which will include such activities as welding works,			x	x	x	x	x	x	x											x			x	x		x			x	x	x	x			x	x		x	x

	Components		Climate	atmosphere		Land		Surface Water			Ground Water		Flora		Fauna						Landscape		Socioeconomic																							
															Terrestrial			Aquatic						Economic																		Services				
Phase	Actions	Factors	Climate & Microclimate	Air Quality	Noise & Vibration	Structure/Topography	Erosion/Quality	Surface drainage /Hydrology	Water Quality/Pollution	Downstream Effect	Aquifers recharge	Ground Water Quality	Vegetation Coverage	Species/Category	Habitat	Distribution	Species/Category	Habitat	Distribution	Species/Category	Quality	Change of Land use	Resettlement	Jobs/Employment/ Risk of Child Labo	Local and Regional Development	Traffic	Occupational Health & Safety	Local Life Style	Improved Local Trade	Migrant Population	Gender Based Violence	Spread of HIV/AIDS	Community Stability	Cultural/Religion Values	Improved Transport Condition	Tourism	Water	Energy/Electricity	Energy/Fuel Transfer	Communication	Waste Management & Disposal
	concrete works and metal works																																										

Table 6-5: Matrix III - Identification and Assessment of the proposed Bus Terminal and Commuters' Bus Stand Project's Environmental Impacts during Operation & Maintenance and Decommissioning Phases

	Components		Climate	atmosphere		Land		Surface Water			Ground Water		Flora		Fauna						Ecosystem	Landscape	Socioeconomic																							
															Terrestrial			Aquatic						Economic																		Services				
Phase	Actions	Factors	Climate & Microclimate	Air Quality	Noise & Vibration	Structure/Topography	Erosion/Quality	Surface drainage /Hydrology	Water Quality/Pollution	Downstream Effect	Aquifers recharge	Ground Water Quality	Vegetation Coverage	Species/Category	Habitat	Distribution	Species/Category	Habitat	Distribution	Species/Category	Biodiversity	Quality	Change of Land use	Resettlement	Jobs/Employment/ Risk of Child Labour	Local and Regional Development	Traffic	Occupational Health & Safety	Local Life Style	Improved Local Trade	Migrant Population	Gender Based Violence	Spread of HIV/AIDS	Community Stability	Cultural/Religion Values	Improved Transport Condition	Tourism	Water	Energy/Electricity	Energy/Fuel Transfer	Communication	Waste Management & Disposal
Operation & Maintenance	Transportation of people and goods			x	x				x														x		x	x	x	x	x	x	x	x	x	x	x	x	x			x	
	Road traffic management		x	x	x																					x	x																
	Terminal Maintenance			x	x	x																			x		x		x							x		x	x	x	x			x

	Components		Climate	atmosphere		Land		Surface Water			Ground Water		Flora		Fauna						Ecosystem	Landscape	Socioeconomic																								
															Terrestrial			Aquatic						Economic																			Services				
Phase	Actions	Factor	Climate & Microclimate	Air Quality	Noise & Vibration	Structure/Topography	Erosion/Quality	Surface drainage /Hydrology	Water Quality/Pollution	Downstream Effect	Aquifers recharge	Ground Water Quality	Vegetation Coverage	Species/Category	Habitat	Distribution	Species/Category	Habitat	Distribution	Species/Category	Biodiversity	Quality	Change of Land use	Resettlement	Jobs/Employment/ Risk of Child Labour	Local and Regional Development	Traffic	Occupational Health & Safety	Local Life Style	Improved Local Trade	Migrant Population	Gender Based Violence	Spread of HIV/AIDS	Community Stability	Cultural/Religion Values	Improved Transport Condition	Tourism	Water	Energy/Electricity	Energy/Fuel Transfer	Communication	Waste Management & Disposal
Decommissioning	Dismantling and demolition of terminal structures			x	x	x			x													x			x											x	x			x	
	Cleaning & Rehabilitation			x	x				x																x	x											x				x	

6.4 Impacts Prediction & Evaluation

After identification of impacts as a result of the proposed project's activities, their significance were determined, that is, whether they are acceptable or unacceptable and thus require mitigation. The significance of an impact was determined by considering the impact characteristics and the importance (or value) attached to them by the consultant team.

Information provided by the consultant's team of experts was used to calculate an overall impact score by multiplying the product of the nature, magnitude and the significance of the impact by the sum of the extent, duration and probability based on the following equation

Overall Score = (NxMxS) x (E+D+P)

Where:

N = Nature;

E = Extent

M = Magnitude

D = Duration

P = Probability

S = Significance

Table 6-6Impacts Methodology table

Nature				
Negative		Neutral		Positive
-1		0		+1
Extent				
Site	Local	Regional	National	International
1	2	3	4	5
Magnitude				
Low		Medium		High
1		2		3
Duration				
Short Term (0-5yrs)	Medium Term (5-11yrs)		Long Term	Permanent
1	2		3	4
Probability				
Rare/Remote	Unlikely	Moderate	Likely	Almost Certain
1	2	3	4	5
Significance				
No Impact/None	No Impact After Mitigation/Low		Residual Impact After Mitigation/Medium	Impact Cannot be Mitigated/High
0	1		2	3

The analysis was conducted on a quantitative basis with regard to the nature, extent, magnitude, duration, probability and significance of the impacts. The following definitions and scoring system applied:

Table 6-7: Description of impact

Nature (/Status) The project could have a positive, negative or neutral impact on the environment.
Extent • Site – impact within the project site. • Local – extend to the site and its immediate surroundings. • Regional – impact on the region but within the districts. • National – impact on an interregional scale. • International – impact outside of Tanzania.
Magnitude Degree to which impact may cause irreplaceable loss of resources. • Low – natural and social functions and processes are not affected or minimally affected. • Medium – affected environment is notably altered; natural and social functions and processes continue although in a modified way. • High – natural or social functions or processes could be substantially affected or altered to the extent that they could temporarily or permanently cease.
Duration • Short term – 0-5 years. • Medium term – 5-11 years. • Long term – impact ceases after the operational life cycle of the activity either because of natural processes or by human intervention. • Permanent – mitigation either by natural process or by human intervention will not occur in such a way or in such a time span that the impact can be considered transient
Probability • Almost certain – the event is expected to occur in most circumstances. • Likely – the event will probably occur in most circumstances. • Moderate – the event should occur at some time. • Unlikely – the event could occur at some time. • Rare/Remote – the event may occur only in exceptional circumstances.
Significance Provides an overall impression of an impact's importance, and the degree to which it can be mitigated. The range for significance ratings is as follows 0 – Impact will not affect the environment. No mitigation necessary. 1 – No impact after mitigation. 2 – Residual impact after mitigation. 3 – Impact cannot be mitigated.

On the other hand, if the nature of an impact is 0 (neutral or no change) or the significance is 0 (no impact), then the impact is 0.
Impact Scores will therefore be ranked in the following way:

Table 6-8: Ranking of Overall Impact Score

Impact Rating	Low/Acceptable impact	Medium	High	Very High
Score	0 to -30	-31 to -60	-61 to -90	-91 to -117

Table 6-9: Environmental and Social analysis for Proposed Bus terminal and Commuter's bus stand at Mbeya City, TACTIC Project

Component		Factor/Impact	Nature		Extent (E)					Timing				Magnitude (M)			Duration (D)				Probability (P)					Significance (S)						Score
			+ve	-ve	Site	Local	Regional	National	Intern	Planning	Mob &Cons	Deco	Op	Low	Med	High	ST	MT	LT	P	Rare	Unlike	Modera	Likely	Certain	Nill	Low	Medium	High	NMS	E+D+P	
Impact Score Value			**1**	**-1**	**1**	**2**	**3**	**4**	**5**					**1**	**2**	**3**	**1**	**2**	**3**	**4**	**1**	**2**	**3**	**4**	**5**	**0**	**1**	**2**	**3**			
Climate		Microclimate		**x**		**x**					**x**	**x**	**x**	**x**					**x**						**x**		**x**			-2	10	-20
Atmosphere		Air Quality		**x**	**x**						**x**	**x**	**x**	**x**			**x**						**x**				**x**			-1	5	-5
		Noise		**x**	**x**						**x**	**x**	**x**	**x**			**x**						**x**				**x**			-1	5	-5
		Vibration		**x**	**x**						**x**	**x**	**x**	**x**			**x**					**x**					**x**			-1	4	-4
Land		Erosion/Quality		**x**	**x**						**x**	**x**		**x**			**x**							**x**			**x**			-1	6	-6
Surface Water		Surface drainage /Hydrology		**x**	**x**						**x**			**x**			**x**							**x**			**x**			-1	6	-6
		Water Quality/Pollution		**x**		**x**					**x**	**x**	**x**		**x**		**x**					**x**					**x**			-2	5	-10
Flora		Vegetation Coverage		**x**	**x**	**x**					**x**			**x**			**x**							**x**			**x**			-1	6	-6
		Species/Category		**x**	**x**						**x**			**x**			**x**							**x**			**x**			-1	6	-6
Ecosystem		Biodiversity		**x**	**x**						**x**	**x**		**x**			**x**					**x**					**x**			-1	4	-4
Landscape		Quality	**x**										**x**		**x**				**x**						**x**		**x**			2	5	10
Socioeconomic	Economic	Change of Land use	**x**				**x**				x		**x**		**x**					x					**x**			**x**		4	12	-48
		Jobs/Employment	**x**				x				**x**	**x**	x		**x**			x							**x**				x		4	9	36
		Risk of child labor		**x**		**x**					**x**	**x**			**x**		**x**								**x**		**x**			-2	7	-14
		Risk of accident		**x**	**x**						**x**	**x**	**x**	**x**			**x**				**x**						**x**			-1	3	-3
		Local and Regional Development	**x**				**x**						**x**		**x**				**x**						**x**			**x**		4	11	44
		Occupational Health & Safety		**x**	**x**						**x**	**x**			**x**					x			**x**					**x**		-4	8	-32
		Improved Local Trade	**x**			**x**					**x**	**x**	**x**		**x**				**x**					**x**				**x**		4	9	36
		Vehicle traffic		**x**		**x**					**x**	**x**	**x**		**x**		**x**						**x**				**x**			-2	6	-12
		Migrant Population		**x**		**x**					**x**	**x**			**x**		**x**						**x**					**x**		-4	6	-24
		Gender Based Violence		**x**		**x**					**x**	**x**		**x**					**x**				**x**					**x**		-2	8	-16
		Spread of Covid-19, HIV/AIDS		**x**				**x**			**x**				x				**x**				**x**					**x**		-4	10	-40
		Community Stability		**x**		**x**						**x**	**x**		**x**				**x**				**x**					**x**		-2	8	-16
	Services	Water		**x**		**x**					**x**			**x**			**x**						**x**				**x**			-1	6	-6
		Energy/Electricity		**x**		**x**					**x**			**x**			**x**						**x**				**x**			-1	6	-6
		Communication	x			**x**					**x**			**x**			**x**						**x**				**x**			1	6	6
		Waste Management & Disposal		x		**x**					**x**	**x**	x	**x**			**x**						**x**				**x**			-2	7	-14

6.5 Impact Identification

The proposed subproject can cause a wide range of environmental and social impacts on a number of receptors. The ESIA identify these impacts for the purposes of mitigating the adverse ones or enhancing the benefits. Impact identification is a process designed to ensure that all potentially significant impacts are identified and taken into account in the ESIA process. A number of "tools" are available to assist in impact identification.

Checklist of impacts method/tool was used for this subproject. The following subsections present the impacts identified during various phases.

6.5.1 Impacts Identified to be associated with Mobilisation and Construction Phase

- Soil and Surface water pollutions due to leaking waste Hydrocarbons;
- Deterioration of ambient air quality by dust and fumes;
- Vibration from excavation and other heavy equipment;
- Land and Surface water pollutions from poor construction waste management;
- Skills transfer to locals;
- Safety and Health hazards from construction works;
- Employment opportunities and Income generation;
- Economic returns and promotions of secondary business;
- Increased pressure on water demand;
- Risk of child labor;
- Increased pressure on materials and energy;
- Population influx and related Impacts;
- Interruption of area traffics and movements.
- Upgrade of infrastructure and contribution of the subproject into the regional/national economy

6.5.2 Impacts Identified to be associated with Operation Phase

The following impacts have been identified to be occurring during the operational phase.

- Diseases outbreaks from mismanagement of liquid waste;
- Land degradation due to mismanagement of solid waste;
- Increased surface water run-off;
- Creation of employment;
- Health and Safety risks
- Fire hazards;
- Improved Public security;
- Increased revenue collection to the local authorities and central government;
- Availability of trading area;
- Increased Traffic;
- Increased pressure on social services

6.5.3 Impacts Identified to be associated with Demobilization Phase

The following impacts have been identified during demobilization phase.

- Noise pollution and vibration associated with demolition activities;
- Un-aesthetic conditions due to mismanagement of generated decommission solid waste;
- Air pollution (Dust and exhaust emissions);
- Loss of employment;
- Loss of revenue to government;
- Safety Hazards to Workers

6.6 Environmental and Socio-economic Impacts

6.6.1 Pre-Construction Phase Impacts

Positive Impacts

6.6.1.1 Employment Opportunities

During pre-construction phase the Bus terminal and commuter's bus stand subproject will create employment opportunities to various professionals directly or indirectly linked to the projects. The proposed project during pre-construction phase has created employment to the following teams:

- Engineering Design & Architectural teams for concept and design development.
- Environmental and social studies teams to carry out Environmental and Social Impact Assessments
- Economists and quantity surveyors for development of project proposal and economic viability
- Surveying Teams to conduct topographical survey.

The impact is considered positive, medium magnitude.

Negative Impacts

6.6.1.2 Vegetation Clearance to Accommodate Central bus terminal and Bus Stand

Presently the proposed site has some vegetation and greenery areas that blend very well with the surroundings. Therefore, grasses will be lost and thus losing the familiar and common aesthetic view of the area. The impact is considered negative, low magnitude

6.6.2 Impacts during Construction Phase

Positive Impacts

6.6.2.1 Employment during Construction

Construction will create employment opportunities to the following staff directly or indirectly linked to the project.

- Supervising engineering team;
- Contractor staff (managerial, skilled and unskilled labour force);
- Suppliers of plants, machinery, materials, and essential services;
- Construction monitoring personnel from various government agencies

The impact is considered positive, medium magnitude

6.6.2.2 Improved Local Socio-Economy

Construction of the Central Bus Terminal and Commuters' Bus Stand will bring about, among other benefits listed during public consultations, the following socio-economic benefits

- Employment of local workers during the construction phase of the project;
- Increased business opportunities around the project site due to the presence of project workforce during construction
- Increased strengthening of local economy through the establishment of micro-enterprises such as food vending stalls and other necessities; however, the implementation of this project is in line with City Land use Plan, that buildings should provide enough off-street parking to satisfy the demand from residents, employees, and visitors and others depending on the nature of the building.

The impact is considered positive, medium magnitude

6.6.2.3 Improved Government Revenue through Collected Taxes

Construction materials to be purchased and services to be provided on the proposed project will all be subjected to the value added tax and goes into the government, Companies and employments will equally give their share to the statutory contributions to the government (NSSF, PPF). The impact is considered positive, medium magnitude

Negative Impacts

6.6.2.4 Loss of Vegetation from Site Clearance

Once the project is approved vegetation clearance during site preparation and construction practices will result into removal of exist grasses/ trees. These practices remove protective plant cover over the existing ground. The impact is considered negative, low magnitude.

6.6.2.5 Vibration and Noise Pollution

The vibrations are from vehicles and earth moving vehicles during mobilization phase. Vibration is common occupational hazards in many work places. However, the impact generated here are considered short term as they will be apparent only during the construction phase

Project activities (e.g. hammering /knocking and vehicular traffic) may have an impact on noise levels. Noise and vibration levels may increase during construction i.e. the contractors can deploy noisy generators. In case this is observed, measures for control of vibration and excessive noise levels beyond 85 Db (A) will be instituted. The impact is considered negative, low magnitude.

6.6.2.6 Poor Air Quality-Emissions Dust

The air quality around project areas is affected by machinery due to exhaust emissions during clearing, transporting, placing, grading and compacting on the site. However, the extent of air pollution will be taken into consideration by understanding some of the project activities during non-working hours and weekends.

Air pollution from pollution contributes to a number of health issues and common diseases. It can increase a person's risk of cancer, impair the body's immune system and cause many respiratory problems. It is also commonly linked to asthma and is believed to be a contributor to birth defects.

Dust may emanate from haulage of materials thus impairing visibility among vehicle drivers, cyclists and pedestrians, or during offloading at the Bus stand site. All in all such dust can be prevented by covering the haulage material and also the contractor can suppress dust by sprinkling water regularly at work places and all turning locations. The impact is considered negative, low magnitude.

6.6.2.7 Oil, Grease, Fuel Spillage

Hydro carbon spills around the construction site may come from construction equipment thus leading to health hazards to workers and other persons at large. Dripping pans can be used while servicing the construction equipment's. Any construction equipment dripping oils and other lubricants shall be withdrawn from work until the leakages are sealed. The impact is considered negative, low magnitude.

6.6.2.8 Solid and Liquid Waste Generation

Solid and liquid waste will be generated from construction works, mainly from site clearance of the project area. Licensed waste collectors can deal with the elimination or recovery of some of this waste.

Solid and liquid waste (e.g. hydro carbons) can adversely impact the surface water, ground water, soil and air and can affect the soil use and the aesthetic beauty of an area. The impact is considered negative, low magnitude.

6.6.2.9 Gender based violence (GBV)

During mobilization and construction phase the GBV shall be expected to those who seek for employment. The demand of employment will influence sex corruption in exchange of employment, moreover workers may use their income to seduce people's wives and school girls which migh result in families' misunderstanding and violence.

This is considered negative impact, short term with low magnitude

6.6.2.10 Risk of child labor

In the project area many children work to ensure survival of their families and themselves. During construction, the contractor/subcontractors might knowingly or unknowingly employ workers under the age of 18 which is against the labor law of Tanzania

Child labor is associated with increased musculoskeletal disorders, physical impairment, and psychological distress. Risk of child labour is considered to be negative, low magnitude.

6.6.2.11 Increase in vehicular traffic congestion

It is expected that Construction of the Central Bus Terminal and Commuters' Bus Stand will take approximately two years to complete. Construction is likely to cause temporary traffic delays and temporarily make it more difficult to access various places along the road. The anticipated impacts to traffic resulting in congestion will continue until construction is complete.

The construction-related traffic associated with regular delivery of construction materials from quarry and borrows pit sites and other day-today construction equipment and materials, as well as daily worker traffic, will generate additional traffic. TANZAM highway is one of the busy road that connects other region and contrary will increase traffic due to construction activities can easily be accommodated from a capacity perspective, especially during off-peak hours.

The impact is considered to be negative of long-term duration and low significance

6.7 Risk to Health and Safety

6.7.1 Construction Phase Impacts

6.7.1.1 Safety and Health hazards due to construction works

The construction phase may generate safety hazards in relation to increases in traffic and access to the construction site (if not adequately controlled), and potential health impacts and nuisance factors due to noise, dust, vibrations and gaseous emissions. Also accidents may occur due to lifting and movement of heavy loads and construction Equipment. Accidents may be caused by machines such as Excavators etc. when controlled by unqualified operators. Accidents related to vehicles may occur due to truck hauling operations, transportation of materials e.g. sand and rock chips as well as careless driving habits etc.

The impact is considered negative, medium magnitude.

6.7.1.2 Safety Risks at Borrow Sites

Disturbances, particularly land carrying capacity at borrow sites or sources of construction materials (sand, aggregates, stones,) will be experienced during construction stage. Borrow materials to be used for construction of bus stand will be collected from available sources within Mbeya city council. The immediate impact of borrow areas/sites is land caring and leaving gaping holes.

6.7.1.3 Land and water pollutions from poor construction waste management

During the construction stage solid waste in the form of overburden, rubbish, metal and garbage is expected resulting from land clearance and levelling, excavation and food preparation activities. If not properly disposed this may pollute soil and water resources. Potential impacts on the environment may also be associated with the handling, storage and disposal of construction material containing pollutants. In addition, human activity involving workers will also result into waste being generated. Environmental pollution may also results from domestic and sanitary wastes from workers at construction site. The impact is considered negative, low magnitude.

6.7.1.4 Population influx and related Impacts

Construction works attracts influx of job seekers and opportunistic businesses into any project site. Considering the current HIV-AIDS level in Tanzania, increased population (job seekers) in Mbeya city area may result into increased HIV-AIDS transmission rates. Another problem associated with population influx is the increased pressure and demand on available social services. Effects of increased population will be short term. However, effects of HIV infections will be long term to victims. This impact is expected to be low, since the expected number of workers is minimum. The Contractor shall enforce a code of conduct for his team that will minimize social interactions with the community. The issue of Covid -19 is also highly associated with bringing people close; the labour force is likely to be affected by failing to keep social distances. The contractor will ensure that education and protection devices such as nose and face masks will be provided and used by all workers.
This Impact is considered to be of negative, short-term to long-term and of moderate significance.

6.7.2 Impacts during Operation Phase

6.7.2.1 Increase in Traffic conflicts and jam

Traffic conflict and localized jams to proposed Central Bus Terminal and Commuters' Bus Stand. The preliminary design of the proposed Bus stand suggests the entrance and exit of the facility will be in a separate direction. The impact is considered negative, low – moderate magnitude

6.7.2.2 Hydro carbon Spillage

During operation phase, the bus stand vehicles can contribute to the oil spillage due to lack of service. Accidents due to wet floors as a result of hydrocarbon spillage on the floor and decks of the upper levels of the bus stand may lead to vehicles' brakes failure. The floor may become slippery and dangerous to users. Also the spillage will contaminate the land and water sources. The impact is considered negative, short to long terminal with low magnitude.

6.7.2.3 Poor Air Quality due to Emissions

Emissions may be trapped and concentrated on block levels during operation of the bus stand block. The source of this problem would mainly be out-dated motor vehicles and some of the irregularly serviced vehicles. The health effect of motor vehicle emissions and ambient air pollution are known but due to the nature of enclosed Bus terminal stand it is anticipated that these health risks may be amplified. This is of particular concern since it may be possible that it will have a cumulative effect on employees and subcontractors that provide security, maintenance and other various services being subjected to work in these environments for a prolonged period of time. The impact is considered to be negative, medium magnitude.

6.7.3 Decommissioning Phase

It is envisaged that decommissioning of the Central Bus Terminal and Commuters' Bus Stand means the operation stops. As far as employment is concerned, loss of employment is expected.

6.7.3.1 Noise pollution and vibration associated with demolition activities

The demolition process will entail removal of roofing materials using crowbars and hammers, breaking of wa-lling and reinforced slabs using sledge hammers and/or jack hammers, which utilize compressed air and lowering of materials from high to low levels. The exercise will therefore entail working at high level and all the necessary health and safety measures will be implemented including provision of personal protective equipment such as, safety harnesses, helmets, gloves, respirators, safety shoes, coveralls, goggles and ear protectors.
This is considered to be negative, short-term and of low significance.

6.7.3.2 Solid waste generation during decommission phase

Demolished building materials like bricks, stones, metal, and wood materials if stockpiled over the ground surface will ultimately cause solid wastes. If such materials let remain on the site for long period of time may have other side impacts to the environment and human health. Solid wastes to be generated during structures removal include but not limited to; scraps of wood and metals materials.
This is considered to be negative, short-term and of low significance.

6.7.3.3 Air pollution (Dust and exhaust emissions)

Demolition activities will cause dust emissions from tearing of the structures. The dusts may go beyond the projects site hence cause nuisance and disturbance to nearby other land users. Furthermore, dust will be caused during transportation of demolished materials.
This is considered to be negative, short-term and of medium significance.

6.7.3.4 Loss of revenue to both government and the project owner

During mobilization, construction and operation phase both local and Government will be receiving revenue from the project. In case of decommissioning of the project, revenue generation will cease.
Loss of revenue is considered negative, long-term duration, medium significance.

6.7.3.5 Workers' accidents and hazards

Accident may occur during demolition activities this can caused by vehicle accidents, falling of heavy object, falling of the building, electricity short during remove of electricity wires, and also accident due to absence of person protective equipment.
This is considered to be negative, short-term and of medium significance

6.7.3.6 Loss of employment

If for whatever reason the project is closed down, the people employed by the project will lose their jobs. This will have significant impact to these people and their families.
Loss of Employment is considered negative, long-term duration, high significance

6.8 Identification Of Alternatives

6.8.1 Introduction

The Central Bus Terminal and Commuters' Bus Stand project will be undertaken in various phases, each stage, depending on the nature of activities involved will result into a number of social as well as environmental impacts to the locality. Therefore, like any other development project in a busy City like Mbeya city council at regional wise, a number of minor to major environmental impacts are likely to occur from the planned Bus stand activities ranging from site clearance to transportation of building materials, erection/ construction and operation of the Bus stand. Such potential environment impacts include:

- Effects on traffic flows during peak or rush hours;
- Effects on landscape and aesthetic value of the site;
- Effects on the current use of the project area, i.e Bus stand services;
- Effects of noise and emissions from construction machinery and building materials haulage;
- Management of demolished materials or excavated materials;
- Oil spillage during operation phase;

6.8.2 Alternatives on Project Location

The aim of the project is to develop a Central Bus Terminal and Commuters' Bus Stand within the Central Business Area. It should be noted that during scoping exercise, the investigation on project site/location alternatives was limited to the earmarked existing location specifically based on land

allocation and ownership according to the Mbeya city council Master plan. This location is partly used by City Council for bus stand and a small portion of the plot, nearby the area at old airport is zoned for Machinga, service trade.

The present site at Iyela ward in Mbeya City council has been chosen because the location of the proposed Central Bus Terminal and Commuters' Bus Stand has been earmarked in the Land use Master Plan of redevelopment of old airport. The main advantages of the proposed location are;

- The existing city council set up, infrastructure and availability of land close to the Central business which is an attractive incentive to investment.
- The area is already within the updated land use master plan for Mbeya city council that waits for the construction process to initiate.
- The growing Bus stand demand based in the city particularly in the Central business and
- The supportive business development environment

6.8.3 Alternatives Sources for Construction Materials

Proposed construction of Central Bus Terminal and Commuters' Bus Stand subproject is envisaged to be developed from reinforced concrete whose raw materials will be sourced from common places such as Ingula pipeline and Mswiswi quarry for building sand from Itua, Iduda and Mwasanga and water from streams and Mbeya-UWASA for water sources.

Alternatively water for construction works may be extracted from boreholes. However water from boreholes may suffer a greater disadvantage of high salinity detrimental to the workability of cement compared to other surface water from MBY-UWASA sources. Cement may come from local sources from Mbeya (Mbeya Cement), (Twiga Cement) or Mbeya (Tembo Cement). Reinforcing bars will also be sourced locally from hardware shops in Mbeya City/ imported in bulky from Dar es Salaam.

6.8.4 The Do-Nothing Option

Under the No-Action Alternative, the Central Bus Terminal and Commuters' Bus Stand would not be constructed or operated, and socio-economic impacts described in this section would not occur. The do-nothing alternative assumes that future development would comply with the existing requirements for the project area, which includes increase in vehicles and decrease in illegal bus stand slots. Pending the proposal of other significant development within the area, Buses, population growth, business developments and the associated revenues in the area would likely to continue on the same trend that currently exists.

The socio-economic positive impacts such as temporary and permanent, direct and indirect employment and revenue generated from purchase of construction materials would not be there.
Based on preliminary assessment of issues, it is evident that the site in question is located in a non-sensitive place; there would not be any significant loss of habitants for both common flora and fauna.
Since the earmarked area is meant for commercial activities, and there are offices all around the project area, there might be some localized impacts, but are not of sufficient importance to stop the proposed project. Accordingly the consideration of do-nothing option can be justifiably dismissed as an alternative for the following reasons.

- Need and desirability of the project to avert the shortage of bus stand slots in the central business area of Mbeya region
- The environmental impacts expected from the proposed project can be reasonably mitigated to acceptable and satisfactory standards and
- The potential environmental impacts will be much localized

EIA Consultant thus seconds the recommendations that the proposed project on the proposed site should proceed on the conditions that proper planning is implemented and the project adheres to all proposed mitigation measures. This precautionary approach will reduce the impacts on the socio-economic systems in the project area.

7 ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN

7.1 Overview

This chapter provides environmental management and mitigation measures that will be undertaken and monitored in order to minimize and offset previously described environmental impacts of the proposed Central Bus Terminal and Commuters' Bus Stand subprojects.

The plan emphasizes how the proposed/existing activity may impact on the relevant environmental factors and how those impacts may be mitigated and managed to be environmentally acceptable. It ensures the environmental and social objectives of the proposed subproject are met. The ESMP is based on the various components of the subproject and contains management measures and prescriptions for the various aspects and issues of each particular area.

7.2 Impact Management plan

Plans for the implementation of mitigation measures for the proposed project are provided below. The plans indicate institutional responsibilities, implementation time for the actions and estimated costs.

PO-RALG is committed to implement the mitigation measures suggested by the Environmental and Social Impact Management Plan (ESMP as given in Table 7-1)

Table 7-1: Environmental & Social Management Plan for the Central Bus Terminal and Commuters' Bus Stand subprojects

Impact	Mitigation Measure	Responsible Institution	Mitigation Cost (Tshs)
Construction Phase			
Deterioration of ambient air quality by dust and fumes	• Speed of vehicles should be controlled to reduce dust by use of speed calming devices e.g. rumble strips/humps • Water should be sprinkled (3-4 times a day) to suppress dust especially in the dry season not only where the works are on-going but in all the affected roads • All trucks carrying the granular material should be covered • Minimize vegetation clearing around all work sites including proposed campsite • Construction equipment and vehicles should be maintained to minimize gaseous emissions • Provision of dust respirator with filters to employees exposed directly during vegetation clearance excavations, transportation as well as Gravel mining and stone quarry operations	PO-RALG	9,000,000
Noise Generation	• Construction equipment should be well maintained to minimize cracking noise from exhaust pipes • Proper guidelines for workers will be put in place as a need to maintain order and minimizing noise concerns. • Noisy construction operations to be executed during the day (before 6pm) • Provide hearing protection devices to all workers exposed to excessive noise • Proper maintenance of construction equipment	PO-RALG	6,000,000
Land and water pollutions from poor construction waste management	• The project proponent and Contractor shall make sure that they establish good and efficient solid waste disposal and collection system within the premises by contracting to the licensed and	PO-RALG	12,000,000

Impact	Mitigation Measure	Responsible Institution	Mitigation Cost (Tshs)
	experience waste management contractor; • Use of durable, long- lasting materials that will not need to be replaced as often, thereby reducing the amount of construction waste generating over time; • Provision of facilities for proper handling and storage of construction materials to reduce the amount of waste caused by damage or exposure to the elements; • Purchase of perishable construction materials such as paints incrementally to ensure reduced spoilage of un used materials; • Use of building materials that have minimal packaging to avoid the generation of excessive packaging waste; • Use of construction materials containing recycled content when possible and in accordance with accepted standards; • Wastes which will be inadvertently dumped in unauthorized locations will be removed immediately and disposed at an approved site; • The contractor shall have adequate facilities for handling the construction waste. A large Skip Bucket shall be provided at the site; • The skip bucket shall be collected and disposed to landfill		
Employment opportunities and Source of Income	• Sensitization of communities on the existing work opportunities in the project • Training in entrepreneurship skills • Affirmative action in employment to provide women with an opportunity to earn cash income. • Promote labour-based construction works to employ unskilled • Advertise the jobs locally to attract skilled labour resident to the areas	PO-RALG	5,000,000

Impact	Mitigation Measure	Responsible Institution	Mitigation Cost (Tshs)
Health and Safety	• Regular maintenance of equipment, engines and electrical installations; maintaining clean and tidy workplace, providing guard rails, signals and lighting; providing work site rules, safe working procedures and allocating appropriate places to carry out the work. • Contractor should locate stores to reduce risks to workers on site and arrangements for the safe use, handling, storage, transport and disposal of articles and substances are made before work starts to the satisfaction of the engineer. • The Contractor should provide relevant protective clothing and safe equipment to all staff and labour engaged on the Works sites to the satisfaction of the engineer. These will include; high visibility vests, protective boots, gloves, masks, protective footwear and hard hats. • The Contractor should designate a full time Safety Officer qualified to handle the specific tasks. • All employees shall be trained in how to ensure their own safety and reduce risks at work site • Contractor should provide and maintain access to all work places in the condition that will reduce risks. • Contractor should provide adequate waterborne sanitation, and refuse collection and disposal complying with the laws of Tanzania or By-laws. • Latrines and other sanitary arrangements should be put in place where work is in progress. • Contractor shall comply with Government regulations in case of epidemic outbreaks. • The Contractor should manage the risk of spreading of	PO-RALG/OSHA	25,000,000

Impact	Mitigation Measure	Responsible Institution	Mitigation Cost (Tshs)
	contagious diseases. • Contractor shall reduce occupational health hazards		
Visual impact	• Control clearing on the area in the construction limits and quick vegetation upon completion of construction; • Planting mixtures of grass, shrubs and trees should be tailored to help re-establish the original site flora. • Adopt landscape design principles e.g. Building must be in harmony with existing landscape thus landscape to blend and follow the surrounding topography without excessive cuts and fill; • All the exposed areas should be planted with grass once construction activities are complete. This should be undertaken in phases; grassing activities should be undertaken on a section by section basis to bind the loose soils together preventing accelerated rates of soil erosion.	PO-RALG	3,000,000
Solid Waste Generation of (Including spoil material, Overburden and Stripped Vegetation)	• Any other top soil remaining should be stored and used in landscaping for grassing and tree planting. • Waste will have to be sorted into degradable and non-degradable eg metals etc • Waste management hierarchy (3 or 4Rs – reduce, reuse, recycle (and recover) which is an acceptable guide for prioritizing waste management practices should be considered	PO-RALG	7,000,000
Influx of People into the Area	• Local labour should be given priority for employment as this will solve many of the problems associated with influx of people. • There should be sensitization of the workers in cultural values and norms of the area. • The project should plan for additional infrastructure to cater for	PO-RALG	

Impact	Mitigation Measure	Responsible Institution	Mitigation Cost (Tshs)
	increased population for example, water sanitation and health facilities. • The Project in partnership with the City s' Environment Offices, village Environment Committees and the local people should embark on a tree re-plantation program. • There is need to strengthen local authorities so that they are in position to handle the increased cases of indiscipline and conflict. • Local authorities shall need to be strengthened in order to deal with the increased cases of indiscipline brought about by the increased population influx, and any disputes that are likely to ensue; • Project should set up internal controls and security systems for its materials.		
Increased Risk of Diseases, HIV/AIDS, Covid -19	• The project should work closely with respective government departments, local NGOs, and/or faith based organizations, and local communities involved in HIV and reproductive health • Mega awareness campaigns on HIV/AIDS and other STDS should periodically be organized • Counseling and testing services to the workers and community members should constantly be made available. • There is need for continuous sensitization of the workers and community members about HIV/AIDS and other STDs. • Posters should be displayed on the market with local language on the precaution measures of HIV/AIDS/STDs and Covid-19 • Covid-19 safety precaution measures should be implemented as per the Ministry of health guidelines	PO-RALG /Ministry of Health	14,000,000
Operation Phase			

Impact	Mitigation Measure	Responsible Institution	Mitigation Cost (Tshs)
Land and surface water pollutions due to mismanagement of solid waste	• Waste bins shall be placed at appropriate locations around the project premises; • Domestic solid wastes will be segregated using clearly marked bins and disposed of appropriately. • Waste segregation shall be exercised at the site to ensure that materials such as metals, plastics, glass, food wastes, etc. are separated for ease of reuse, recycling or disposal; • Waste storage and collection points shall be designated and waste will be removed at appropriate intervals to avoid accumulation at the site; • Notices which aim at sensitizing people about proper waste management shall be posted at appropriate locations around the project premises; • All the refuse collected from the proposed project site shall be disposed in Nsalaga Landfill in Mbeya city Council	PO-RALG	20,000,000
Air, water and soil pollution	• Collect, sort and use a proper coded bins to store waste materials before disposal to dumpsite • Transport vehicles will be kept leak tight and proper personnel transportation vehicle to and from work to be kept at a high safety performance;	PO-RALG	12,500.000
Noise pollution	• All activities to be done indoor under buffered situation. • Air quality monitoring around the project area	PO-RALG	15,000,000
Traffic jam during peak/rush hours	• Coming early in the morning around 0630hours when the traffic level is still minimal in the CBD • Quick and effective exit procedure will be implemented especially during rush hours that is morning and evening	PO-RALG	Project cost
Increased surface water run-off	• Storm water at the site shall be collected to the existing storm water drainage system;	PO-RALG	5,000,000

Impact	Mitigation Measure	Responsible Institution	Mitigation Cost (Tshs)
	• The proponent shall embark on storm water harvesting and collection, storm water from paved areas shall be harvested for proposed project usage		
Improved Economy	• Enhancement of positive impacts: Periodic and routine maintenance of the Central Bus Terminal and Commuters' Bus Stand and its facility should be properly streamlined.	PO-RALG	5,000,000
Health and Safety risks due to fire hazards	• The proponent shall observe safety measures e.g. use of, lighting etc. • Procedures to follow and precautions to be taken by workers in case of fire emergency shall be displayed in the project area; • All workers shall be educated about the fire hazards, firefighting methods and precautionary measures against fire outbreak; • The proponent shall develop emergencies preparedness in case of any accident; • Programmes Training shall be conducted to workers to provide education and awareness to workers; • Medical check-up shall be conducted regularly to all workers	Ministry of Health/ PO-RALG	12,000,000
Increased pressure on social services and utilities	• Alternative measures like use of solar power, water recycling shall be explored and implemented if found feasible. For instance, use of energy savers bulbs shall be given high priority; • The potential for rain water harvesting and using ground water for water supply shall be explored; • Use of air conditioning shall be kept to a minimum and maintenance of the cool indoor environment using natural ventilation system shall be strongly explored during the design process	PO-RALG	15,000,000
Disruption of traffic flow	• Signs and symbols shall be established at all potential black	PO-RALG	3,000,000

Impact	Mitigation Measure	Responsible Institution	Mitigation Cost (Tshs)
	spots on the access roads; • Awareness and education shall be provided to drivers and the general public; • Establishment of appropriate and understandable signage • Entrance and exit gate should be designed to prevent congestions of vehicles within the terminal		
Decommission phase			
Noise pollution and vibration associated with demolition activities	• Use of equipment designed with noise/vibration control elements shall be adopted where necessary; • Trucks used during demolition exercise on site shall be routed away from noise sensitive areas in the neighbourhood, where feasible; • Idling time for pickup trucks and other small equipment shall be minimized to limited time; • Use of very noisy equipment shall be limited to day time only; • All workers operating in noisy areas or operating noisy equipment will be provided with earpieces to protect against extreme noise; • The demolition exercise shall be limited at day time only; • The contractor shall further improve on the existing management of noise generation from equipment and staff to ensure that they comply with Tanzanian legislation at the time of decommissioning	PO-RALG	3,000,000
Unsightly conditions due to mismanagement of generated decommission solid waste	• The debris resulting from the demolition shall either be transported by a licensed waste transporter for dumping at an approved site or used as base material for new construction work; • Restoration of the affected land - services in of any open pits	PO-RALG	5,000,000

Impact	Mitigation Measure	Responsible Institution	Mitigation Cost (Tshs)
	and grading the land to its natural contours, then planting appropriate tree species and under cover vegetation to prevent flooding. • All workers on the site shall be required to wear protective clothing while on duty; • The demolition exercise shall be limited at day time only • All material which can be reused should reused		
Air pollution (Dust and exhaust emissions)	• All personnel working on the project shall be trained prior to commencing the demolition exercise on methods for minimizing negative impacts on air quality; • All active demolition areas shall be watered at least twice a day to reduce dust; • All trucks hauling demolition debris/wastes shall be covered; • Careful screening to contain and arrest demolition related dust shall be adopted; • Exposed demolition debris of e.g. dust and sand, shall be enclosed, covered, and watered daily before transported to disposal site.	PO-RALG	6,000,000
Loss of Employment	• Ensuring that all employees are members of pension fund and the employer should ensure that the fund contributions are made; • Preparing the workers for forced retirement by providing skills for self-employment, wise investment; • Providing relevant skills to workers through on job training to make them marketable after decommission	PO-RALG/Mbeya City Council	
Workers accidents and hazards during demolition	• All workers shall be sensitized before the exercise begins, on how to control accidents related to the demolition exercise; • A comprehensive contingency plan shall be prepared before	PO-RALG/Mbeya City Council	7,000,000

Impact	Mitigation Measure	Responsible Institution	Mitigation Cost (Tshs)
	demolition begins, on accident response; • Adherence to safety procedures shall be enforced at all stages of the exercise; • All workers, pursuant to labor laws, shall be accordingly insured against accidents; • All workers shall be provided and instructed to wear protective clothing during demolition, including helmets; • Demolition work shall be limited to daytime only avoid workers accidents due to poor visibility		

8 ENVIRONMENTAL MONITORING PLAN

8.1 Introduction

Monitoring refers to the systematic collection of data through a series of repetitive measurements over a long period of time to provide information on characteristics and functioning of environmental and social variables in specific areas over time. There are four types of monitoring that are also relevant to this ESIA.

- **Baseline monitoring**-the measurement of environmental parameters during a pre-project period and operation period to determine the nature and ranges of natural variations and where possible establish the process of change.

- **Impact/effect monitoring**: involves the measurement of parameters (performance indicators) during establishment, operation and decommissioning phase in order to detect and quantify environmental and social change, which may have occurred as a result of the project. This monitoring provides experience for future projects and lessons that can be used to improve methods and techniques.

- Compliance monitoring: takes the form of periodic sampling and continuous measurement of levels of compliance with standards and thresholds – e.g. for waste discharge, air pollution.

- Mitigation monitoring: aims to determine the suitability and effectiveness of mitigation programmes, designed to diminish or compensate for adverse effects of the project.

To ensure that mitigation measures are properly done, monitoring is essential. Table 8-1 provides details of the attributes to be monitored, frequency and institutional responsibility. Monitoring frequency should be sufficient to provide representative data for the parameter being monitored. PO-RALG office shall ensure that monitoring is conducted by trained individuals following monitoring and record-keeping procedures and using properly calibrated and maintained equipment. Monitoring data shall be analysed and reviewed at regular intervals and compared with the operating standards so that any necessary corrective actions can be taken.

8.2 Objective and Components of the ESMP

The basic objectives of the EMSP are to:

- To ensure that all mitigation measures and monitoring requirements will actually be carried out at different stages of project implementation and operation - pre-construction, construction, and operation and maintenance;
- Recommend a plan of action and a means of testing the plan to meet existing and projected environmental and social problems;
- Establish the roles and responsibilities of all parties involved in the project's environmental and social management;
- Describe mitigation measures that shall be implemented to avoid or mitigate adverse environmental and social impacts and maximizing the positive ones;
- Ensure implementation of recommended actions aimed at environmental and social management and its enhancement;

- Ensure that the environment and its surrounding areas are protected and developed to meet the needs of the local people, other stakeholders and safeguard the interests of the common people.
- Ensure sufficient stakeholder engagement activities to mitigate communities and project itself against the various risks; and
- Include specific measures and ensure views from vulnerable groups (e.g. children, women, disabled and elderly) have been incorporated into the project's design.

8.3 Capacity Building & Training

Capacity building programs will be conducted to all the Project staff including engineers and relevant stakeholders during initial stages of the Project implementation to sensitize them on the management of environmental and social issues of the Project, and to build the requisite capacities.

Within the project's area, the municipal/districts' departments have got at least one (1) environmental officer who solely deals with environmental issues on daily basis. Otherwise, other staffs in these departments and whole Councils has limited knowledge of newly operating WB safeguard requirements and generally lack experience in environmental and social issues

Such low capacity represents a risk to the implementation of environmental and social requirements as contained in the ESMPs and as required by the WB's Environmental and social Framework (ESF) of 2018. It is therefore necessary to address this weakness through capacity building through technical assistance that will support the City Council during the implementation of the ESMPs. The technical assistance will specifically provide the necessary support to districts in their work with contractors as well as other entities involved in the implementation of the ESMPs.

The technical assistance will include support to experts and training that will cover:

- General knowledge of environmental and social requirements and project procedures, and
- Important specific knowledge in environmental and social procedures and requirements for project staff, consultants, and national contractors.

Specifically, the above will include: assistance with the preparation of documents and implementation of training programs on E&S management and monitoring for contractors and relevant staff of the project's municipal/districts to perform their tasks. It will also include assisting city environment and social staff with the review of contract documents to ensure compliance with the ESMPs. It will further provide general guidance as requested by districts to enhance overall project environmental and social implementation and performance.

Given the nature, locations, and scale of construction, it is anticipated that the safeguard technical assistance support and training will be provided at least during the first 1 year of the project implementation. The WB safeguard specialists will support this in the capacity building program, in particular in the training activities as appropriate.

8.4 Awareness and Education

The Contractor should encourage environmental awareness among his foremen before and during implementation of the Central Bus Terminal and Commuters' Bus Stand subproject. The education will include:

- Provide copies of the ESMP and discuss its contents with all construction foremen
- Discuss techniques and answer questions about erosion and pollution control at regular site safety meetings
- Demonstrate proper housekeeping methods
- Inform the foremen of actions to take in the event of spill of hazardous materials (oil, fuel, and concrete)
- Post sign at key locations reminding foremen how to properly store construction materials, handle and dispose of toxic wastes, dispose of wash water, and similar instructions
- Remind foremen of fines, penalties that may be levied against the project by the local permitting agencies control environmental destruction is not adhered to.

The main Contractor needs to be aware that he/she is responsible for education and informing all Sub-Contractors (if any).

8.5 Gender Based Violence and Sexual Exploitation Abuse/Sexual Harassment

8.5.1 Sexual Exploitation and Abuse/Sexual Harassment (SEA/SH) Response and Prevention Action Plan

To mitigate these risks the project Contractor will develop and implement a Sexual Exploitation and Abuse/Sexual Harassment (SEA/SH) Prevention and Response Action Plan with an Accountability and Response Framework as part of the C-ESMP. The SEA/SH Action Plan will follow guidance on the World Bank's Good Practice Note for Addressing Sexual Exploitation and Abuse and Sexual Harassment (SEA/SH) in Investment Project Financing involving Major Civil Works (February 2020). The SEA/SH Action Plan will include how the project will ensure necessary steps are in place for:

- Prevention of SEA/SH: Integrate provisions related to sexual harassment and sexual exploitation and abuse in the employee Code of Conducts (COCs) and on-going sensitization of staff on responsibilities related to the COC and consequences of non-compliance; project-level IEC materials.
- Response to SEA/SH: including survivor-centered coordinated multi-sectoral referral and assistance to complainants according to standard operating procedures; staff reporting mechanisms; written procedures related to case oversight, investigation and disciplinary procedures at the project level, including confidential data management.
- Engagement with the community: including development of confidential community-based complaints mechanisms discrete from the standard GRM; mainstreaming of Prevention SEA/SH awareness-raising in all community engagement activities; community-level IEC materials; regular community outreach to women and girls about social risks and their PSEA/SH -related rights.
- Management and Coordination: including integration of prevention and response to SEA/SH in job descriptions, employments contracts, performance appraisal systems, etc.; development of contract policies related to SEA/SH, including whistle-blower protection and investigation and disciplinary procedures; training for all project management; management of coordination mechanism for case oversight, investigations and disciplinary procedures; supervision of dedicated PSEA/SH focal points in the project and trained community liaison officers.
- Ensure clear human resources policy against sexual harassment that is aligned with national law.

- Ensure appointed human resources, environmental, social and health and safety personnel is well trained on PSEA/SH;
- Mandatory and repeated training and awareness raising for the workforce about refraining from unacceptable conduct toward local community members, specifically women;
- Informing workers about national laws that make sexual harassment and gender-based violence a punishable offence which is prosecuted;
- Introducing a Worker Code of Conduct as part of the employment contract, and including sanctions for non-compliance (e.g., termination), and
- Contractor to adopt a policy to cooperate with law enforcement agencies in investigating complaints about SEA/SH.

8.5.2 Prevention and Mitigation of Gender Based Violence (GBV) at the community

The contractor will implement provisions that ensure that gender-based violence at the community level is not triggered by the Project, including:

- effective and on-going community engagement and consultation, particularly with women and girls;
- Review of specific project components that are known to heighten GBV risk at the community level, e.g. compensation schemes; employment schemes for women; etc.
- Specific plan for mitigating these known risks, e.g. sensitization around gender equitable approaches to compensation and employment; etc

The contractor will ensure adequate referral mechanisms are in place if a case of GBV at the community level is reported related to project implementation

Table 8-1: Environmental and Social Monitoring Plan for Central Bus Terminal and Commuters' Bus Stand subproject

Phase	Potential Impact	Parameter to Monitor	Monitoring Area	Monitoring Frequency	Measurement Unit	Responsibility	Estimated Costs (TShs)
Construction Phase	Air Pollution	Concentration of pollutants in ambient air (dust, noxious gas)	Project site	Weekly	NOX, SOX,PM10,	PO-RALG /Contractor	3,500,000.00
	Land and surface water pollutions due to mismanagement of solid waste	Facilities for disposal of solid wastes	Project area	monthly	Visual	PO-RALG/Mbeya City Council	3,000,000.00
	Noise Generation	Noise level	Project site	Continuously	dBA	PO-RALG /Contractor	4,500,000.00
	Employment opportunities and Source of Income	Life style	Project area	Bi Annually	Nos	PO-RALG /Contractor	2,000,000.00
	Loss of Habitat	Size and Type/Specie	Project site	Quarterly during construction	M2/Nos	PO-RALG	3,000,000.00
	Visual impact	Number of affected individuals	Project area	Bi Annually	N/A	PO-RALG /Contractor	3,000,000.00
	Solid Waste Generation of (Including spoil material, Overburden and Stripped Vegetation)	Quantities generated	Project site	Weekly	M3	PO-RALG /Contractor	1,000,000.00

Phase	Potential Impact	Parameter to Monitor	Monitoring Area	Monitoring Frequency	Measurement Unit	Responsibility	Estimated Costs (TShs)
	Influx of People into the Area	Increased number of people, Crimes incidences, Supply of Social services	Project Area	Once every six months	Nos	Contractor/Local Authorities	3,000,000.00
	Increased Risk of Diseases (HIV) and Covid -19	Number of affected individuals & Awareness Campaigns	Project Area	Once every six months	Numbers	Contractor/Local Authorities	6,000,000.00
	Health and Safety	Provisional of PPEs & Training	Project area	Bi Annually	Number of employees	Contractor/Local Authorities/OSHA	12,000,000
	Improved Economy	Increased economic activities	Regional area	Annually	Regional GDP	Local Authorities	4,000,000.00
	Health and Safety risks due to fire hazards	Adhere to safety regulations -Positioning of fire extinguishers in all strategic area -Expiry date of fire extinguishers	Project site	Annually	Number	PO-RALG/Mbeya City Council	6,000,000
	Loss of Employment	Pension Fund remittance	Project area		Number of employees registered with fund	PO-RALG/Mbeya City Council	2,000,000

Phase	Potential Impact	Parameter to Monitor	Monitoring Area	Monitoring Frequency	Measurement Unit	Responsibility	Estimated Costs (TShs)
Operation phase	Land and surface water pollutions due to mismanagement of solid waste	Facilities for disposal of solid wastes	Project area	monthly	Visual	PO-RALG/Mbeya City Council	3,000,000.00
	Air pollution (Dust and exhaust emissions)	Dust pollution (PM10)	Project site	Quarterly		PO-RALG/Mbeya City Council	7,000,000
	Noise pollution	Noise and vibration levels		Quarterly	Db	Mbeya City Council	6,500,000
	Improved Economy	Increased economic activities	Regional area	Quarterly	Regional GDP	Local Authorities	6,000,000.00
	Health and Safety risks due to fire hazards	Adhere to safety regulations - Positioning of fire extinguishers in all strategic area -Expiry date of fire extinguishers	Project site	Annually	Number	PO-RALG/Mbeya City Council	5,000,000
	Interruption of area traffics and movements	Number of accident recorded	Project site	Continuously during project operation	Project records	PO-RALG/ Ministry of home affairs	Project running cost
Decommissioning Phase	Air pollution (Dust and exhaust emissions)	Dust pollution (PM10)	Project site	Once during decommissioning		Contractor	2,000,000

Phase	Potential Impact	Parameter to Monitor	Monitoring Area	Monitoring Frequency	Measurement Unit	Responsibility	Estimated Costs (TShs)
	Noise Pollution &Vibration	Noise level	Project site	Once	dBA	Contractor	2,500,000
	Loss of Employment	Pension Fund remittance	Project area	Once during decommission	Number of employees registered with fund	PO-RALG/Mbeya City Council	
	Workers accidents and hazards during demolition	Availability of PPEs; types of people employed with their training background; Working conditions	Project area	once	Incidences	Contractor	1,500,000

9 COST BENEFIT ANALYSIS OF THE PROJECT

9.1 Overview of chapter

This section addresses financial analysis, economic analysis of the project and an extended cost benefit analysis for the proposed project. However, lack of information on aspect such as costs and units for various materials that will be used in the construction processes, running costs and cost labor. Therefore, what is presented in this section is rather an indicative and elementary description of the costs as well as the cost for monitoring. However, total cost of the project is estimated to be Tshs. 32,796,483,000.00 which will be financed by the Wold Bank towards in implementing projects-financed Tanzania Cities Transforming Infrastructure and Competitiveness Project (TACTIC).

9.2 Financial Cost Benefit Analysis

A cost-benefit analysis is normally done in the framework of the feasibility study of an activity. The aim of cost-benefit analysis is to inform the project developer to make a decision on:

- Whether it makes economic sense to continue with the project
- The costs of alternative ways of delivering a service;
- Estimates of the size of a project;
- Whether the chosen option is a cost effective
- Whether a current project should be continued, changed or ceased

The financial case in this study looks into the total estimated CAPEX, estimated O&M, other costs, revenue model, revenue assumptions, revenue forecast for 15 years, and available financing options for the project.

CAPEX

- The proposed CAPEX covers the cost of land, cost of construction, cost of plant and equipment, cost of furniture and office equipment, and professional fees.
- And because the municipality owns land, its cost has not been considered in the project CAPEX.
- The detailed costs of re-settlement, site preparations, and other development costs will be captured in the detailed feasibility study

O&M

9.3 Development costs

These costs cover professional fee, contingencies, and other general costs during construction.

Revenue & cost assumptions – This study has used the following revenue and cost assumptions for the purpose of forecasting and calculating the financial and economic viability of the project

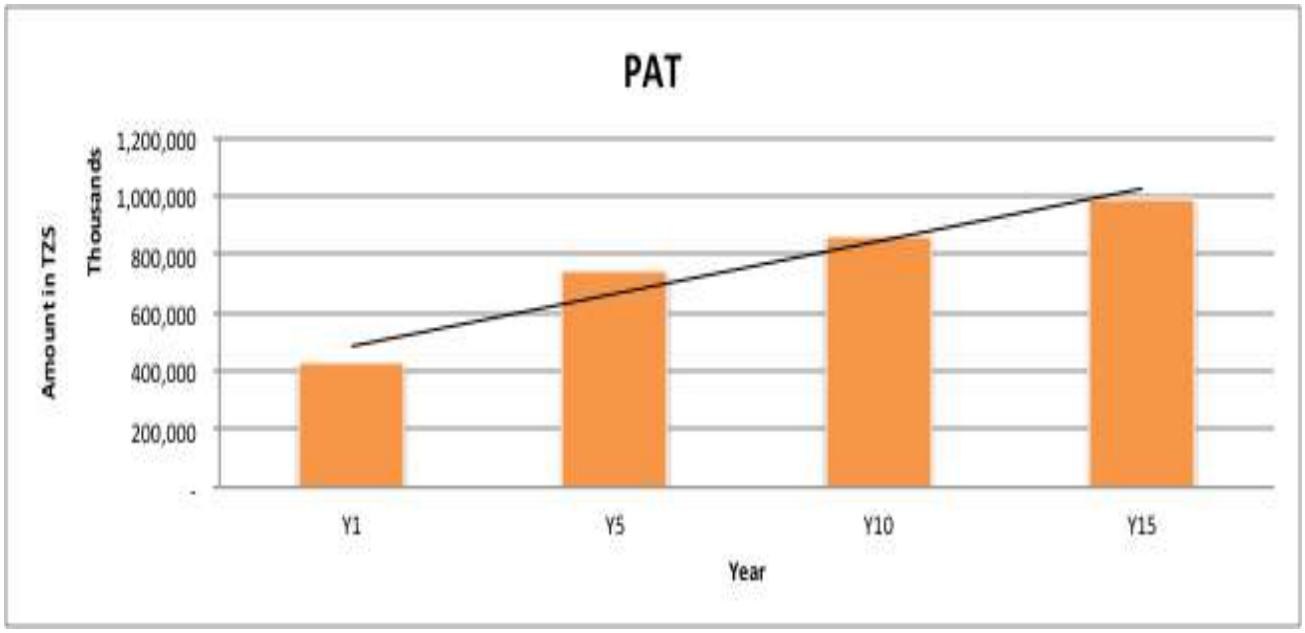
- User fees, charges, and levies have been used as what prevails now
- Revenue grows by CAGR 25% from year 3
- Cost increases by at least 5% yearly to capture any inflationary changes
- We have forecasted for 15 years, as this is considered as small-scale PPP project (total value of less than $70m) have up to 15-year duration, as provided by PPP regulation 72 (2) of the PPP regulations of 2015

- The capital structure for this project is 100% non-debt financing
- The discount factor used is the 15-year government bond yield

9.4 Revenue Forecast

A. CENTRAL BUS STAND

	YEAR 1	YEAR 5	YEAR 10	YEAR 15
REVENUE	876,205,200	1,188,194,400	1,307,013,840	1,437,715,224
GROSS PROFIT	876,205,200	1,188,194,400	1,307,013,840	1,437,715,224
OPEX	447,579,160	447,579,160	447,579,160	447,579,160
EBITDA	428,626,040	740,615,240	859,434,680	990,136,064
Finance cost	-	-	-	-
PBT	428,626,040	740,615,240	859,434,680	990,136,064
Taxation	-	-	-	-
PAT	428,626,040	740,615,240	859,434,680	990,136,064


PAT
Amount in TZS
Thousands
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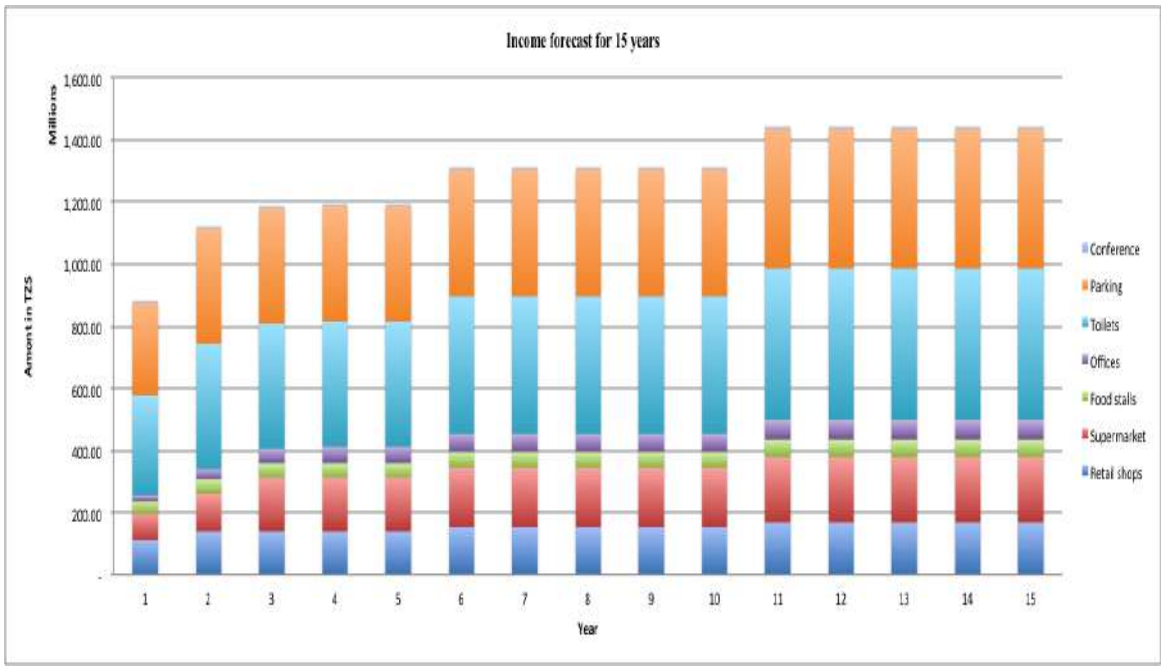
1,000,000
800,000
600,000
400,000
200,000
-
Y1
Y5
Y10
Y15
Year


Income forecast for 15 years
Amount in TZS
Millions
1,600.00
1,400.00
1,200.00
1,000.00
800.00
600.00
400.00
200.00
-
1
2
3
4
5
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7
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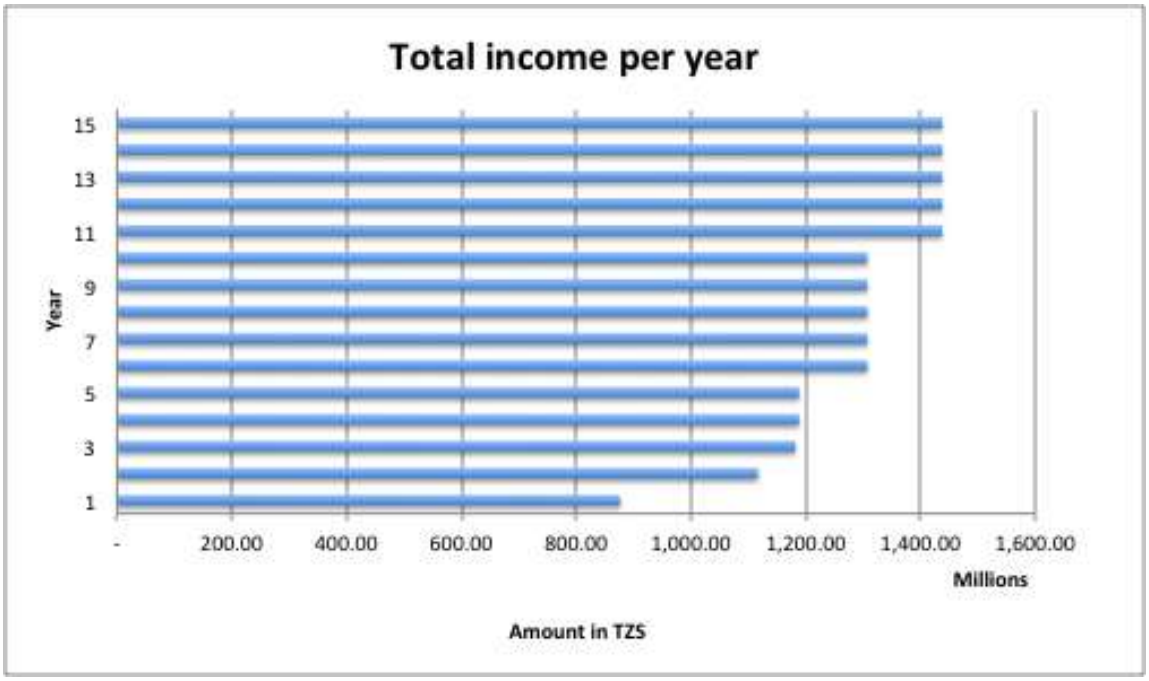
10
11
12
13
14
15
Year
Conference
Parking
Toilets
Offices
Food stalls
Supermarket
Retail shops



In this project, the costs will include;

- Capital expenditures;
- Operating and maintenance costs;
- Staff costs
- Maintenance costs;
- Materials;
- Opportunity costs; and
- Environmental health and other social costs.

9.5 Benefits of the establishment of the project

- Potential for additional revenues generated from project operations
- Employment opportunity, considering the fact that there will be a new project that will need employees for different kind of activities
- Better, more cost-effective service delivery;
- The avoided costs-being the costs of the existing or conventional service delivery option;
- Environmental, health and other social benefits.

9.6 Community Benefits

There will be direct and indirect benefits to the communities as follows:

- The project will employ people during construction and operation phase, with the majority being locals
- The project will provide support to community development projects
- The project will procure local goods and services
- The project development will inspire other people and institutions to invest in in the Terminal building;

- Environmental health and other social costs.

9.7 Possible Costs to Communities

Environmental impact assessment report has established that there is no anybody who will be affected by the project e.g. losing their plots, loss of property etc. Other environmental and social impacts are presented in Chapter 6. As elaborated in chapter 7 and 8 almost all environmental and social impacts can be mitigated.

9.8 Environmental Cost Benefits Analysis

Environmental cost benefit analysis is assessed in terms of the negative and positive impacts. Furthermore, the analysis is considering whether the impacts can be mitigated and the costs of mitigating the impacts are reasonable. It should be noted that the cost benefit are discussed based on the assumption that the Project PO-RALG will implement the suggested mitigation measures. As presented in chapters 7 to 8 the identified impacts can be mitigated and the project proponent is willing to implement them.

9.9 Social Economic Cost Benefits Analysis

The project activities will contribute towards efficient utilization of natural resource and hence the National GDP. In a small way the project will contribute to poverty eradication activities. As it can be seen in the impact analysis, there are no serious irreversible negative socioeconomic impacts (e.g. no displacement of people). It can therefore be deduced that the social benefit outweigh the social costs that are anticipated

10DECOMMISSIONING PLAN

10.1 Decommission Plan Overview

Decommissioning is the final phase in the life cycle of the facility after sitting, design, construction, commissioning and operation. Most often, it is a process involving operations such as dismantling and demolition of structures, and management of resulting materials. All these activities take into account of the environmental health and safety requirements for the operating personnel, the general public, and any implications to the environment.

The Central Bus Terminal and Commuters' Bus Stand subproject is not like manufacturing facilities whereby the methods used to manufacture some products are increasingly replaced by modern technology or process. The demolition of the Bus Terminal and Commuters' Bus Stand after its useful life can be thought of in terms of life span of concrete structures that can live up to 50 years or so.

Alternatively, if at any time, the bus stand facility becomes unusable to a state where its demolition is necessary, may be to pave a way for a new project, then a new environmental impact assessment study will be required.

10.2 Reinstatement

The decommissioning plan considered here will be recovery of reusable items, demolition of the structure, removal of concrete debris from the present site and returning the area in its original form through planting trees and other natural vegetation to match the surroundings.

The major result of demolition will be large volume of concrete debris. These large volumes will need to be handled through collection, loading and transportation to the final disposal site. Wastes must be disposed of according to the procedure drawn up during the detailed decommissioning plan to become due about two years before the actual decommissioning activity. NEMC who will approve the detailed decommissioning plan can provide further advice on the management of the resulting waste. Disposal of all wastes must be in accordance with the "Duty of care" and the conditions of the environmental performance bond.

10.3 Preliminary Decommissioning Plan

This Section provides a brief outline of the works required to demolish the Bus terminal and bus stop on the site in case it happens. This Plan will be used as a reference document that provides the framework to ensure that demolition activities on the site do not adversely affect the health, safety, traffic or the environment of the public and neighbouring properties.

The Contractor will be required to prepare a detailed demolition plan and construction management plan to the satisfaction of the developer and relevant authorities prior to the commencement of works on site.

Table 10-1: Preliminary Project Decommissioning Plan

No	Activity	Responsible Person	Time
1	Notification of Decommissioning internally and externally	PO-RALG	5 months before decommissioning
2	Awareness raising to workers will be conducted to inform them on project termination	PO-RALG	3 months before decommissioning
3	Project environmental audit for disposal	PO-RALG	3 months before decommissioning
4	Securing decommissioning permit	NEMC/ PO-RALG	
5	Some building structures will be demolished. Wastes will be disposed safely.	Mbeya City Council/ contractor	

10.3.1 Estimated Cost for decommissioning Exercise

The estimated costs for decommissioning activities will range to Tshs 200,000,000. Facilitate demolition and reinstatement of the area to match the surroundings.

10.3.2 Demolition Methods

It is anticipated that the contractor will prepare a detailed demolition plan prior to the commencement of work on site; however, the indicative demolition methodology will be as follows;

- The materials will be removed from site using small to medium sized trucks.
- This engineer will be engaged to provide further engineering advice in relation temporary support or back propping of the structure during demolition.
- During the demolition process erosion control measures will be established. They will include treatment of dust and potential discharge into storm water systems

10.3.3 Materials Handling

Materials handling will be by mechanical plant (including excavators and bobcats) loaded into trucks (bogie tippers and semi-trailers). The debris will be carted offsite to an approved waste facility or recycling centre.

The contractor shall submit a Demolition Waste Management Plan to NEMC which outlines the objectives of;

- Maximization, reuse and recycling of demolition material
- Minimization of waste disposal;
- Evidence of implementation for specified arrangements of waste management

On-site storage of reusable materials will occur at Site. Recycling and disposal containers will also be accommodated at this location for collection vehicles. Hazardous materials will be treated separately. A hazardous materials inspection will be undertaken by an accredited consultant and a report issued. Hazardous materials will be removed in accordance with Environmental Management (Hazardous Control and Management) Regulation 2021.

10.3.4 Traffic Management

The management of construction traffic during the decommissioning phase will be subject to the provision of a detailed traffic management plan. This plan will be prepared by the Contractor for the

various stages of demolition. During demolition, all traffic will be held within the site boundaries. The site will remain closed to pedestrian traffic and will be generally manned by security.

10.3.5 Occupational Health and Safety

A detailed OH&S Policy will be provided by the Contractor prior to work commencement. A detailed Site Safety Plan will be prepared for the specific project.

11SUMMARY AND CONCLUSION

11.1 Summary

The study was conducted to comply with the Environmental Management Act (2004) and was done in accordance with the ESIA and Audit Regulations (2005) and amendment, 2018. Stakeholder consultations were conducted during the study to encompass local government authorities, communities in the project neighbourhoods and interested parties. Standard methodologies for impact identification were used including checklist, matrix and professional judgment.

PO-RALG plans to construct Central Bus Terminal and Commuters' Bus Stand subproject to facilitate transport system, which will have a smooth circulation and reduce traffic congestion occurrence due to the buses and travellers at the terminal along with efficient use of land. The Commuter Bus Stand is envisaged to be effective hub that will deliver more services with increased efficiency while accommodating the projected growth in passengers' inflow and outflow. The proposed Bus Terminal and Commuters' Bus Stand will be constructed at Iyela ward, Mbeya City Council.

The proposed project will include the following facilities/areas: Retail Shops, Retail Market, Supermarket 01, Supermarket 02, Circulation/Toilets for Ground Floor and Retail Shops, Open Plan for Offices, Circulation/Toilet, Machinga Individual Station, Daladala Parking, Private Car Parking, Taxi Parking, Boda Boda and Bajaji

To ensure that no segment of the population is adversely affected and the physical cultural resources are given due attention, this ESIA study was carried out to identify constraints, risks and mitigation measures on the project affected communities. The ESIA provides inputs to the feasibility study and design proposals of the investments. The ESIA findings and recommendations contained in this report will be incorporated in the overall project design, specifically to assist in the development of mitigation and enhancement measures of the identified risks, opportunities and impacts.

ESIA study and Report acknowledged a sum of issues pertaining to the proposed project. The issues/impacts have been assessed and described in some detail to gain an adequate understanding of possible environmental effects of the proposed project in order to formulate mitigation measures in response to negative aspects which have emerged. The Environmental and Social Management Plan provides the way forward for implementation of the identified mitigation measures. The estimated costs for implementing the mitigation measures should guide appropriate bills of quantities. The Environmental Monitoring Plan provides parameters to be monitored and responsibilities allocated. Again, the estimated budget provides an indication. Actual costs will be determined precisely when the monitoring activities will be due.

11.2 Conclusion

The results of the study have shown that the project activities from planning, design, construction up to operation stage will have minimum negative impact to the biophysical and social-economic environment provided that mitigation measures proposed in this report are implemented. The findings of this assessment study support the development and operation of the proposed project on the provision that all the mitigation and control measures identified in the study are fully implemented by the proponent. Given the nature and location of the project, and the views of the most consulted stakeholders; generally, the project is viable and acceptable to be undertaken if all appropriate mitigation measures will be implemented by developer

REFERENCES & BIBLIOGRAPHY

Mbeya City Council Socio economic profile, 2017.
The Contractors Registration Act, Cap. 235
The Employment and Labour Relations Act Cap. 366 of R.E, 2019
The Employment and Labour Relations Act, [Cap. 366 R.E. 2019]
The Engineers Registration Act, Cap. 63
The Environmental Management (Hazardous Waste Control and Management) Regulation, 2021
The Environmental Management (Prohibition of Plastic Carrier Bags) Regulations, 2019
The Environmental Management (Registration and Practice of Environmental Experts) Regulations, 2021
The Environmental Management (Soil Quality Standards) Regulations, 2007
NBS "VOLUME VI: REGIONAL REPORT: RUKWA REGION", 2003
The Environmental Management (Solid Waste Management) Regulations, 2009 as amended in 2016
The Environmental Management (Standards for the Control of Noise and Vibrations Pollution) Regulations, 2014
The Environmental Management Act, Cap.191, 2004
The Fire and Rescue Force Act, Cap. 427
The HIV and AIDS (Prevention and Control) Act (2008)
The income Tax Act, Cap. 332, 2004 120
The Industrial and Consumer Chemicals (Management and Control) Regulations 2015 as amended in 2019
The Local Government (District Authorities) Act, Cap. 287
The National Agricultural Policy (2013)
The National Employment Policy (1997)
The National Environmental Policy (1997)
The National Gender Policy (2002)
The National Health Policy, 2003
The National Land Policy (1995)
The National Occupational and Health Safety Policy, 2009
The National Policy on HIV/AIDS (2001)
The National Solid Waste Management Strategy; United Republic of Tanzania (2018)
The National Water Policy (2002)
The Occupation Safety and Health Act (2003)
The Plant Health Act, No. 4 of 2020
The Public Health Act (2009)
The Public Service Social Security Fund Act, Cap. 135
The Tanzania Agriculture and Food Security Investment Plan 2011/12 – 2020/21
The Tanzania Development Vision 2025
The Water Resources Management Act, No. 11 of 2019
The Water Supply and Sanitation Act, No. 5 of 2019
The Workers Compensation Act, Cap. 263

APPENDICES

Annex 1: Draft Terms of Reference (ToR)

DRAFT TERMS OF REFERENCE FOR ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (ESIA) FOR THE PROPOSED PROPOSED CONSTRUCTION OF CENTRAL BUS TERMINAL AND COMMUTERS' BUS STAND AT OLD AIRPORT IN MBEYA CITY COUNCIL-MBEYA REGION

BACKGROUND

The Government of the United Republic of Tanzania through The President's Office - Regional Administration and Local Development (PO-RALG) has received a credit from the Word Bank towards in implementing projects-financed Tanzania Cities Transforming Infrastructure and Competitiveness Project (TACTIC), which will be, implemented through the President's Office - Regional Administration and Local Development (PO-RALG).

NORPLAN Tanzania Ltd was awarded the contract by PO-RALG to conduct; Feasibility Study, Urban Design, Detailed Engineering Design, Environmental and Social Due Diligence, Preparation of Cost Estimates and Bidding Documents for Urban Infrastructure Investments for Mbeya city Council.

Existing Mbeya bus terminal is located in the central area which is convenient for passengers interchanging between routes. Increased number of buses has created congestion both within the terminal itself and on surrounding streets for years. Severe traffic congestion has been experienced through the concentration of buses during arriving and departing.

In that case construction of Central Bus Terminal and Commuters' Bus Stand subproject has been proposed as urban infrastructure under TACTIC project.

The subproject shall involve the Construction of Central Bus Terminal and Commuters' Bus Stand at Old Airport aiming at shifting existing terminal at Sisimba Ward which is currently overwhelmed. New construction at Old Airport shall provide essential facilities to serve the passengers. The proposed regional bus terminal will harbour buses connecting Mbeya City to other Regions of Tanzania and neighbouring countries of Malawi-Zambia and DRC.

In addition, Daladala/Commuters' Bus Stand adjacent to the Main Bus terminal shall be constructed to facilitate connections of transport between Mbeya City and other nearby districts.

Central Bus Terminal and Commuters' Bus Stand subproject are proposed to be of an international level/standard and access to the terminal shall be convenient, barrier free and facilitate streamlined internal circulation. Entry and Exit points shall be located in such a way are not in conflict with traffic circulation at the periphery roads' network.

The new Central Bus Terminal and Commuters' Bus Stand subproject will be centrally located for operational efficiency and passengers' convenience, as they will provide ample interchange opportunities. Central Bus Terminal and Commuters' Bus Stand subproject will increase safety to passengers though improved infrastructure and other services including police post within the bus terminal.

1.0 SCOPE OF CONSULTANCY SERVICES

The Consultant shall carry out the environmental and social impact assessment for the proposed Central Bus Terminal and Commuters' Bus Stand subproject. The Consultant shall review all available and relevant documents, maps, previous studies if any, and conduct the environmental and social impact assessment study, field investigations and other related works herein described to attain the stated objectives.

The consultancy services will be carried out in accordance with these Terms of References which are in accordance with the requirements of the applicable National Legislations. The Environmental and Social Impact Assessment will be conducted and ESMP and RAP will be developed. In this regard, the Environmental and Social Impact Assessment (ESIA) and development of ESMP and RAP will be in line with the requirements of:

(i) The Environmental Management Act Cap 191;
(ii) Environmental Impact Assessment and Audit regulations, 2005;
(iii) The Land and Village Land Acts (1999); and

The Consultant shall perform all impact analyses related to services as described therein with due care and diligence to attain the objective of the assessment, among others, the Consultant will perform the following tasks:

Task 1: ESIA Scoping and Registration

The Consultant shall carry out scoping exercise and prepare Scoping Report for screening and approval by the National Environment Management Council together with dully filled forms no:1 & 4. The Scoping Report should include the following:

- Background of the project and objective of the assignment;
- Project description;
- An outline of how the scoping exercise was undertaken;
- Identification of issues and problems;
- Synthesis of results of Scoping exercise (potential positive and negative impacts);
- Project boundaries in terms of spatial, temporal and institutional aspects;
- Stakeholder's consultation. This will cover all levels of stakeholders' identification, record their concerns and indicate how they were involved. This list of stakeholders consulted should be appended in the Scoping Report;
- Project alternatives;
- Cost of the implementation of the project.

In the undertaking of scoping exercise, the Consultant has to refine the Terms of Reference (TOR) in consultation with various stakeholders to cover environmental issues which may emerge from the consultation during the scoping exercise. The TOR should be appended to the Scoping Report. The Scoping Report shall be submitted for review and submission to the NEMC for further review/screening and approval.

Task 2: Environmental and Social Impact Assessment

Sub-Task (i): Description of Project Background

The Consultant shall provide a brief description or profile of the Developer, background to the project proposal and its justification, need and purpose of undertaking the study, ESIA and RAP study methodologies and approaches applied and structure of the report.

Sub-Task (ii): Description of the Proposed Project

The Consultant shall describe project components and activities to be implemented in each phases of project life i.e. pre-construction or mobilization, construction, operation and post-construction (demobilization). This part is meant to give a general idea of what the project will entail. To avoid unnecessary details, focus on the project activities based on project phases i.e. mobilization or pre-construction phase, construction phase, operation phase and demobilization phase. The description shall include the following information:

- ***Background information***

Background information shall include: Title of the proposed project and developer; Project justification and objectives; Funds and source of funding or financier(s); Project location including maps of appropriate scale; Project design, size, and capacity; Area of influence of the project works; Project life span and Project components; Land size required;

a) Project Activities

Description of project activities shall be based on phases of project life cycle i.e. mobilization or pre-construction, construction, operation and maintenance, demobilization and decommissioning phases:

- ***Mobilization or Pre-construction activities;***
  Describe activities pertaining to land acquisition; construction camp if required and site workshop; project design; land dispossession and property valuation; relocation and compensation arrangements;

- ***Construction Activities;***
  Describe all associated activities during construction work such as extraction of construction materials and water indicating its types and sources; blasting; cut and fill; land clearance; soil and gravel compaction and leveling, demolition of structures along the project reserve; types, sources and amount of liquid and solid waste generation and including their disposal; dust etc.

- ***Operation and maintenance activities;***
  Identify and describe all the associated activities to be conducted during project operation and maintenance such as project health and safety measures, operation and management of project facilities along the project such as public toilets, etc.

- ***Demobilization Activities;***
  Identify and elaborate on the activities to be conducted during demobilization or decommissioning of the project including movement and demolition of construction facilities, restoration of borrow pits, termination of the temporary workers' employment, waste management, etc.

b) Project Requirements

Identify all types, sources and quantities of construction materials, equipment and chemicals required by the project. Source and quantities of water, energy, manpower (Staffing and support) and other facilities and services required in each phase of project life etc.

Sub-Task (iii): Provide Baseline Condition or Description of the Physical, Biological, and Socio-Economic and Cultural Environment

In order to forecast the impacts, it will be necessary to determine the initial reference or baseline state. It is therefore, required to describe the existing environment that would be directly and/or indirectly affected by the construction of the proposed project. The 'environment' to be affected must be based on the project definition of the term that would include physical, biological socio-economic, cultural and historical factors. Only those environmental factors that are necessary to understand the impacts of the planned development should be considered. Assemble, evaluate, and present baseline data on the relevant environmental characteristics of the study area. Include information on any changes anticipated before the project commences.

(a) **Physical environment:** This shall cover geology; topography; soils; climatic conditions and meteorology; ambient air quality; surface and groundwater hydrology; existing sources of air emissions; existing water pollution discharges; receiving water quality; traffic data etc;

(b) **Biological environment**: flora, fauna, including available forest reserves, significant natural sites; species of commercial importance; and species with potential to become nuisances, vectors, or dangerous (of project site and potential area of influence of the project); and

(c) **Socio-economic and socio-cultural environment**: population; land use; planned development activities; community structure; employment; livelihood means, distribution of income, goods and services; recreation; public health; Gender issues and HIV/AIDS, cultural/historic properties; tribal peoples; and customs, aspirations, and attitudes to the project.

The Consultant shall indicate sources of data and methodologies used to acquire data. The relevant international and national standards of noise levels, water and air quality etc. must be applied when comparing between the existing and anticipated impact of project.

Sub-Task (iv): Describe the Policy, Legal and Institutional Framework

Describe the policy, legal, institutional framework as well as regulations, strategies, standards, international conventions and treaties that are of relevance to the environmental management and the proposed undertaking in particular. They should be those, which relate to but not limited to environmental quality, health and safety, protection of sensitive areas and protection of endangered species, land and land use. A description of the World Bank environmental and social safeguard policies to be triggered by the project should be provided. The objective of this section is to show compliance of the developer with the existing policies, laws administrative/institutional conditions both at national and international levels.

The following, but not limited to, are the relevant policies and legislation to be cited in relation to the proposed project undertakings.

Relevant policies and legislation to the proposed projects	
Policies, Regulations and Guidelines	**Legislation**
• National Environmental Policy (1997); • National Water Policy (2002); • The Wildlife Policy of Tanzania (2007); • National Gender Policy (2000) • National Transport Policy (2011) • National Land Policy (1995) • National Mineral Policy (2009) • National Energy Policy (2015) • National Human Settlement Development Policy (2002) • National Policy on HIV/AIDS (2001) • Construction Industry Policy (2003) • National Agricultural Policy (2013) • National Employment Policy (2008) • • Regulations, Strategies and Guidelines: • Environmental Impact Assessment and Audit Regulations (2005); • Mining (Environmental management and Protection) Regulation (1999) • Land Regulation (2001); and • National Strategy for Growth and Reduction of Poverty (NSGRP - MKUKUTA -2010) • Tanzania Development Vision 2025 (2000) • Environmental Management (Air quality standards) Regulations, 2007 • National Environment (standards for the control of Noise and Vibration) Regulations 2014 • Environmental Management (Water quality standards) Regulations, 2007 • Environmental Management (Hazardous waste Control) Regulations, 2021	• Environmental Management Act (2004); • Energy and Water Utilities Authority (EWURA) Act (2001) • Water Resources Management Act No 11 of (2009), • Mining Act 2010; • Occupational Health and Safety Act (2003) • HIV and AIDS (prevention and Control) Act No. 28/08 (2008) • Local Government Laws (Miscellaneous Amendments), No. 13 (2006); • Village and Urban Land Acts (1999); • Land Act No. 2/04 (2004), amendment of the Land Act (1999); • Antiquities Act (1964), Rules 1999 • Land Acquisition Act 1967, Revised in 2012 • Contractors Registration Act (1997) • Engineers Registration Act 1997 (Amendments 2007) • The Industrial and Consumer Chemical (management and Control) Act, 2003 • Employment and Labour Relations Act (2004) • The petroleum Act of 2015 • Explosives Act (1963) • Urban Planning Act (2007) • Land Use Planning Act (2007) • Worker's Compensation Act (2008)

International Obligations/Treaties:
The International Conventions/Treaties to be reviewed include:

(i) International Convention on Trade of Endangered Species (CITES);
(ii) Convention on Biological Diversity (1996); and
(iii) United Nations Convention to Combat Desertification (1997);
(iv) Basel Convention on Control on the Trans-Boundary Movement of Hazardous Waste and Disposal.

Furthermore, the Consultant shall clearly describe the linkage between the functions of the relevant institutional or administrative frameworks in Tanzania and the proposed project undertakings. The Consultant shall assess the capacity of the project implementing entities on the management of environmental and social issues under the project. On the social side, the Consultant shall assess the institutional arrangements for the implementation of the RAP, including the processes involve with identification and valuation of the affected assets, the different stakeholders involved and their roles and responsibilities.

Sub-Task (v): Stakeholder Consultations and Public Involvement.

The Consultant shall identify and consult all the relevant stakeholders at national, regional and local levels. These include the Government Agencies, local NGOs, affected groups and other interested parties in order to obtain their views regarding the proposed project implementation arrangement. Indicate who they are, where they are, why they are important in this project, which issues are critical to them and how they will be involved in the ESIA study. Particular attention shall be paid to the disadvantaged groups (e.g. children, people with disabilities, the elderly and women) that may be affected by the proposed project.

The Consultant shall describe methodology applied during stakeholder consultations and public participation such as consultative meetings, household, focus groups interviews and other most appropriate methods to establish public views on the proposed project. Meetings with local authorities and the public shall be held to obtain their views on the project and its implication to the environment and social aspects.

Consultant shall propose public consultation Programme during the ESIA and development of RAP and the most appropriate methods to establish public views should be used. The consultation process should be open and transparent to ensure that the views of interested and affected parties are incorporated in the project design. A summary of issues and response in table form indicating sections which address them should be prepared.

There should be evidence in the Environmental Impact Statement (EIS) to the effect that there were stakeholders' consultations at all levels. Photographs, minutes of the meetings, names and signatures of consulted people could be necessary in this regard.

Among others, the consultations should ensure the involvement of the following:

1. Ministry of Lands, Housing and Human Settlement Development;
2. Local Governments in the project area;
3. National Environment Management Council (NEMC);
4. Utility Companies (e.g. TANESCO, TTCL, Water Supply Companies etc);
5. Local Communities in the project area; and
6. Regional Authorities.
7. Ministry of Water-Rukwa Water Basin

Sub-Task (vi): Analysis of Alternatives to the Proposed Project

The Consultant shall describe different project alternatives that were examined in the course of designing the proposed project and identify other alternatives, which would achieve the same objectives. Including the 'No action' alternative to demonstrate environmental and social conditions without the project, consideration of alternatives should extend to sitting, design, technology, construction techniques, phasing and schedule, and operating and maintenance procedures alternatives.

Compare alternatives in terms of potential environmental and social impacts; capital and operating costs; suitability under local conditions; and institutional, training, and monitoring requirements. When describing the impacts, indicate which are irreversible or unavoidable and which can be mitigated. To the extent possible, quantify the costs and benefits of each alternative, incorporating the estimated costs of any associated mitigating measures. Various environmental and social criteria should be developed to select the best project alternatives.

Sub-Task (vii): Impact Identification and Assessment

The Consultant shall identify, analyze and assess environmental and social impacts (positive and negative) of the proposed project works on natural resources, human beings and the ecosystems based on the phases of project life cycle i.e. mobilization or pre-construction phase, construction phase, operation phase and decommissioning and demobilization phase. Aspect of climate change should be considered in impact identification throughout the project cycle. Methods applied in impact identification and the criteria used in evaluating the levels of impacts significance of the proposed project works must be specified.

The impacts analysis should focus on both positive and negative impacts and be able to state whether the impacts are positive or negative; direct or indirect; short term or long term; reversible or irreversible. The Assessment should focus on the potential for negative environmental and social impacts of the proposed project on the access to business, community/common facilities, human settlements; potential impacts caused by planned and unplanned (spontaneous) in-migration of people; clearing of forest lands for agriculture; increased pressure on fuel wood, fodder and water resources; social disruptions and conflicts; and threats to woodlands and wildlife species composition and habitats.

The assessment should also examine the potential for linear resettlement that usually involves projects producing linear patterns of land acquisition. An overview shall be provided of different groups of people and their cultural, ethnic, and socio-economic characteristics, and how they are likely to benefit and/or be negatively affected by the project. Negative impacts may include but not be limited to physical relocation, loss of land or other physical assets, or loss of access to livelihood.

Sub-Task (viii): Valuation of Properties to be affected

The Consultant should identify the properties along the proposed project which will be affected by the implementation of the project. The types and numbers of the properties to be affected should be indicated. Furthermore, the names and address of the properties' owners should be indicated. The Consultant shall utilize the information from the Valuer to address resettlement issues and develop Resettlement Action Plan. The Resettlement Action Plan shall be developed as per attached guidelines.

The ESIA study should clearly identify and analyze cumulative, residue and trans-boundary impacts. Wherever possible, describe impacts quantitatively, in terms of environmental components affected (area, number), environmental and social costs and benefits. Assign economic values when feasible. Characterize the extent and quality of available data, explaining significant information deficiencies and any uncertainties associated with the predicted impacts.

The Consultant should take into consideration existing by-laws, national and international environmental standards, legislation, treaties, and conventions that may affect the significance of identified impacts. The Consultant shall use the most up to date data and methods of analyzing and assessing environmental and social impacts. Uncertainties concerning any impact shall be indicated.

Sub-Task (ix): Propose Impact Mitigation Measures

The Consultant shall suggest cost-effective measures for minimizing or eliminating adverse impacts of the proposed project works. Measures for enhancing positive or beneficial impacts should also be recommended. The costs of implementing these measures shall wherever possible be estimated and presented.

One of the mitigation measures for the resettlement impact is compensation. The Consultant is therefore required to conduct property valuation for those properties to be affected by the project implementation to effect compensation and development of Resettlement Action Plan.

The Consultant shall review the ongoing measures on HIV/AIDS awareness creation within the project area and propose for the mitigation measures. The proposal shall include a plan of action which will identify responsible key implementers, time frame and expected output.

The proposed mitigation measures shall be properly designed and specified with clear Pay Items in the Bidding Documents. The cost estimate shall be included in the Tender Documents for the project and should also include cost of supervision for the implementation of mitigation measures. Also measures to address emergencies should be covered.

Sub-Task (x): Resource Evaluation or Cost Benefit Analysis.

The Consultant shall review the economic study undertaken during the Preliminary Engineering Design to ascertain the economic viability taking into account the environmental and social issues. The Economic Internal Rate of Return (IRR) and Net Present Value (NPV) of the project at recommended discount rate of 12% should be calculated and interpretation of the results be provided.

Sub-Task (xi): Development of the Environmental and Social Management Plan (ESMP)

The Environmental and Social Management Plan focuses on three generic areas: implementation of mitigation measures, institutional strengthening and training, and monitoring. The Consultant shall prepare Environmental and Social Management Plan which will include proposed work Programme, budget estimates, schedules, staffing and training requirements and other necessary support services to implement the mitigation measures. Institutional arrangements required for implementing this management plan shall be indicated. The cost of implementing the monitoring and evaluation including staffing, training and institutional arrangements must be specified. Where monitoring and evaluation will require inter-agency and inter-Governments collaboration, this should be indicated.

Identify institutional needs to implement environmental assessment recommendations. Review the authority and capability of institutions at local, regional, and national levels and recommend how to strengthen the capacity to implement the environmental and social management and monitoring plans. The recommendations may cover such diverse topics as new laws and regulations, new agencies or agency functions, inter-sectoral arrangements, management procedures and training, staffing, operation and maintenance training, budgeting, and financial support.

ESMP shall specify impact mitigation plan and environmental monitoring plan requirement. The costs, responsibility and timeframe for mitigating each impact and monitoring of each environmental parameter should be provided. Impact Mitigation plan and monitoring plan should be based on the project phases i.e. mobilization or Pre-construction, Construction, Operation, Demobilization and Decommissioning phase.

Sub-Task (xii): Reporting

Notwithstanding the above requirements, the contents and the structure of the Environmental and Social Impact Assessment Report should be in accordance with the Environmental and Impact Assessment and Audit Regulations, 2005.

The ESIA should be concise and limited to significant environmental and social Issues. The main text should focus on actions supported by summaries of the data collected and citations for any references used in interpreting data. Detailed or un-interpreted data are not appropriate in the main text and should be presented in appendices or a separate volume. Unpublished documents used in the ESIA may not be readily available and should also be assembled in appendices.

2.0 STAFFING

The consultancy services will be carried out by four key staff. These include ESIA Team Leader/Environmental Expert, Sociologist, RAP Expert .The team shall also comprise of Support Staff on all key specialties for the study.

Annex 2: Socio-Economic & Environmental Questionnaires

ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (ESIA) FOR THE PROPOSED PROPOSED CONSTRUCTION OF CENTRAL BUS TERMINAL AND COMMUTERS' BUS STAND AT OLD AIRPORT IN MBEYA CITY COUNCIL-MBEYA REGION

GROUPS-QUESTIONNAIRES (PROPOSAL)

BODABODA

1. How long have you conducted Bodaboda business?
2. Is Bodaboda business reliable and sustainable?
3. What challenges do you encounter during day and night times?
4. Have you ever involved in Bodaboda accident/s?
5. What were the cause/s?
6. If NOT safe, can you explain why?
7. Do you have established parking area for Bodaboda?
8. If NOT, why do you park here?
9. Would you prefer to have established Bodaboda parking?
10. If NOT, why?
11. If YES, Can you propose the area that will be suitable/convenient for Bodaboda parking?

COMMUTER BUS DRIVERS

12. How long have you been in this work?
13. Do you find this work comfortable?
    (i) If YES explain
    (ii) If NOT explain
14. Are the bus bays established by the authorities or by community habits?
15. How many trips do you manage per day?
16. How many accidents have you witnessed?
17. What were causes of the accidents?
18. Do you think speed limit signs are important? Why? for YES & NO
19. What precautions should be put into considerations during design?

MTAA & WARD LEADERS

20. How do you explain difficulties on using existing terminal
21. How safe is the existing terminal?
22. Do you have accidents' records on existing terminal
23. What motorized equipment do they involve?

ANNEX 3: STAKEHOLDERS CONSULTATION FORM AND MINUTES (IYELA WARD)

MRADI WA USHINDANI KATIKA UBORESHAJI WA MIUNDOMBINU KWENYE MIJI YA TANZANIA
(TACTIC)

UPEMBUZI YAKINIFU, USANIFU, TATHMINI ZA ATHARI KWA MAINGIRA NA JAMII, UANDAAJI WA GHARAMA ZA MRADI NA UANDAAJI WA ZABUNI KWA AJILI YA UBORESHAJI WA MIUNDOMBINU KATIKA HALMASHAURI ZA MANISPAA ZA MOROGORO, SONGEA, SUMBAWANGA NA MBEYA (TACTIC KANDA Na: 3)

MAHUDHURIO KWA AJILI YA: MIKUTANO, USHAURI NA MAHOJIANO

HALMASHAURI YA ~~MANISPAA~~/JIJI: LA MBEYA

~~MTAA~~/KATA: IYELA

MSHAURI: NORPLAN

Na	JINA	TAASISI	WADHIFA	SIMU Na:	SAHIHI	TAREHE
1	Mh. Musa Ishail	Mbeya City Council	Mh. Diwani	0754602747		30.12.2021
2	Mercy Mwakalinga	Mbeya City Council	WEO - IYELA	0753324624		30-12-021
3	Merky Kakumbula	JIJI - MBEYA	MEO - AIRPORT			30-12-021
4	Oscwaed S. Mwakwisi		M/KITI PAMBOGO	0759-676232		30/12/2021
5	Enock A. Mwampasama		M/KITI - AIRPORT	0753-746601		30/12/2021
6	Saimon A. Mwandambo		MJUMBE MTAA AMBOGO	07647696 10		30/12/2021
7	Ally -M. Mwakafwila		MJUMBE MTAA AIRPORT	0765-813016		30/12/2021
8	Mariam Q. Malo	-"-	MJUMBE S/MTAA	0758547236		30/12/2021
9	Gregory Sigalla		M/KT B/T	0758-380912		30/12/2021
10	Beston Jackos	-"-	MEO - BLOCK T	0757-300123		30/12/2021

AFISA MTENDAJI WA KATA
KATA YA IYELA
JIJI LA MBEYA

MERCY E.M
30/12/2021

MRADI WA USHINDANI KATIKA UBORESHAJI WA MIUNDOMBINU KWENYE MIJI YA TANZANIA
(TACTIC)

UPEMBUZI YAKINIFU, USANIFU, TATHMINI ZA ATHARI KWA MAINGIRA NA JAMII, UANDAAJI WA GHARAMA ZA MRADI NA UANDAAJI WA ZABUNI KWA AJILI YA UBORESHAJI WA MIUNDOMBINU KATIKA HALMASHAURI ZA MANISPAA ZA
MOROGORO, SONGEA, SUMBAWANGA NA MBEYA (TACTIC KANDA Na: 3)

MAHUDHURIO KWA AJILI YA: MIKUTANO, USHAURI NA MAFUNZO

HALMASHAURI YA MANISPAA/JIJI: LA MBEYA

MSHAURI: NORPLAN

MTAA/KATA: IYELA

Na	JINA	TAASISI	WADHIFA	SIMU Na:	SAHIHI	TAREHE
1	MKANDAMA KATULA	FIELD - IYELA	FIELD	0623723239		30/12/2021
2						
3						
4						
5						
6						
7						
8						
9						
10						

HISA MTENDAJI WA KATA
KATA YA IYELA
HALMASHAURI YA JIJI LA MBEYA
MERCY E.M.
30/12/2021

MUHTASARI WA KIKAO
CHA DHARULA CHA MAZINGIRA NA
BARABARA CHA 30.12.2021

1.	Ufunguzi	- Mh. Diwani alifungua kikao Saa 9.42 alasiri - aliwashukuru wageni kwa kufika kwao - Kikao cha kuwajengea kilik uwe ujenzi wa barabara na standi kwa ufadhili wa Banki ya Dunia.
2.	Utambulisho	- Kila mtu alijitambulisha kwa majina na wadhifa wake
3.	Afisa Mazingira Jiji	- Kuwakaribisha wageni
	- Wageni	- Alimshukuru Mh. Diwani kwa utangulizi - NURPLAN ndiyo ilipeshinda Zabuni ya Jiji katika miradi hii - WB - Kusaidia miji 45 - NURPLAN - Miji 4 - Mbeya, Songea Morogoro na Shinyanga - Miradi mingi ya jiji kusimamiwa na NURPLAN. - Tayari tumekwa Mingine Imepitiwa - Miradi yote ya Mbeya Jiji Mingi na yote imepita/itafanyika na mikaa mingine. - Awali hii Tanzania kutekeleza kupembua mijiji la Mbeya

- Kata ya Iyela Ni Muhimu Sana
  - Kwa nini; - Stand Kuu ya Bajaji na daladala
    - Soko Kubwa
    - Barabara za Lami ndani ya Eneo la Mradi.

- Wadau wote Lazima Kushirikishwa Ktk utekelezaji wa Mradi huu, jamii na Makundi Mengine ya jamii

Kazi ya leo — Ni 2 — Maoni, Ushauri
- Kwa nini? — Athari ya Mradi
- Wadau ndiyo wenye Mradi kupitia Maoni yao

* Awamu hii Kundi la walemavu kushirikishwa kikamilifu ktk Mradi

~~MAONI, USHAURI~~ — KATA
- Kundi hili limepewa kipaumbele, na jamii kushirikishwa, na Mradi huu ni Muhimu
- Mradi utahusisha uthamini [illegible], fidia na wapo watakaoathirika
- Mradi utahusisha kupunguza Mafuriko ktk Eneo la Mradi
- Ombi Mwezeshaji-Kata kutoa picha halisi na kikao ya Mazingira ya Eneo la Mradi.

Mh. Diwani — Eneo hili kupatikana kwa Juhudi ya Mh. Rais, Mh. Mbunge kujenga — Stand Kuu, Daladala, Soko nk na yote yamekaza kutekelezwa.

- Eneo la Mradi – Hakuna fidia ya aina yoyote
  – Maeneo yapo wazi
- Athari ya Maji – Watu watakuwa wanaule kezwa sababu ya Kuwa wazi.
- Maji kutotengenezewa njia (Mifereji bora)
- Muda wa Kuanza Mradi ujulikane Mapema na kumalizika (Kuisha) kwa Mradi
- Tathmini ya fidia – athari ya Mradi kwa Makazi ya watu.

Muda – Mradi Kuanza Julai 2022
– Kupitisha Mradi – April 2022

Fidia – Hakuna, Eneo la Mradi liko wazi
Maji – Tathmini afanyike
- Lazima mgoza kufika pale kamati na changamoto, yapi ya kuzingatia
- Mtaalamu – Mtu – Maji, Majengo nk

MAONI – USHAURI

M/Kiti – Block T. G. Sigalla
- Mafuriko – Maji ni Mengi kuelekea eneo la Mradi
  • Maji toka Eneo Mtaa – Pamboga – Kujenga Mfereji wa Kukinga yaelekee Mwelekeo Mmoja
  • Eneo – Nyuma ya Pump F. station au old Chakula barabara – Drainage

M/KITI – Airport – E. Mwampagama
- Shukurani kwa Kutushirikisha katika Mradi tofauti na awali uliopita ya Mradi.
- ombi lengo kutekelezeka na kutimilika kwa Mradi.

Mjeit – Pambogo – O. Murahusi
- • shukrani Kwa Mbunge na Kata – Wala
- • MAJI – Maji yanatoka Mtaa Mapambano Pambogo Kujenga Mfereji Mkubwa Kuelekeza Maji Mto Nzovwe
- – Uharibifu – Mabomba ya Maji yakiharibu kunakebisha Mapema.

– Saimon Mwandambo
- – shukrani kwa Mradi
- – Eneo la Mradi tayari imekuwa la wibaka
- – Mradi itaondoa /tatizo hili
- Ombi – Kututengenezea barabara ya Muda kukaa unamja – TARULA sio hapa

– Ally Mwakafula – Airport
- • shukrani kwa Mradi
- • Ajira – vijana wa Airport Kupewa Kipaumbele

B. Jackes – MEO Block T
- – Waasili Kutambua kwa chemchem zipo
- – Watemevu – Kuwekwe Mundombinu ya Kuwasaidia
- – Eng wa Jiji – Kasambala – Kufanya ujuzi wa na una ya Viwanja, ubora wa Stand
- – chemchem kila Kata Hamna
- • Babara ya Mafuti — Sasa ni Light Duty
- • Sijui kwa itafunguliwa?

M. A - Malo
- – shukrani kwa Mradi, na wananchi watafurahi
- • Afisa Afya
- – Athari za Mradi Yatakuwapo

Nia ya Kikao hiki ni Kubaini Kero za Mradi zitakazojitokeza wakati wa utekelezaji wa Mradi

CDO - Malalamiko yoyote yafikishwe Mapema kwa Mkurugenzi

Q - Barabara ya Mafiali — Familia - Hafurahiwa kuunganishwa na hadi kwa Mlembo

Mtaalamu — Fidia — Hakuna fungu la fidia la WB
- jiji ndiye Mfidiaji kwa wakati
- Alama za barabara
- Siku 9 baki 5

Kufunga Kikao

- Mhe. Alifunga kikao saa 11.15 jioni
- Aliwashukuru Wageni kwa ujio wao na Elimu ya Mradi.
- Shukrani kwa juhudi ~~to~~ za Kufuatilia Mradi huu
- OMBI — Tuwe wa kwanza kutekelezewa Mradi.

- Hakuna athari zitakazojitokeza wakati wa Kutekelezaji wa Mradi.
- Kujikinga na Maradhi ya Mlipuko UKIMWI na Covid 19
- Kupuka Tamaa
- Elimu kwa wananchi juu ya urasimishaji Maeneo yao

Mradi ni wa fanyakazi wote salama. wizi wowote watakuwa kwa lolote. "Ni Hatari"

AFISA MTENDAJI WA KATA
KATA YA IYELA
JIJI LA MBEYA
[signature]
MERCY E MWAKAHANGE

ANNEX 4: COUNCIL MANAGEMENT TEAM- CMT STAKEHOLDERS FORM

28/12/2021

TANZANIA CITIES TRANSFORMING INFRASTRUCTURE AND COMPETITIVENESS PROJECT (TACTIC)
(TACTIC)

FEASIBILITY STUDY, URBAN DESIGN, DETAILED ENGINEERING DESIGN, ENVIRONMENTAL AND SOCIAL DUE DILIGENCE, PREPARATION OF COST ESTIMATES AND BIDDING DOCUMENTS FOR URBAN INFRASTRUCTURE INVESTMENTS FOR
MOROGORO, SONGEA, SUMBAWANGA AND MBEYA COUNCILS (TACTIC ZONE 3)

ATTENDANCE REGISTER FOR: MEETINGS, FOCUS GROUP DISCUSSIONS, INTERVIEWS

(1)

PROJECT LGA: MBEYA CC

MTAA/WARD: STAKE HOLDERS MEETING

CONSULTANT: NORPLAN

S/Na	NAME	INSTITUTION	POSITION	PHONE NO	SIGNATURE	DATE
1	Eng Osmed Kasambala	MBEYA CC	City Engineer	0755825599	[signature]	28/12/2021
2	Edward Gama	NORPLAN (T) LTD	Environmentalist	0719800508	[signature]	28/12/2021
3	GREGORY T. Emmanuel	MBEYA CC (HQ)	HEAD OF ELECTION UNIT	0754542494	[signature]	28/12/2021
4	DR. LAWRENCE KIBONA	MBEYA CC	CLFO	0765635334	[signature]	28/12/2021
5	ANAMARY JOSEPH	MBEYA CC	CBO	0754837565	[signature]	28/12/2021
6	WILBERT C. KOMBA	MBEYA CC	Ag CAICO	0764099660	[signature]	28/12/2021
7	GRACE CHITANDA	LRBWB	WO	0717-364663	[signature]	28/12/2021
8	ALLY D. ABDALLAH	MBY CC	Ag. CPED	0787422764	[signature]	28.12.2021
9	PASCAL OBEID	MBEYA CC	Ag CSED	0754010032	[signature]	28.12.2021
10	NASIRO B. MGANDO	MBEYA CC	HRO	0751 950116	[signature]	28.12.2021

28/12/2021

TANZANIA CITIES TRANSFORMING INFRASTRUCTURE AND COMPETITIVENESS PROJECT (TACTIC)
(TACTIC)

FEASIBILITY STUDY, URBAN DESIGN, DETAILED ENGINEERING DESIGN, ENVIRONMENTAL AND SOCIAL DUE DILIGENCE, PREPARATION OF COST ESTIMATES AND BIDDING DOCUMENTS FOR URBAN INFRASTRUCTURE INVESTMENTS FOR MOROGORO, SONGEA, SUMBAWANGA AND MBEYA COUNCILS (TACTIC ZONE 3)

ATTENDANCE REGISTER FOR: MEETINGS, FOCUS GROUP DISCUSSIONS, INTERVIEWS

(2)

PROJECT LGA: MBEYA CITY COUNCIL

CONSULTANT: NORPLAN

MTAA/WARD: STAKEHOLDERS MEETING

S/No	NAME	INSTITUTION	POSITION	PHONE NO	SIGNATURE	DATE
1	INSP PETER MWAKALINGA	FIRE	DFO	0755-764207		28/12/2021
2	ENG. KUDRA OMARY	TANESCO	AG. PRINCIPAL ENG.	0712313524		28/12/2021
3	ENG. MAGENZI MATHEW	TARURA MCC	ENGINEER	0764894709		28/12/2021
4	Eng. PAUL. MLIA	TARURA-MBEYA	DM	0714828314		28/12/2021
5	STEPHEN M. MAGAFU	T.T.C.L	Eng.	0738 862259		28/12/2021
6	ENG. LEONIDAS DEOGRATIAS	MBEYA UWSA	ENGINEER	0767-674012		28/12/2021
7	ANDE MWAIPAPE	MCC	Procurement	0766420902		28/12/2021
8	ZENA J. KAPAYA	MBEYA CC	CCDO	0754-555142		28/12/2021
9	MS M. MOSES	MBEYA CC	Ag. CIA	0754050348		28/12/2021
10	OCHA C. IKUU	MBEYA CC	CDO	0753073199		28/12/2021

28/12/2021

TANZANIA CITIES TRANSFORMING INFRASTRUCTURE AND COMPETITIVENESS PROJECT (TACTIC)
(TACTIC)

FEASIBILITY STUDY, URBAN DESIGN, DETAILED ENGINEERING DESIGN, ENVIRONMENTAL AND SOCIAL DUE DILIGENCE, PREPARATION OF COST ESTIMATES AND BIDDING DOCUMENTS FOR URBAN INFRASTRUCTURE INVESTMENTS FOR
MOROGORO, SONGEA, SUMBAWANGA AND MBEYA COUNCILS (TACTIC ZONE 3)

ATTENDANCE REGISTER FOR: MEETINGS, FOCUS GROUP DISCUSSIONS, INTERVIEWS

PROJECT LGA: MBEYA CITY COUNCIL

MTAA/WARD: STAKEHOLDERS MEETING

CONSULTANT: NORPLAN

S/No	NAME	INSTITUTION	POSITION	PHONE NO	SIGNATURE	DATE
1	Nehemie Mwaisatobe	MCC	Ag. CESO	0756488082		28/12/2021
2						
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ANNEX 5: STAKEHOLDERS FORM FOR MBEYA BUS DRIVERS ASSOCIATIONS (STENDI KUU-MBEYA)

MRADI WA USHINDANI KATIKA UBORESHAJI WA MIUNDOMBINU KWENYE MIJI YA TANZANIA
(TACTIC)

UPEMBUZI YAKINIFU, USANIFU, TATHMINI ZA ATHARI KWA MAINGIRA NA JAMII, UANDAAJI WA GHARAMA ZA MRADI NA UANDAAJI WA ZABUNI KWA AJILI YA UBORESHAJI WA MIUNDOMBINU KATIKA HALMASHAURI ZA MANISPAA ZA
MOROGORO, SONGEA, SUMBAWANGA NA MBEYA (TACTIC KANDA Na: 3)

MAHUDHURIO KWA AJILI YA: MIKUTANO, USHAURI NA MAHOJIANO

HALMASHAURI YA MANISPAA/JIJI: MBEYA MJINI

MTAA/KATA: STAND KUU MBEYA

MSHAURI: NORPLAN

No	JINA	TAASISI	WADHIFA	SIMU Na:	SAHIHI	TAREHE
1	KIZAZA DAVID	AGENT	MAKAMU MKITI	0752160877		2/1/2022
2	PETER KAYUWI	KATIBU	AGENTI	0762108003		2/1/2021
3	SALIMU JUMA	AJENT	MIKITI STANDI	0764-200040		2/1/2022
4	ANA-MORIS	MWINYIKI SIS	MKITI SISIMO			2/1/2022
5	AYUBU J. SANGA	MACHINGA	MACHINGA	0752083060		2/1/2022
6	PATRICK MSHOMBA	AJENTI	AJENTI	0757227344		2/1/2022
7	ISHAQ IBRAHIM	ANJENT	KANJENTI	0767131212		2/1/2022
8	DR. [illegible] P. SANGA	[illegible]	[illegible]	[illegible]		2/01/22
9	ABEL AMBAKISYE	AJENT	BRANCH MANAGER	0764931372		02/01/2022
10	FRED MWAMBENE	BODABODA	DEREVA	0756-7720[illegible]		2/01/2022

MRADI WA USHINDANI KATIKA UBORESHAJI WA MIUNDOMBINU KWENYE MIJI YA TANZANIA (TACTIC)

UPEMBUZI YAKINIFU, USANIFU, TATHMINI ZA ATHARI KWA MAINGIRA NA JAMII, UANDAAJI WA GHARAMA ZA MRADI NA UANDAAJI WA ZABUNI KWA AJILI YA UBORESHAJI WA MIUNDOMBINU KATIKA HALMASHAURI ZA MANISPAA ZA MOROGORO, SONGEA, SUMBAWANGA NA MBEYA (TACTIC KANDA Na: 3)

MAHUDHURIO KWA AJILI YA: MIKUTANO, USHAURI NA MAHOJIANO

HALMASHAURI YA MANISPAA/JIJI: ....

MSHAURI: .... NORPLAN

MTAA/KATA: ....

Na	JINA	TAASISI	WADHIFA	SIMU Na:	SAHIHI	TAREHE
1	VENANCE ZEBEDAYO	AGENT	—	0684966117	[illegible]	2/01/2022
2	JUSTIN SIMTOWE	AGENT	—	0657-981289	[illegible]	2/1/2022
3	GEOFREY SINKALA	MJASILIAMALI	—	0762-183233	[illegible]	2/1/2022
4	JAMES ANDENGE	MSAFIRISHAJI	—	069229/64	[illegible]	2/1/2022
5	SAILE MAHIMISHI REVOCATUS DEUS	DEREVA	—	0712283329	[illegible]	2/1/2022
6	LEONARD	AFISA USAFIRISHAJI	—	0769725798	[illegible]	2/1/2022
7	PAUL A LUCAS-NYATI	AFSA USAFIRISHAJI	— — —	0756286446	[illegible]	2/1/2022
8	DUNCAN KYUSA	AFISA - USAFIRI	USUMBE	0759-099625	[illegible]	2/1/22
9	PHILIMON MWAKYUSA	AGENT	MJUMBE	0767205635	[illegible]	2/1/22
10	[illegible] KIJIJENGE	—		[illegible]	[illegible]	

MRADI WA USHINDANI KATIKA UBORESHAJI WA MIUNDOMBINU KWENYE MIJI YA TANZANIA
(TACTIC)

UPEMBUZI YAKINIFU, USANIFU, TATHMINI ZA ATHARI KWA MAINGIRA NA JAMII, UANDAAJI WA GHARAMA ZA MRADI NA UANDAAJI WA ZABUNI KWA AJILI YA UBORESHAJI WA MIUNDOMBINU KATIKA HALMASHAURI ZA MANISPAA ZA MOROGORO, SONGEA, SUMBAWANGA NA MBEYA (TACTIC KANDA Na: 3)

MAHUDHURIO KWA AJILI YA: MIKUTANO, USHAURI NA MAHOJIANO

HALMASHAURI YA MANISPAA/JIJI: ....

MSHAURI: .... NORPLAN

MTAA/KATA: ....

Na	JINA	TAASISI	WADHIFA	SIMU Na:	SAHIHI	TAREHE
1	GOTIBE SABASTIAN	MSAFIRISHAJI	BOOKING	0757093647	[signature]	02/10/2024
2	BONIFAS S. MKOYA	MSAFILISHAJI	MSAFILISHAJI	0623696393	[signature]	
3	BENARD SIMBEYA	USAFILISHAJI	BOOKING	0765000565	[signature]	
4	Oliver Henry	Msafirishaji	Mpiga Debe	0757-646406	[signature]	
5	Brighton Lwanda	Usafirishaji	Msafirishaji	0767619992	[signature]	
6	Wile Mwamwezi	[illegible]	[illegible]	0758382[illegible]	[signature]	
7	PAULOS MWAKYUSA	BOKIAGE	MSAFIRISHAJI	0764763592	[signature]	
8	MUSTAPA HUSSEN	KIAYOZI	KIAYOZI	0753591852	[signature]	
9	SHABANI KASWISHA	USAFIRISHAJI	BOOKING	0764088337	[signature]	
10	MASHAKA MSONGOLE	BOOKING		0755967412	[signature]	

MRADI WA USHINDANI KATIKA UBORESHAJI WA MIUNDOMBINU KWENYE MIJI YA TANZANIA
(TACTIC)

UPEMBUZI YAKINIFU, USANIFU, TATHMINI ZA ATHARI KWA MAINGIRA NA JAMII, UANDAAJI WA GHARAMA ZA MRADI NA UANDAAJI WA ZABUNI KWA AJILI YA UBORESHAJI WA MIUNDOMBINU KATIKA HALMASHAURI ZA MANISPAA ZA
MOROGORO, SONGEA, SUMBAWANGA NA MBEYA (TACTIC KANDA Na: 3)

MAHUDHURIO KWA AJILI YA: MIKUTANO, USHAURI NA MAHOJIANO

HALMASHAURI YA MANISPAA/JIJI: .....

MSHAURI: NORPLAN

MTAA/KATA: .....

No	JINA	TAASISI	WADHIFA	SIMU Na:	SAHIHI	TAREHE
1	JOHNSON PAULKUYU	DEREVA	MJUMBE	0763 229799		2/1/2022
2	DAVID THOMAS	BOOKING	MJUMBE	0627-121260		2/1/2022
3	Peter Mwandenuka	BOOKING	Mjumbe	0764-279-396		2/1/2022
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MRADI WA USHINDANI KATIKA UBORESHAJI WA MIUNDOMBINU KWENYE MIJI YA TANZANIA
(TACTIC)

UPEMBUZI YAKINIFU, USANIFU, TATHMINI ZA ATHARI KWA MAINGIRA NA JAMII, UANDAAJI WA GHARAMA ZA MRADI NA UANDAAJI WA ZABUNI KWA AJILI YA UBORESHAJI WA MIUNDOMBINU KATIKA HALMASHAURI ZA MANISPAA ZA MOROGORO, SONGEA, SUMBAWANGA NA MBEYA (TACTIC KANDA Na: 3)

MAHUDHURIO KWA AJILI YA: MIKUTANO, USHAURI NA MAHOJIANO

HALMASHAURI YA MANISPAA/JIJI: MBEYA MJINI

MTAA/KATA: SIANDI KWA MBEYA

MSHAURI: NORPLAN

Na	JINA	TAASISI	WADHIFA	SIMU Na:	SAHIHI	TAREHE
1	SARAH Mwamafupa	MATRON	MATRON	0755301200		02/01/2022
2	SELEMANI Sulum		WAKALA	0764858518		02/01/22
3	Ushimba Mboso	Chama	WAKALA	0757-558229		02/01/2022
4	BONIPHACE B.	AJETI	AJETI	0747554065		02/1/2022
5	SAID R. NYAMBONZ	USAFIRISHAJI	Afisa usafirishaji	0753-727164		02/01/2022
6	FRANCO Bukuku	AJENT	AJENT	0764 882164		02/1/2022
7	BONFACE B. MSUKA	Booking officer	Booking office	0716 905114		02/1/2022
8	HAMZA Suma	AGENT	Booking office	0769742220		02/01/2022
9	MECKY SALUM	KONDAKTA	KONDA	0757281825		02/01/2022
10	G. MWAISELA	BOOKING	Booking	0755199064		02/1/22

MRADI WA USHINDANI KATIKA UBORESHAJI WA MIUNDOMBINU KWENYE MIJI YA TANZANIA
(TACTIC)

UPEMBUZI YAKINIFU, USANIFU, TATHMINI ZA ATHARI KWA MAINGIRA NA JAMII, UANDAAJI WA GHARAMA ZA MRADI NA UANDAAJI WA ZABUNI KWA AJILI YA UBORESHAJI WA MIUNDOMBINU KATIKA HALMASHAURI ZA MANISPAA ZA MOROGORO, SONGEA, SUMBAWANGA NA MBEYA (TACTIC KANDA Na: 3)

MAHUDHURIO KWA AJILI YA: MIKUTANO, USHAURI NA MAHOJIANO

HALMASHAURI YA MANISPAA/JIJI: .....

MTAA/KATA: STAND KUU - MBEYA

MSHAURI:..... NORPLAN

Na	JINA	TAASISI	WADHIFA	SIMU Na:	SAHIHI	TAREHE
1	MACHO	[illegible]				
2	NOAH - CRIS	[illegible]	[illegible]	0754492086		09/1/2021
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ANNEX 6: STAKEHOLDERS FORM FOR BODABODA ASSOCIATIONS

MRADI WA USHINDANI KATIKA UBORESHAJI WA MIUNDOMBINU KWENYE MIJI YA TANZANIA (TACTIC)

UPEMBUZI YAKINIFU, USANIFU, TATHMINI ZA ATHARI KWA MAINGIRA NA JAMII, UANDAAJI WA GHARAMA ZA MRADI NA UANDAAJI WA ZABUNI KWA AJILI YA UBORESHAJI WA MIUNDOMBINU KATIKA HALMASHAURI ZA MANISPAA ZA MOROGORO, SONGEA, SUMBAWANGA NA MBEYA (TACTIC KANDA Na: 3)

MAHUDHURIO KWA AJILI YA: MIKUTANO, USHAURI NA MAHOJIANO

HALMASHAURI YA MANISPAA/JIJI: MBEYA

MTAA/KATA: CC SIMBA

MSHAURI: NORPLAN

BODABODA

No	JINA	TAASISI	WADHIFA	SIMU Na:	SAHIHI	TAREHE
1	RAJABU RAMADHANI	USAFIRISHAJI	KATIBU	0766319252		2/12/2022
2	CHARLES L. SHONDE	—//—	M/KATIBU	0757649647		2/2/2022
3	ARNOLD J. SICHILA	"	Mwanachama	0745857699		02/01/2022
4	MUSA H. MBALLA	//	MWANACHAMA	0753493388		2/01/2022
5	CHARLES BRAYSON	//	MWANACHAMA	0755[illegible]		1/01/2022
6	HAMISI J. GUMBO	11	MJUMBE	0757280012		02/01/2022
7	ISSA E SBALI	"	MJUMBE	0764-868750		2/1/2022
8	AMANI KIBAKULE	" "	MAKAMU M/KITI BODABODA JIJI MBEYA	0684366628		02/01/2022
9						
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ANNEX 7: STAKEHOLDERS FORM FOR BAJAJI ASSOCIATION MBEYA CITY

MRADI WA USHINDANI KATIKA UBORESHAJI WA MIUNDOMBINU KWENYE MIJI YA TANZANIA
(TACTIC)

UPEMBUZI YAKINIFU, USANIFU, TATHMINI ZA ATHARI KWA MAINGIRA NA JAMII, UANDAAJI WA GHARAMA ZA MRADI NA UANDAAJI WA ZABUNI KWA AJILI YA UBORESHAJI WA MIUNDOMBINU KATIKA HALMASHAURI ZA MANISPAA ZA MOROGORO, SONGEA, SUMBAWANGA NA MBEYA (TACTIC KANDA Na: 3)

MAHUDHURIO KWA AJILI YA: MIKUTANO, USHAURI NA MAHOJIANO

HALMASHAURI YA MANISPAA/JIJI: MBEYA CC

MSHAURI: NORPLAN

MTAA/KATA: UMOJA WA BAJAJI

Na	JINA	TAASISI	WADHIFA	SIMU Na:	SAHIHI	TAREHE
1	LUSEKELO MWABISILE		DEREVA	0757126135		3-1-2022
2	ASYUTI A. MWANALUBEMBE		KAIMU MHAZINA	0759 442405		3-01-2022
3	MARTIN KIHWELO		MJUMBE OFISINI	0748 934465		3/1/2022
4	DENIS L. SIAME		DEREVA	0655226614	D.L.siame	3/1/2022
5	JOHN J. NGASA		DEREVA	0628771853		3/1/2022
6	CHARLES A. CHARLES		DEREVA	0763935833		3/01/2022
7	FRANK G. MWAKALINGA		NIZAM JUHUDI	0755042951		3/01/2022
8	ANTHON J. MWANGOKA		DELEVA	0768548076		3/01/2022
9	JOSHU MAPUNDA		DELEVA	0782078274	J.P	3-1-2022
10	LUCAS PANON		KATIBU	0744993340		3/1/2022

UMOJA WA MADEREVA WA BAJAJI NA WAMILIKI JIJI LA MBEYA, P.O. BOX, 3/1/2022

0755884444

Annex 8: Water quality analysis results

THE UNITED REPUBLIC OF TANZANIA
MINISTRY OF WATER

Telegrams: 'MAJI MBEYA'
Telephone: +255-25-2502252
Fax: +255 25 2503492

Zonal Water Quality Laboratory
P.O. Box 762
MBEYA

REF.No MBYLAB/WQM/JAN

Date ...07th Jan 2022 ...

REQUESTED BY:
NORPLAN (T) LIMITED
P.O BOX 2820
DAR ES SALAAM

WATER QUALITY ANALYSIS REPORT SHEET

WATER SOURCE		IRINGO SPRING	KWA ALLEN	MTO MBATA	TANZANIAN STANDARD LIMIT
SAMPLE LOCATION		IZIWA	IZIWA	GHANA	
DATE OF SAMPLING		03/01/2022	03/01/2022	03/01/2022	
GPS COORDINATES		S 08°52.5847: E 033°24.8775	S 08°52.6010: E 033°24.4753	S 08°53.3072: E 033°25.7367	
pH		8.47	8.12	7.66	5.5 – 8.5
TEMPERATURE	°C	19.6	18.9	19.4	20 - 30
ELECTRICAL CONDUCTIVITY	µS/cm	108	125	98	1500 - 2500
TURBIDITY	NTU	3.17	6.6	20.2	5 - 25
TOTAL DISSOLVED SOLIDS	mg/L	67	81	63	700 - 1500
SETTLEABLE MATTER	M/ML	0	0	0.1	N.M
TOTAL ALKALINITY	mg/L	30	50	30	600
COLOR	Co/pt	0.05	0.08	0.03	15
TOTAL HARDNESS	mg/L	18	20	16	300 - 600
CALCIUM	mg/L	4.2	4.4	3.6	150
MAGNESIUM	mg/L	2.6	2.8	2.2	100
IRON	mg/L	0.07	0.09	0.05	0.3
NITRATE	mg/L	3.11	3.17	2.92	45
NITRITE	mg/L	0.001	0.006	0.01	0.03
PHOSPHATE	mg/L	0.27	0.13	0.49	2.2
FLUORIDE	mg/L	0.19	0.21	0.17	1.5
CHLORIDE	mg/L	2.836	5.672	5.672	250
SULPHATE	mg/L	8.4	5.5	4.0	400
SALINITY	mg/L	0.05	0.06	0.04	N.M
FEACAL COLIFORM	Count/100ml	3	5	70	0
E.Coli	/100ml 44.5°C	0	0	6	0

N.M = NOT MENTIONED
RECOMMENDATION:
Feacally polluted water source, hence treatment is highly recommended.

REPORTING OFFICER

NAME .....**DANIEL MWAKAGILE**

SIGNATURE.....DATE 07/01/2022

LABORATORY INCHARGE

NAME .....**AUGUSTINE MBAPILA**

SIGNATURE.....DATE 07/01/2022

MBEYA WATER LABORATORY
P.O. BOX
TEL. 2502252
MBEYA

THE UNITED REPUBLIC OF TANZANIA
MINISTRY OF WATER

Telegrams: 'MAJI MBEYA'
Telephone: +255-25-2502252
Fax: +255 25 2503492

Zonal Water Quality Laboratory
P.O. Box 762
MBEYA

REF.No MBYLAB/WQM/JAN

Date ...**07th Jan 2022** ...

REQUESTED BY:
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WATER QUALITY ANALYSIS REPORT SHEET

WATER SOURCE		KAGERA SPRING	NZOVWE SPRING	META RIVER	**TANZANIAN STANDARD LIMIT**
SAMPLE LOCATION		ILOMBA	At the intake	Itende	
DATE OF SAMPLING		03/01/2022	03/01/2022	03/01/2022	
GPS COORDINATES		S 08°54.5984: E 033°28.5192	36L 0552690 UTM 9014009	S 08°53.3072: E 033°25.7367	
pH		7.12	7.59	7.11	5.5 – 8.5
TEMPERATURE	°C	21.4	21.2	22.4	20 - 30
ELECTRICAL CONDUCTIVITY	µS/cm	748	495	616	1500 - 2500
TURBIDITY	NTU	2.27	4.51	59.3	5 - 25
TOTAL DISSOLVED SOLIDS	mg/L	486	290	400	700 - 1500
SETTLEABLE MATTER	M/ML	0	0	0.2	N.M
TOTAL ALKALINITY	mg/L	220	130	148	600
COLOR	Co/pt	0.05	20	53	15
TOTAL HARDNESS	mg/L	118	72	96	300 - 600
CALCIUM	mg/L	26.6	18.0	24.2	150
MAGNESIUM	mg/L	16.4	10.8	14.8	100
IRON	mg/L	0.29	0.17	0.2	0.3
NITRATE	mg/L	10.2	3.84	36.6	45
NITRITE	mg/L	0.001	0.01	0.02	0.03
PHOSPHATE	mg/L	0.02	1.07	0.1	2.2
FLUORIDE	mg/L	0.17	0.15	0.29	1.5
CHLORIDE	mg/L	26.942	11.344		250
SULPHATE	mg/L	23	26	50	400
SALINITY	mg/L	0.37	0.31	0.04	N.M
FEACAL COLIFORM	Count/100ml	3	8	80	0
E.Coli	/100ml 44.5°C	0	0	15	0

N.M = NOT MENTIONED
RECOMMENDATION:
High iron content at Kagera spring water source. High color at Nzovwe spring and Meta river

REPORTING OFFICER

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WATER QUALITY ANALYSIS REPORT SHEET

WATER SOURCE		ILOLO SPRING	**TANZANIAN STANDARD LIMIT**
SAMPLE LOCATION		SINDE	
DATE OF SAMPLING		03/01/2022	
GPS COORDINATES		S 08°54.2251 E 033°27.6138	
pH		7.18	5.5 – 8.5
TEMPERATURE	°C	20.9	20 - 30
ELECTRICAL CONDUCTIVITY	µS/cm	1115	1500 - 2500
TURBIDITY	NTU	2.49	5 - 25
TOTAL DISSOLVED SOLIDS	mg/L	720	700 - 1500
SETTLEABLE MATTER	M/ML	0	N.M
TOTAL ALKALINITY	mg/L	362	600
COLOR	Co/pt	1.86	15
TOTAL HARDNESS	mg/L	140	300 - 600
CALCIUM	mg/L	32	150
MAGNESIUM	mg/L	19.6	100
IRON	mg/L	0.3	0.3
NITRATE	mg/L	18.2	45
NITRITE	mg/L	0.001	0.03
PHOSPHATE	mg/L	0.11	2.2
FLUORIDE	mg/L	0.15	1.5
CHLORIDE	mg/L	34.032	250
SULPHATE	mg/L	28	400
SALINITY	mg/L	0.55	N.M
FEACAL COLIFORM	Count/100ml	8	0
E.Coli	/100ml 44.5°C	0	0

N.M = NOT MENTIONED
RECOMMENDATION:
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