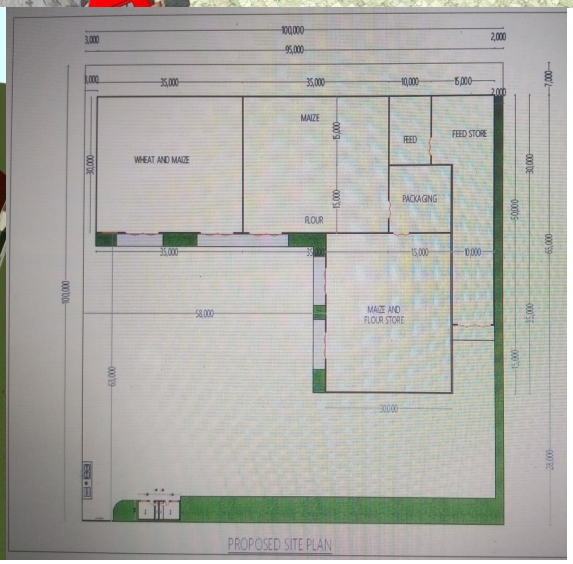
EIA FOR MILLING FACTORY
AT
FINYA SHEHIA, WETE DISTRICT







[Final Report]

Submitted for approval to:

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[August, 2023]

EXECUTIVE SUMMARY

The flying fox company proposes the construction and operation of Maize and wheat Milling Plant on a portion situated at Finya within the Wete District, North Region in Pemba, to cater for the maize and wheat flour Pemba Island. The plant will be developed on a 1 hectors site on the farmed land. The proposed Maize and Wheat Milling Plant would process a raw maize and wheat grain to produce the flour. The by-products produced would be used for animal feed production.

The proposed project for the construction of a mill plant is a listed activity that cannot be undertaken without an Environmental Clearance Certificate. Therefore, as part of the commissioning process an Environmental Impact Assessment (EIA) is required. Thus the appointed Consultant to provide consultancy services to undertake an environmental impact assessment compliant to Zanzibar Environmental Management Act.

Stakeholder consultation

Stakeholder consultations generated valuable views, concerns and suggestions on how best to improve the proposed project. Almost all the stakeholders highlighted the importance of the proposed project in socio-economic development of the Pemba. The EIA team visited the project areas and consulted key stakeholders such as people living in the surrounding areas in the selected Shehia to be impacted by the project.

Selected Alternative

Several project alternatives were assessed as follows: No project alternative, Alternative roads and means of transport. From the findings of this EIA study, the existing designs provide the optimum alternative for implementing and operating the proposed project subject to the effective implementation of the proposed ESMP and EMP.

Summary of the Project implementation

The project will comprise two distinct phases, namely construction and operation. The decommissioning and closure phase is considered at a high level in order to understand the potential for residual impacts.

Construction Phase

The key construction activities associated with the proposed project include:

- clearing of vegetation;
- site establishment including storm water controls;
- transportation of construction phase materials and staff (via existing roads);
- foundations and structures;
- equipment, pipework and utilities installations;
- collection, storage and removal of construction related waste

The construction phase facilities would include:

- parking area for cars and equipment;
- mobile site office
- portable change houses and ablution facilities;
- workshops and wash bays;
- stores for the storing and handling of fuel, lubricants, solvents, paints and construction materials;
- The supplying or the installation of bulk services such as water, electricity, waste disposal plan and waste management
- contractor's laydown areas
- construction waste collection and storage facilities;
- The constructions of bulk services infrastructures such as sewage.
- Security and access control.

Summary of impact in construction phase

- change in land use
- noise caused by construction activities
- soil loss and erosion
- water and air quality impact
- health and safety
- waste impact
- employment creation and benefit to local community

Operations Phase

The main activities of this project during operational phase would be the milling, packaging and transportation of maize. However, the key operational activities associated with the proposed project include:

- arrival and departure of personnel (in shifts);
- delivery of raw materials and other supplies by truck and removal of waste by truck;
- storage of incoming materials
- wheat and maize preparation, milling and refinery;
- final product and by-product storage and transportation;
- Associated services and support activities.

The main facilities would include:

- corn off-loading, cleaning and storage silos;
- steeping, milling and drying area;
- by-product load out area;
- refinery plant, tank farm and load out area;
- chemical intake and storage tanks;
- warehouses and storage area;
- workshops and truck wash;

Summary of impact in operation phase

- storm water
- waste management
- increase employment opportunity and revenue collection
- improve aesthetic look of the area
- commercialization of the area
- water and air quality impact
- health and safety

Environmental management and monitoring plans

A number of mitigation and enhancement measures have been proposed to address the identified potential negative and positive impacts. These have been used to develop an

Environmental and Social Management Plan (ESMP) for construction and operation phase. Programs for both internal and periodic external environmental monitoring have been proposed with an overall objective of ensuring that mitigation measures are implemented effectively. Environmental monitoring will be carried out to ensure that all construction and operation activities comply and adhere to environmental provisions and standard specifications. The activities and indicators that have been recommended for monitoring are presented in Environmental Monitoring Plan (EMP). The ESMP and EMP are presented

Decommissioning and Closure Phase

The plant is estimated to run for a period of 30 years with scheduled maintenance and ongoing equipment replacement or upgrades. This would allow the plant to operate for a longer period. Having said that the plant is likely to operate for many decades, a specific decommissioning and closure plan has not yet been developed. However, when it comes to the decommissioning phase, an Environmental Impact Assessment (EIA) will be required and the disposal of decommissioned equipment and hazardous contaminated materials should be disposed following the disposal of hazardous material legislation.

Conclusion

It is assessed that the development of this project would not be affecting any of the locals in a negative way. On the contrary there will be abundant opportunities for employment during the construction phase (both skilled and labor), although temporary and there will be permanent employment opportunities during the operational period of the project. This proposed development would enhance the quality of life in and around this area. Not proceeding with the project retains the status quo, but with a loss in employment and transformation opportunities, revenue generation and related social benefits, which could potentially be generated by the development. Lastly, it is unanimously concluded that the proposed development go ahead without any objections since the project would generate significantly more employment and economic value than the site currently does.

SWAHILI SUMMARY

Kampuni ya FLYING FOX ni kampuni yenye uzoefu katika biashara ya uzalishaji wa bidhaa mbalil mbali zitokanazo na unga wa ngano ikiwemo mikate boflo, mandazi, etc pamoja na shughuli jengine za kibiashara. Kampuni nia ya kuekeza kiwanda cha kusaga nafaka (ngano na mahindi) na kuzalisha unga wa ngano na sembe katika Shihia ya Finya, wilaya ya Wete Pemba. Kimsingi malengo na matarajio ya mradi huu unaenda sambamba na malengo na mikakati ya serikali ya Wilaya na serikali kuu katika uekezaji hasa eneo la Viwanda. Hadi sasa Pemba haina aina ya mradi kama huu ukilinganisha na Unguja, hivyo kusababisha unga wa ngano na wa sembe kuagizwa nje ya kisiwa cha Pemba. Kuwepo kwa kiwanda kusaga nafaka katika eneo la Finya kitapunguza umbali na pia kitaongeza upatikanaji wa huduma ya unga safi na salama.

Kama ilivyoelekeza sheria ya Zanzibar ya Mazingira nambari 3 ya mwaka 2015 kwamba, shughuli yoyote ya kimaendeleo / mradi ambayo inatarajiwa kufanyika katika eneo lolote na kupelakea mazingira kubadilika, ni lazima mradi huo ufanyiwe ripoti ya kimazingira na kupatiwa cheti cha kimazingira kabla ya kuanza utekelezaji. Kwa maana hio mradi huu uko katika hatua hio ya kisheria na kutaraji kupata cheti kutoka kwa mamlaka husika (ZEMA). Sheria na kanuni zinazohusiana na mradi huu zimeangaliwa na kupitiwa kwa makini ili kuweza kuboresha na kufuata taratibu kwa ufanisi mzuri na mahusiano mazuri kwa serikali na wadau wengine.

Mradi pendekezwa unatarajiwa kuwekezwa katika Shehia ya Finya, wilaya ya Wete kwenye eneo lenye ukubwa wa 10,000 sqm (1 h) pembazoni kidogo mwa barabara ya Finya – Wingwi. Eneo haliko mbali sana na makaazi ya watu na karibu na mji wa kibiashara wa Wete mjini. Pia eneo lina miti, nyasi na mazao ya mda mfupi yanayoweza kuhamishika ikiwemo mohogo, viazi vitamu, migomba na minazi. Eneo lina muinuko mdogo usiosumbua kwa ujenzi wa kiwanda na linapokea mvua ya wastani. Hapana miundombinu ya kusafirishia maji ya mvua ya uhakika na inategemea zaidi michrizi/misingi ya asili pembezoni na katikati ya enao na michirizi ya muda.

Mradi pendekezwa wa kusaga nafaka na mahindi na ngano utakua na sehemu kuu tatu za ujenzi: (i) usafishaji wa awali wa kiwanja ukijumuisha kulipa fidia ya mazao, kuondosha miti, kuchimba na kuweka sawa eneo. (ii) Sehemu nyengine ni upimaji wa foundation na

kugawanya maeneo muhimu ya kiwanda ikiwemo kisima na matanki ya kuifadhia maji, mashine za kusafisha na kuzalisha unga, umeme, bomba za maji, mapaa, sehemu ya kugeshea magari, na n.k. Pia kutakua na ujenzi wa miundombinu ya maji taka na maji safi, taka ngumu na sehamu za kuhifadhia chemicali na mafuta machafu. (iii) Kipindi cha uendeshaji kutakua na utoaji wa huduma ya kuuza unga wa ngano na sembe pamoja na uzingatiaji wa usalama wa kiwanda na watu kutokana na moto, wizi na majanga mengineyo.

Matayarisho na uendeshaji wa kiwanda kuna athari nyingi za kimazingira zitakazojitokeza katika kipindi cha ujenzi na uenedeshaji lakini hazitokua kubwa na nyingi sio endelevu, pia mpango wa kudhibi adhari hizo umeainishwa katika ripoti hii ya kimazingira na taasisi ambazo zitahitajika kusimamia zimeainishwa katika kila tukio linalotazamiwa kutokea. Hata hivyo, inaonyesha wazi kwamba mradi huu utakua na faida kubwa kwa jamii na serikali za kiuchumi na za kuhuduma. Lakini kunahitajika mashirikiano baina ya muekezaji na wadua wanaozunguka eneo la maradi. Matatizo mengi ya kimazingira na kijamii ya mradi huu yanaweza kutatulika kwa muda mfupi na sio matatizo endelevu.

Kuepo kwa mradi katika eneo lilopendekezwa kutakua na faida zaidi na ni sehemu salama kwa uekezaji wa kiwanda cha unga ikizingatiwa tatizo la uhaba wa viwanda vya aina hii katika wilaya ya Wete na Pemba kwa ujumla, Pia urahisi wa kusafirisha unga wa ngano na sembe safi na salama vijijini na mjini.

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List of Acronym

EIA	Environmental Impact Assessment
DOE	Department of Environment
OSH	Occupation Safety and Health
TBS	Tanzania Bureau of Standard
WHO	World Health Organization
ZBS	Zanzibar Bureau of Standard
ZAWA	Zanzibar Water Authority
ZEMA	Zanzibar Environmental Management Authority
ZECO	Zanzibar Electricity Corporation
ZFDA	Zanzibar Food and Drug Agency
ZIPA	Zanzibar Investment Promotion Authority

1. INTRODUCTION

1.1 Project Overview

The flying fox company proposes the construction and operation of Maize and wheat Milling Plant on a portion situated at Finya within the Wete District, North Region in Pemba, to cater for the maize and wheat flour in Pemba Island. The plant will be developed on a 1 hectors site on the farmed land. The proposed Maize and Wheat Milling Plant would process a raw maize and wheat grain to produce the flour. The by-products produced would be used for animal feed production. Therefore, the ISMACO Consultant has been appointed to conduct an Environmental Impact Assessment and Environmental Management Plan (EMP) for the proposed development. The Environmental Impact Assessment has been conducted to meet the requisites of Zanzibar's Environmental Management Act (No. 3 of 2015).

The proposed project for the construction of a mill plant is a listed activity that cannot be undertaken without an Environmental Clearance Certificate. Therefore, as part of the commissioning process an Environmental Impact Assessment (EIA) is required. Thus the appointed Consultant to provide consultancy services to undertake an environmental impact assessment compliant to Zanzibar Environmental Management Act.

1.2 Scope of EIA study

The objectives and scope of the EIA were to ascertain key issues of the environmental impacts that are likely to be more important during all the phases of the Project. Relevant environmental data have been compiled by making use of primary data which is the site assessment done on the 02 August 2023 and secondary data. Potential environmental impacts and associated social impacts was identified and addressed in this report.

The project will comprise two distinct phases, namely construction and operation. The decommissioning and closure phase is considered at a high level in order to understand the potential for residual impacts.

The study takes into account environmental, social, cultural, economic, and legal considerations, and covers the following:

i. provide a comprehensive description of the project units, activities, processes and operations;
ii. identify anticipated environmental and social impacts of the project;

iii. identify and analyse alternatives to the proposed project;

iv. propose mitigation measures to be taken during and after project implementation; and

v. develop an environmental and social management plan (ESMP) with mechanisms for monitoring and evaluating the compliance and environmental performance which shall include the cost of mitigation measures and the time frame of implementing the measures.

1.3 Rational and Objective of the EIA

According to the Zanzibar Environmental Management Act No.3 of 2015 and the Schedule made under Regulation of the Environmental Impact Assessment (EIA) and Audit Regulation, the proposed development falls under the category of projects that require full EIA. Referring water supply especially construction of Industry with bottled water production and treatment plants. Thus, the proposed development requires full and mandatory EIA. The main objective of EIA study:

- The purpose of EIA is to ensure that the proposed milling plant project activities is socially, environmentally sound, and sustainable. The EIA can be used to minimise or prevent adverse effects and at the same time help countries to capture the real potential of the resource and maximising the benefits of proposed developments.
- The EIA improves long-term viability of the activity. It helps to avoid mistakes that can be expensive and damaging in environmental, social, and economic terms. EIA is used for early warning planning of a wide range of resource use, development, and conservation initiatives to make the most out of the options for achieving sustainability.
- The impacts of human activities on the biosphere are reaching critical thresholds with the consequent threat of ecological breakdown and social conflict. Thus, the use of EIA to choose the best project alternatives or options can help in the achievement of sustainable development.

Objective of EIA as provided in The Terms of Reference (ToR) for the consultants are, but not limited to the following:

- ✓ The collection of all possible data on the environmental, social and natural resource components and parameters of necessity;
- ✓ A description of the location of the proposed project including the physical area that may be affected by the project activities;
- ✓ Description of the activities that will be undertaken during the project construction, operation and decommissioning phases;

- ✓ Listing of the materials to be used, products and by products, including waste to be generated by the project and the methods of disposal;
- ✓ Identification of the potential environmental impacts of the proposed project and the mitigation measures to be taken during and after implementation of the project;
- ✓ Accidents during the project cycle;
- ✓ Establishment of a plan to ensure the health and safety of the workers and neighbouring communities;
- ✓ Identification of the economic and socio-cultural impacts of the proposed project;
- ✓ Economic and social analysis of the project including project risk and measures to mitigate them.
- ✓ Establishment of an action plan for the prevention and management of possible (EMP).
- ✓ The consultant will prepare recommendation on the project for its future use.

1.4 EIA study methodology

The objective of the assessment of impacts is to identify and assess all the significant impacts that may arise from the undertaking of an activity and the findings used to inform the competent authority's decision whether the activity should be authorised, authorised subject to conditions that will reduce the impacts to within acceptable levels, or should be refused. In this sense impacts are defined as the changes in an environmental or social parameter that result from undertaking the proposed activity. The following general methodology was used in this EIA study of the proposed mill plant in Finya, Wete District, North Region of Pemba; to investigate the potential impacts on the social and natural environment due to the construction and operation of the proposed development:

The key activities undertaken during the assessment included the following:

1.4.1 Establishment of the environmental baseline

This involved study and description of the receiving environment on which the proposed project is to be implemented. Thus, it involved a site visit, physical inspection of the study of the area soil, biology, topography, animal species, water resources, climate and the local socio-economic environment.

1.4.2 Impact analysis

This involves the identification of impacts that are usually associated with the construction, operation or maintenance and decommissioning of the propose activity and are generally obvious and quantifiable. These impacts were analyzed and evaluated.

1.4.3 Impacts mitigation

This involves the identification of the impacts and once impacts have been identified and predicted for a particular activity, then an appropriate mitigation measures need to be established. Mitigation measures are the modification of certain activity in such a way as to reduce the impacts on the physical- and socio-economic environment. The objectives of mitigation are to:

- Find more environmentally sound ways of doing things;
- Avoid, minimize or remedy negative impacts; and ensure that residual negative impacts are within acceptable levels.
- Enhance the environmental benefits of a proposed activity;

Furthermore, impacts associated with all the stages of the proposed project were identified and mitigated. An Environmental Management Plan has been made as framework for mitigation of impacts and environmental monitoring of the project.

1.4.4 Review of alternatives

This entailed a review of the alternatives to the proposed project. This was aimed at determining better ways of avoiding or minimizing environmental impacts while still realizing the project goals. The review of alternatives provided opportunities for environmental enhancement. The alternatives reviewed were alternative sites and the no project alternative.

1.4.5 Public Participation Process (PPP)

This process for the public participation was done by conducting relevant stakeholders and public consultations with the consultant and they were involved in the EIA. Advertisements for the public participation to participate and raise their concerns on the proposed project. Public were invited to the meeting and only few participants showed up.

2. POLICY, LEGAL AND ADMINISTRATIVE FRAMEWORK

2.1 Introduction

Flying Fox Company needs to ensure that its project activities are in line with all relevant national policies, legislations and standards operating in Zanzibar. In this chapter relevant policies, legal and administrative framework that are relevant to this project are covered. The project proponent shall observe these frameworks in the designing, implementing and decommissioning the proposed project activities.

2.2 Applicable Policy Framework

2.2.1 Zanzibar Environmental Policy (ZEP), 2013

ZEP is a mother policy in regards to all environmental management matters in Zanzibar. It defines environmental issues as both social and ecological systems and adopts a key principle of sustainable development. The policy further defines strategic plans for environmental management at all levels and provides an approach for mainstreaming environmental issues for strategic decision-making.

According the ZEP, it is mandatory to undertake EIA before any development project likely to have significant environmental impacts is given a go-ahead. This is to ensure that development projects are implemented in an economically viable, socially acceptable and environmentally acceptable manner. Since activities of the proposed project may lead to land degradation and produce wastes that may pollute water and air, appropriate mitigation measures must be in place to prevent and/or reduce the impact as a compliance with this policy.

2.2.2 Zanzibar Land Policy, 2018

The Zanzibar Land Policy of 2018 recognizes the need for protecting environmentally sensitive areas. It stresses on protection of the environment and natural ecosystems from pollution, degradation and physical destruction. Together with that the policy recognizes the importance of social such services as water supply, road networks, and energy development that take place on land for human benefits should be done in a right manner so as to protect land for other uses and avoiding land degradation.

The policy necessitates the need to ensure that project operation is as per with Wete district planning and that the acquired land shall be is protected against pollution and degradation by devising appropriate environmental management measures such as waste management.

2.2.3 Zanzibar Land Tenure Related Policy, 2012

The policies touch upon critical environmental issues with respect to land aspects and have come as a result of rapid increase of population growth, uncontrolled encroachment of urban settlements into fertile lands for agriculture, horizontal urban expansion, without considering integration of environmental regulations and guidelines. The consequences of land mismanagement could result into land use conflicts; unsustainable land-use practices; and degradation of natural resources including water resources.

2.2.4 Zanzibar Water Policy, 2004

One of the key issues noted in the policy is the role of water as a basic natural resource for socio-economic development. It establishes that water is fundamental for activities such as industrial production, irrigated agriculture, livestock keeping, mineral processing, navigation and recreation and tourism. Despite the fact water is an essential component for most socio-economic development activities and particularly the proposed project, the policy still stresses on sustainable use of water so as to maintain environmental flow which is essential for riparian biodiversity, wetland systems, freshwater-seawater balance in deltas and estuaries. This can be accomplished, notes the policy, by controlled exploitation of water and treatment of wastewater (effluents) before empting it into the environment.

2.2.5 The Industrial Development Policy

The policy recognizes the need for sound environmental management in the promotion of sustainable development. In order to ensure promotion of environmentally friendly and ecologically sustainable industrial development, the policy urges among other things, undertaking of EIA and appropriate mitigation measures be enforced for all projects at pre-implementation stage.

2.2.6 Zanzibar Investment Policy, 2005

This investment policy is one of the macro policies intended to contribute to the realization of the vision summarized above. It presents an outline of the Island's profile and economic development with regard to the political, economic, infrastructure, communication and legal systems. It also presents both broad and sector-specific investment policy objectives and their

accompanying strategies. Current priority sectors for investment have been identified to include: Financial and business services, including offshore and Freeport center activities, Tourism, Agriculture (crops, livestock and fish and marine products), manufacturing, industries, Trade, and transportation.

2.2.7 Zanzibar Trade Policy,

Growth and development depends on sustainable and optimal use of the world's renewable and non-renewable resources. This entails judicious exploitation of existing resources and the protection and preservation of the environment. Zanzibar attaches great importance to the growing need to protect and conserve the environment and has consistently upheld environmental conservation measures. Nevertheless, the capacity to administer and enforce implementation of the environmental regulation is weak and frequently violated allowing continuation of degradation of the environment and compromises the sustainability of its resource base. The push for economic transformation and attainment of higher rates of growth tends to lead to environmentally degrading production practices. This highlights the need for pro-active measures to mitigate against the emergence of environmentally harmful production practices in developing economies.

2.2.8 The Construction Industry Policy

The policy generally acknowledges importance of the construction industry in Zanzibar. However, it cautions that construction can be a major source of environmental damage and occupational health problems due to lack of awareness of environmentally sound practices and technologies that may lead to: resource deterioration; physical disruption and chemical pollution; destabilisation of fragile hill slopes; deforestation; loss of land by soil erosion, and silting of reservoirs and disruption of aquatic ecosystems. The policy advocates for sustainable construction practices that are environmentally friendly, the policy advocates for a number of aspects which are very relevant for the proposed project.

2.2.9 Zanzibar Energy Policy, 2009

It is noted in the policy that crosscutting all energy sub-sectors and all relevant sources of energy are the environmental impacts of energy exploration, production, distribution and consumption (under which the proposed project falls). The policy promotes energy efficiency and conservation as a means towards cleaner production and pollution control measures.

The Energy Policy seeks to meet the energy needs of the Zanzibar population for social and economic development in an environmentally sustainable manner. The overall objectives are as follows:

- To increase the energy efficiency within the energy sector of Zanzibar;
- To increase the supply of energy from indigenous renewable energy sources;
- To increase the reliability, affordability and independence of modern energy supply in Zanzibar;
- To implement a regulatory regime for the energy sector in Zanzibar
- To act as a coherent and coordinated framework for all development efforts within the sector and achieve free market principles within the energy sector, with only well founded transparent regulatory interventions
- To Involve all main stakeholders in coordinated actions while considering related documents regarding the future social and economic development and poverty reduction in Zanzibar.

2.2.10 National HIV and AIDS Policy,

This policy identifies HIV/AIDS as a global disaster, hence requiring concerted and unprecedented initiatives at national and global levels. It recognizes HIV/AIDS as an impediment to development in all sectors, in terms of social and economic development, with serious and direct implications for social services and welfare. Thus, the policy recognizes the linkage between poverty and HIV/AIDS, as the poor section of the society are the most vulnerable. One of the specific objectives of the policy is to strengthen the role of all the sectors, public, private, NGOs, faith groups, people living with HIV/AIDS, CBOs and other specific groups to ensure that all stakeholders are actively involved in HIV/AIDS work and to provide a framework for coordination and collaboration

2.2.11 Development Vision 2050

Development Vision 2050 is a long-term development philosophy that articulates a desirable future condition, which the nation envisages it will attain. It describes plausible course of action to be taken for visions achievement. It seeks to actively mobilize the people and other resources towards the achievement of shared goals.

The vision provides hope and an inspiration for motivating the people to search and work harder for the betterment of their livelihood and for prosperity. Major attributes of the vision

include high quality livelihood; peace, stability and unity; good governance; a well-educated and learning society; and a competitive economy capable of producing sustainable growth and shared benefits. The proposed project could contribute to the attained of the vision in its area of operation through introduction of a modern integrated poultry production farm, creation of employment opportunity to locals as well as contributing to the national revenue at minimal and/or zero social and environmental cost.

2.2.12 Zanzibar Economic Growth and Poverty Reduction Plan

The Zanzibar's economic growth and poverty reduction plan is set to implement Vision 2050. The plan envisions mitigation poverty and improving people's living standards especially for those living in rural areas including those living Village and District at large. Among the priorities of the plan is to increase productivity, sustainable energy and better use of local natural resources. This project should address itself to poverty alleviation.

2.2.13 National Land Use Plan (2015)

The National Land Use Plan (NLUP) is a broad, comprehensive strategic policy document, which sets out physical planning framework with a perspective to the year 2015. It provides a spatial framework for public as well as private sector investment programmes and serves as a basis for environmental protection. The NLUP covers all sectors of the economy and contains a number of supplementary plans such as: the Settlements Structure Plan, which lays foundation and guidelines for balanced approach to settlement development; Tourism Zoning Plan, which identifies tourism development, zones and proposes strategy for its implementation; and Coastal Zone Management Plan, which provide for the best long-term sustainable use of the nation's terrestrial and marine resources.

2.2.14 Zanzibar Environmental Action Plan (2013)

The Zanzibar National Environmental Action Plan (NEAP) is a document that has been prepared to capture the attention of policy makers and the public in general in addressing the commitments of the new Zanzibar Environment Policy 2013. The Action Plan addresses the issues of Environmental and Climate Change Governance; Terrestrial and Marine Resources and Biodiversity; Forestry; Energy; Environmental Pollution; Waste management; Environmental and Social Impact Assessment; Sustainable Tourism; HIV/AIDS and Public Health. The Action Plan identifies and analyzes the country level environmental priorities and capacity development needs within the context of sustainable development strategies.

2.3 Applicable Legal Framework

2.3.1 Zanzibar Environmental Management Act No. 3 of 2015

This is a principal law that govern all environmental matters in the country. The Act state an obligation to undertake EIA by project developer. The schedule of the act identifies the types of projects subject to undergoing EIA. In that respect, the Act requires a project proponent or developer to undertake an EIA at his/her own cost prior to commencement or financing of a project or undertaking. The Act prohibits any development to be initiated without an EIA Certificate. The Act stipulates, *"No person shall undertake any activity which is likely to have a significant impact on the environmental without an EIA certificate issued under this Act".* Moreover, emphasizing that "*no licensing institution shall issue a license, permit, certificate, or other forms of approval for an activity which is likely to have a significant impact on the environment unless an EIA certificate has been issued for the activity''*.

2.3.2 Environmental Impact Assessment and Audit Regulations,

The EIA and Audit Regulations were made pursuant to the Environmental Management Act No. 3 of 2015. The regulations form the basis upon which EIAs and Environmental Audits for various types of development projects with significant environmental impacts are undertaken. The regulations outline the EIA process from project registration to the issuance of EIA certificate.

2.3.3 Land Act,

The Land Act is the principal law in regards to all land matters such as management of land, settlement of disputes and related aspects other. The proposed project shall be implemented on land that has been legally acquired by Flying Fox Company by complying with conditions of occupancy of the subject land.

2.3.4 The Occupational Safety and Health Act No.8, 2005

The Occupational Safety and Health Act no 8 of 2005 regulates health, safety and welfare of persons at work in factories and all other places of work in Zanzibar. It also provides for the protection of persons other than those at work against hazards to health and safety arising out of or in connection with activities of persons at work. Act provides for safe access and safe working place while also covers health and welfare provisions. In view these specific provisions and the Act in general the contractor and developer are obliged to ensure safe

working environment to all its workers, provide clean and safe water, as well sanitary and first aid facility.

2.3.5 The Zanzibar Public and Environmental Health Act, no. 11 of 2016

The Act applies to all workplaces where any person is at work, whether temporarily or permanently. The purpose of this Act is to secure the safety, health and welfare of persons at work; and Protect persons other than persons at work against risks to safety, food or water, dust, fumes, noise and other health arising out of, or in connection with, the activities of persons at work.

2.3.6 Zanzibar Local Government Act no. 7 of 2014

The section of the Local Government Act that are relevant to this project include making bylaws in respect of suppression of nuisances, and imposing fees for any license or permit issued in respect of trade or charges for any services. Local authorities are given power to control or prohibit all developments which, by reason of smoke, fumes, chemicals, gases, dust, smell, noise, vibration or other cause, may be or become a source of danger, discomfort or annoyance to the neighborhoods, and to prescribe the conditions subject to which such developments shall be carried on

2.3.7 Zanzibar Foods, Drugs and Cosmetics Act,

This is an Act to provide for the efficient and comprehensive regulation and control of food, drugs, medical devices, cosmetics, herbal drugs and poisons. This Act provides provision regarding food. The Act emphasizes that no person shall manufacture for sale, sell, and supply or store products regulated under this Act except in premises registered for that purpose. Further, the Act stipulates that no person shall manufacture, import, distribute, sell or expose for sale pre-packaged food unless that food or food product has been registered by the Authority. It also instructs that any person who sells any food which is not of the nature, substance or quality of the food demanded by the purchaser shall be guilty of an offence. Existing Flying Fox Industry premises shall be registered by Zanzibar Food, Drugs and Cosmetics Authority and granted a license. The Company is highly equality-oriented and will ensure customers' satisfaction by diligently fulfilling their food safety and quality. However, the company shall endeavour to comply with the requirement of the Act as a food dealer company.

2.3.8 The Water Act, 2006

The Zanzibar Water Act is the principal legislation aiming at promoting and ensuring the right of every person in Zanzibar to have access to efficient, effective and sustainable water supply and sanitation services for all purposes. Upon operation, the proposed project will have an obligation to guarantee protection and conservation of water sources through avoiding discharge of wastes to water sources or water bodies, both surface and underground.

2.3.9 The Zanzibar Bureau of Standards Act,

Under Zanzibar Bureau of Standards (ZBS) Act, the bureau is given the mandate to undertake measures for quality control of commodities, services and environment of all descriptions and to promote standardization in industry and trade. In order to regulate the food industry, TBS has formulated food products standard with which STL shall comply in processing of maize and wheat flours.

2.3.10 The Workers Compensation Act,

This Act provides for compensation to employees for disablement of death caused by or resulting from injuries or diseases sustained or contracted in the course of employment and establishment of Fund for administration and regulation of workers compensation. Under this Act, lying Fox Company shall be obliged to compensate employees in case of injuries, death, and diseases while rendering their services to the employer. The proposed project will involve construction and operation phases which may subject workers into injuries or health risks. It is therefore a responsibility of the project proponent to make sure that all requirements of this Act and working standards are adhered to in order to ensure safe working environment for workers and prevent accidents and other occupational health and safety risks.

2.3.11 The Zanzibar Employment and Labour Relations Act,

This Act entails provisions for all core Labour rights and related matters including to; establish basic employment standards, provide a framework for collective bargaining, provide for the prevention and settlement of disputes. As the proponent shall employ people during construction and operation of the proposed project s/he should make sure that all the requirement of this Act are adhered to. The proponent shall ensure that s/he promotes an equal opportunity in employment and strives to eliminate discrimination in any employment policy or practice. S/he should provide the legal framework for effective and fair employment relations and minimum standards regarding conditions of work.

2.3.12 The HIV and AIDS (Prevention and Control) Act,

This Act governs prevention, treatment, care, support and control of HIV and AIDS; public health issues in relation to HIV and AIDS, and provision of appropriate treatment, care and support using available resources to people living with or at risk of HIV and AIDS and to provide for related matters.

The relevance of this Act to this proposed project is that it requires the employer in consultation with the responsible Ministry to establish and coordinate a workplace programme on HIV and AIDS for employees under proponent's control and such programme shall include provision of gender responsive HIV and AIDS education and support to people living with HIV and AIDS. The proponent therefore, shall have a responsibility to promote awareness to its workers on causes, modes of transmission consequences, prevention and control of HIV and AIDS.

2.4 Regulatory Requirements for Industry Implementation

The project proponent will comply with all codes, standards, specifications of regulatory agencies in Zanzibar over this project implementation, some of them are;

- Land Lease Agreement from the Government of Zanzibar.
- Environmental clearance certificate
- Provisional ZIPA Permit / Trade and Industry Investment Permit
- Certificate of Incorporation
- Permit of drilling borehole and water utility from ZAWA
- Insurance Certificate
- Building Contractor's Permit and Construction clearance Permits
- Environmental, Public Health, and Occupational Safety Clearance
- Fire safety and equipment clearance
- Labor Permits
- Electricity or Communication Pole lines passing over its perimeters
- Zanzibar Food and Drug Agency (ZFDA) certificate
- Registration for investment recognition from town council

2.5 Institutional Framework

EIA practice in Zanzibar places different functions and responsibilities on all parties involved in the EIA process of any proposed development undertaking to which EIA is obligatory. The Environmental Management Act No.3 of 2015 gives the ZEMA to undertake enforcement, compliance, review and monitoring of environmental impact assessment as well as playing a central role in facilitating public participation in environmental decision-making, exercise general supervision and coordinating over all matters relating to the environment.

The Act empowers ZEMA to determine the nature of assessment a proposed project should be subjected to, approves consultants to undertake EIA studies, invites public comments and also has the statutory authority to issue, in consultation with the Minister responsible for Environment, the certificates of approval. ZEMA is currently the designated authority to carry out the review of EIA including site visit and handling technique review meeting, monitoring and auditing of environmental performance of the project.

Table: Institutional framework

Level	Institutional	Role
National	The Vice President's Office (Division of Environment, ZEMA)	▪Co-ordinate Environmental Management Policy, Environmental Management Act and EIA guidelines ▪ Approval of ToR, Review of EIA ▪Issuing an Environmental Certificate ▪Environmental Monitoring and Compliance Auditing ▪Advise Government on all environmental matters
	Ministry of Land, Housing and Human Settlements Development	▪Land use planning, ▪Issuing of Right of Occupancy, ▪Valuation and compensation.
	The Ministry of trade, industry and marketing	▪ Provide business licence for factory ▪ Marketing price and quality control
Regional	North Regional Pemba Commissioner's Office	▪Oversee and advice on implementation of national policies at Regional level ▪Oversee enforcement of laws & regulations ▪Advice on implementation of development projects and activities at Regional level
	ZAWA Office-	▪Issuing water use permits ▪Oversee water resource management ▪Oversee enforcement of laws & regulation pertaining to water resource

District	Wete District Commissioner's Office	▪Oversee and advice on implementation of national policies at District level ▪Oversee enforcement of laws & regulations ▪Advice on implementation of development projects and activities at District level
	Wete District Town Council (District Executive Director Office)	▪Overseeing all development activities in the District
Shehia	Shehia Development Committees (Shehia Executive Officer, Shehia Extension officers), Shehia Environment Committee	▪Oversee general development plans for the Shehia ▪Provide information on local situation and Extension services ▪Technical support & advice ▪Project Monitoring
Village	Sheha appointed member at the village and Other leaders (Religious, Education, Elders etc)	▪View on socio-economic and cultural value of the sites and project operations. ▪Rendering assistance and advice on the implementation of the project ▪Project Monitoring (watchdog for the environment, ensure wellbeing of residents and participate in project activities

3 BASELINE INFORMATION

This section lists the most important environmental characteristics of the study area and provides a statement on the potential environmental impacts on each.

3.1 Climate and Temperatures

The project locations are in areas that are characterized by variable rainfall distributions. The rainfall pattern is bimodal in nature, with a long rainy season, so called Masika, from mid March to end of May and short rains, so called Vuli, within the months of October to December. During Masika, about 50% of the annual rainfall rain while Vuli have about between 25% and 30% of it. Comparing the two islands, Pemba on average receives more rainfall (1900mm) than Unguja (1600mm). The distribution of rainfall is such that there is more rainfall in the western sides than the east.

The spatial variation of rainfall eventually resulted in the difference of water resources of each zone on the islands. Temperatures in Zanzibar are high during the short dry season of January to February, with maximum mean of 32°C, and low during the cool season lasting from May to September. The mean annual maximum and minimum temperatures are 29.3°C and 21.1°C, respectively.

The relative humidity is high, with a monthly average ranging from 87% in April (Masika) to 76% in November (Vuli), and a minimum at 60% during the dry season. Therefore, with humidity values in the range of 80%, daily temperatures can sometimes be as high as 40°C particularly in the night when the land is braced with hot breezes.

3.2 Topography, Geology and Soil

The topography of the Finya Region lies on the edge of a vast basin of sand, and it is this sand that determines much about the vegetation, wildlife, farming and mineral potential of the region. In this region, floodplains occur between sand area, Swahili name **'ndaamba'**. They are subject to repeated seasonal flooding as a result of relatively low relief.

The topography of the proposed milling plant is located about 50 to 60 meters above sea level and lies within a Finya catchment area. The proposed site is steeply sloped but tapers down to a gentler slope for the northern sections. There are old contours still visible on the site, but offer very little support in their current state.

Soils in the area are typically well-drained and vary from deep reddish sandy clays, to sandy-loams. The topsoil is most often sandy. These soils have developed from a granite or gneiss base and, depending on the clay content, can be weak to moderately strong in structure. Soils in this area can be generally described as "ferric lixisols, with low natural fertility, susceptible to slaking/crusting, compaction and erosion in sloping lands. To be suitable for perennial crops, forestry or arable farming, the soil may require fertilizers and/or liming.

3.3 Hydrology

Pemba is a tropical Island surrounding by ocean with almost high rainfall and moderate evapotranspiration. With exception of very few slopes at western part, the Wete district is relatively homogeneous with gently undulating plains intersected by seasonally streams. There is a permanent small rivers/water stream along the northern and southern Regions of Pemba which end to the sea. Across the country, surface waters are ephemeral after seasonal rainfall, with many of them are ponded naturally. Under Groundwater in this region is available throughout the year and the quality is generally good. Therefore, Wete area relays on underground water mainly for domestic purposes and livestock watering. Higher yielding aquifers are present in several areas around Finya and Wete.

3.4 Flora (vegetation and forest trees)

During the vegetation survey, climbers, fern, grasses, sedges, herbs, shrubs and trees were observed. The level of vegetation cover in almost at the site surveyed is good. It is important to note that floral species of ecological significance under the Zanzibar Forest Resource Management and Conservation Act, 1996, are within areas that are likely to be installation of plant and building after the completion of the construction. The study visits has also mentioned diversity of higher trees which are likely to be cleared. For example, the study area has a layer of herbaceous species, a network of climbers i.e ***'Mbungo, Mkekewa, mkunguzi, Mtandakanga'***, layer of perennial species and cultivated land. Besides the economically important hard wood species and bushes, the beauty of study area's natural forest could be seen in a variety of palm, herbs, and shrubs species. There are also many species of medicinal significance, some with ornamental value, and others available for a multitude of uses. . All vegetation in Finya regardless of their habit groups are common and wide-spread species and are recorded by Forest Department as Least Concern, meaning that the species are not endangered or threatened to extinction in the wild.

Table 1: List of plant trees found at the project site

SWAHILI NAME	ENGLISH NAME	SCIENTIFIC NAME
Mfuu	Black plum	*Vitex doniana*
Mkeshia	Accacia	*Acacia auriculifomis*
Mfenesi	Jackfruit	*Artocarpus heterophyllus*
Mbura	Mabola plum	*Parinari curalellifolia*
Mbungo	Saba	*Saba comorensis*
	Asthma weed	*Euphorbia hirta*
Ukoka	Couch grass	*Cynodon dactylon*
	Wire weed	*Cida alba*
Mkunguzi	Centro/butterfly pea	*Centocema pubescence*
	Mpendapendapo	Canthium *spp*
Kifa uongo	Shame weed	*Mimosa pudica*
	Goat weed	*Ageratum conzoides*
	Desmodium	*Desmodium trifolium*
Mkamasi	Grey leave sauced berry	*Cordia sinensis*
Mlangamia	Dodder	*Dodder cuscuta*
	Oxalis	*Oxalis latifolia*
Mlimau	Lemon	*Citrus limon*
Muembe	Mango	*Mangifea indica*
Muhogo	Cassava	*Manihot esculenta*
Viazi vitamu	Sweet potato	*Ipomoea batatas*
Mgomba	Banana	*Musa spp*
Mzambarau	Jambolana	*Syzygium cuminii*
Mkarafuu	Clove	*Syzygium aromaticum*
Mnazi	Coconut	*Cocos nusifera*
Mdalasini	Cinamon	*Cinnamomum verum*
Mstafeli	Soursop	*Annona muricata*
Mchocha		*Pachystela brevipes*
Mvuma nyuki		*Oldenlandia bojeri*
Mkungu		*Terminalia catapa*
Mvinje		*Casuarina equisetofolia*
Ukindu,		*Phoenix reclinata*
Mchikichi		*Elaeis guneensis*
Mtondoo.		*Callophyllum inophyllum*

3.5 Fauna

The study area mammal population is very small with only terrestrial species, out of which are bats, insect, and bird. In general, island of Pemba found very few of the mammals then in the sister island Unguja. The Finya area in Wete district region experience the low densities of wildlife in the eastern communal areas as a result of charcoal, low levels of protection and

the poor nutrient status of the Ndaamba Sands area that cover almost all the communal areas of the region.

Plate: Shrub and land for cultivation

Plate: Cultivated land (cassava and banana trees) within project site

Plate: Mixed crop (cassava and sweet yams) within project site

Plate: Palm species and creepers (mibungo) within project site

Plate: Forest trees adjacent project site

Plate: Creepers '*mibungo na Mikekewa'* at project site

3.6 Socioeconomic Environment

3.6.1 Employment

Employment opportunities in Finya Shehia are determined by the main economic activities in Wete district including: agriculture, livestock keeping, trade/industry, natural resources, employment/ investments, and transportation. Agriculture is the major economic activity in the district engaging more than 95% of the population. The second largest occupation is livestock keeping which is practiced mainly in both, low and midland zones of the district. Natural resources sector contributes to people's livelihoods and the district economy especially through forestry, beekeeping, and fisheries.

3.6.2 Land Degradation

The cultivation activities on the catchments area and deforestation have resulted into severe land degradation. This is evidenced by increased run-off, sedimentation of rivers/streams and natural ponds reservoir. The degradation of water catchments also leads into drying of some rivers/streams that feed the natural ponds reservoir. The sedimentation and siltation of natural ponds leads into reduced reservoir capacity. In general, bad cultivation practices, deforestation with frequent bush fires, charcoal making and lack of conservation on the upper catchment may jeopardize the sustainability of the water resource, especially surface water.

3.6.3 Social economic issues

Wete District, like other districts of Pemba region, has never computed its GDP and Per capita GDP since it was established. Nevertheless, Pemba District makes significant contribution to the Zanzibar GDP and per capita GDP. Labour force in the District falls under the formal and Informal sectors employees, public and private employees, and unemployed labour force categories.

Major economic activities in Wete District which the Labour Force is undertaken include;

- Primary factory/Industries level. These includes; Rubber factory, timber factory,
- Subsistence & commercial agriculture; include cloves, vanilla, cassava, banana, rice, etc
- Small scale entrepreneurship. These include; food vending and petty trading , retail shops, kiosks and food stalls, and
- Commercial retail as well as wholesale termed as trade and commerce; forestry; fishing; mining & quarrying; public administration and education.

3.6.4 Energy

Resident of the Wete District depend on different sources of energy as; electricity, kerosene, charcoal, fire wood, solar, etc. The main source of power for lighting, business and industry is electricity, which is generated, transmitted and supplied by ZECO. About 90 % of the District households depend on charcoal or fire wood as their main source of energy, and the remaining complement charcoal and firewood with electricity, gas or kerosene.

3.6.5 Roads

The proposed project site is about 10 km from Wete town council (Town) through the Wete - Wingwi highway. The highway is paved and falls under Zanzibar Roads Agency road network. About 0.5 km off the highway through a seasonal unpaved road is where the project site is located. Thus, the proposed project area can be accessed easily throughout the year.

4 PROJECT DESCRIPTION AND CONSTRUCTION ACTIVITIES

4.1 Description of the project location

The project site is about 1 hectare on the famed land. The project site is located on the Finya Shehia, Wete District in North Region of Pemba Island. The mill plant will be a medium scale plant situated on a farm nearby residential area. The mill plant will add value to the products produced on the farm.

4.2 Current use of the location/site

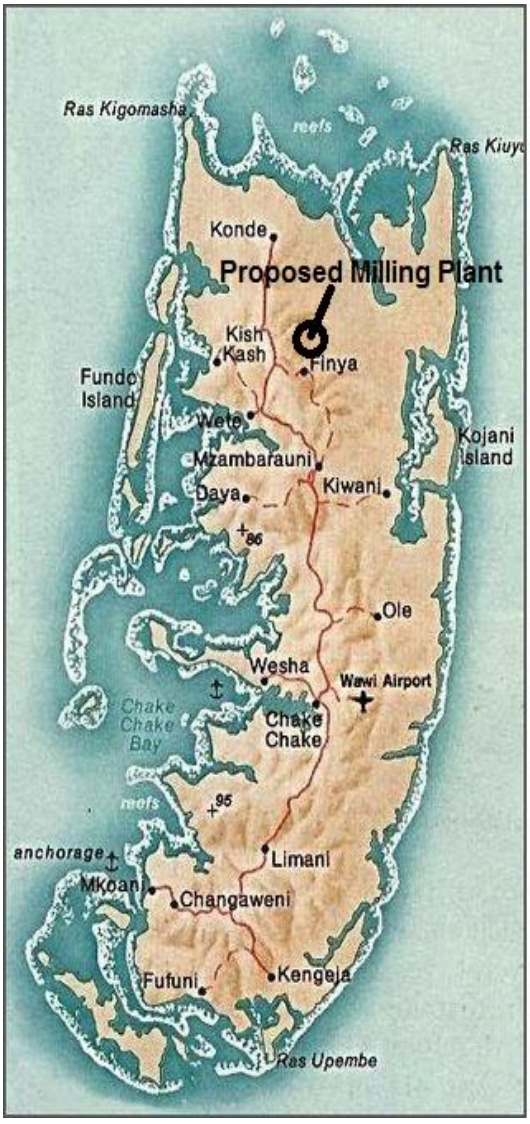
Currently the site is on an Agricultural zoned area for crop farming and it is currently used for planting and harvesting of crops like cassava, sweet yams. The main part of the site selected for the implementation of the project of the milling plant is occupied by shrubs, forest trees and grasslands. The rest of the area is used for animal grazing.

4.3 Description of the site

- The site of the proposed development is currently occupied by shrubs and grassland.
- The site comprises of sand and clay loam soil
- The slope of the site is relatively flat with small stream
- No characteristics of ground slope instability were observed on site.
- No ground or surface water was encountered during the site investigation and no nearby water bodies or rivers.
- No erosion was evident during the investigation.
- There are existing old crops on the site where compensation are already done during selling of farm and change of ownership.

4.4 Protection of Biodiversity

The entire region of Pemba is known for its higher endemism and so all efforts should be done to account for existing floral and faunal diversity in areas surrounding the proposed site. Higher trees such as mango trees are known to attract Bats such as the Pemba Flying Fox which is found in abundance in the southern districts of the Island. These trees should be conserved and protected from felling. It is highly recommended that the all institution responsible include ZEMA, ZAWA and Department of Forest should be consulted during the entire construction and operational phases for effective biodiversity monitoring.



- Proposed site on the map at Finya
- Surveyed site from proposed milling plant
- Current use of the area, crop crowing, grazing
- Forest trees management

Plate: Map with location of the proposed Mill plant project

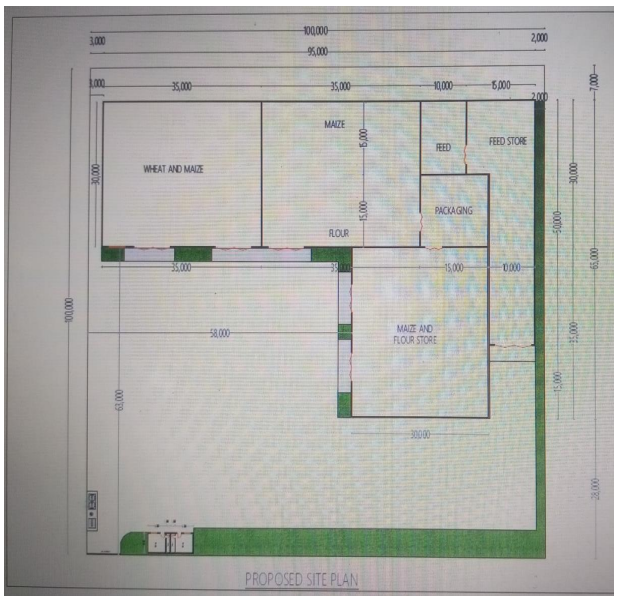
4.5 Landscaping

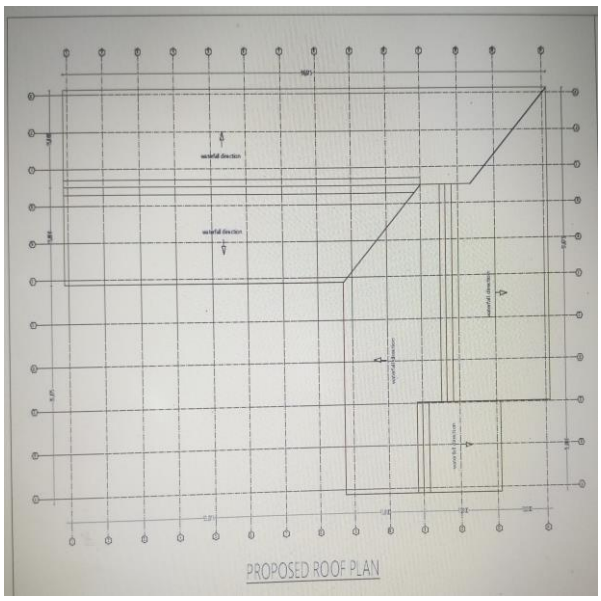
It is strongly recommended that the current floral community structure around the proposed site should be improved with more tolerant trees and other ornamental plants. It is also recommended that should the tree plantation begin, priority should be given to the locally

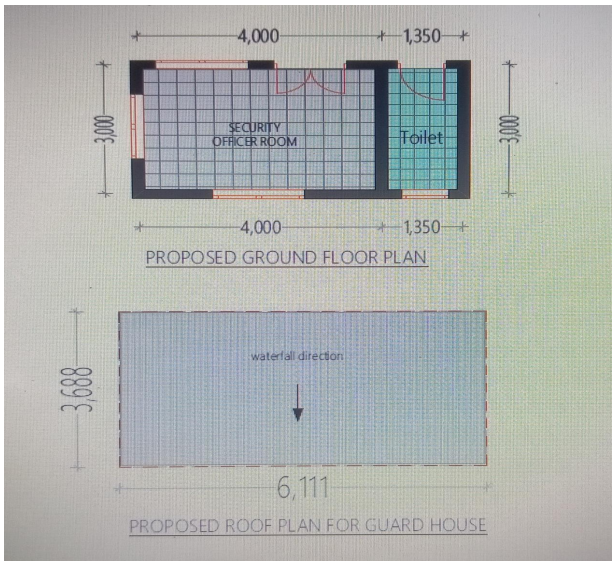
indigenous species rather than exotic ones. Efforts should be made to minimize the loss of the existing natural floral cover.

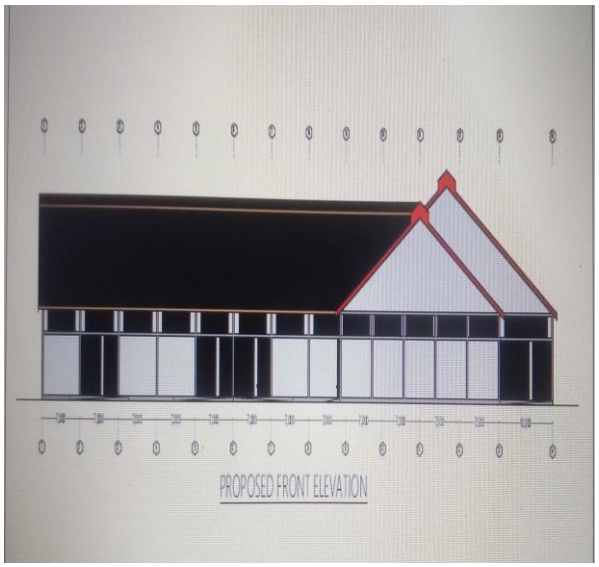
4.6 Project design and phases

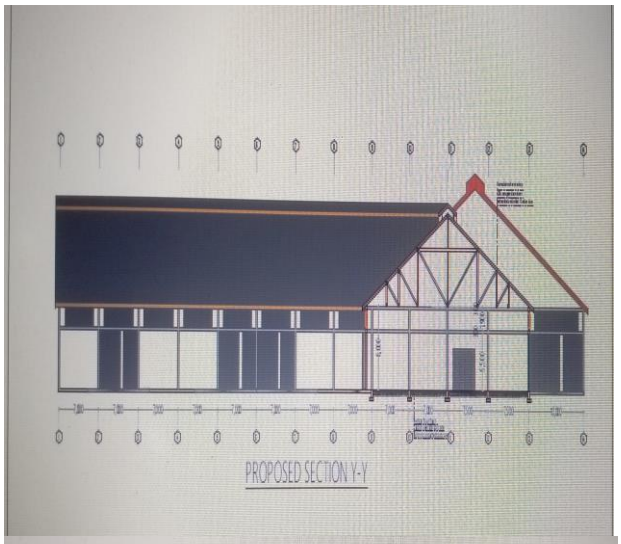
The proposed project design matches with milling factory standard and consider the relationship between plants services and workers. The design insures comfort floor plan and plant structures, safety parking, plant security, safety of workers and implements/machines, and others. The project of the establishment of a milling plant has got two phases: the Construction phase; and the Operation Phase.

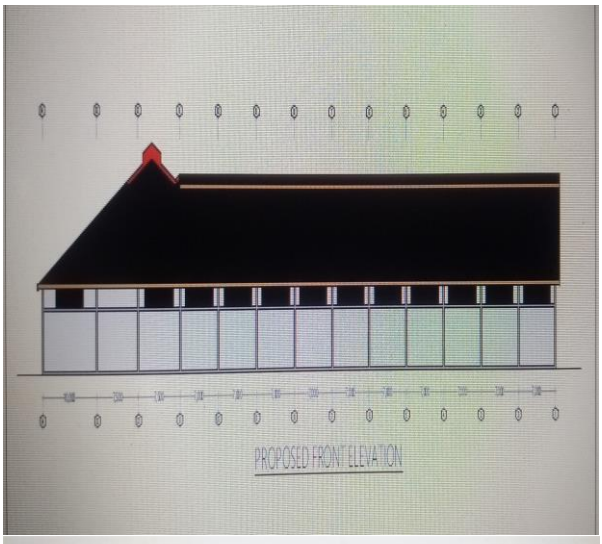


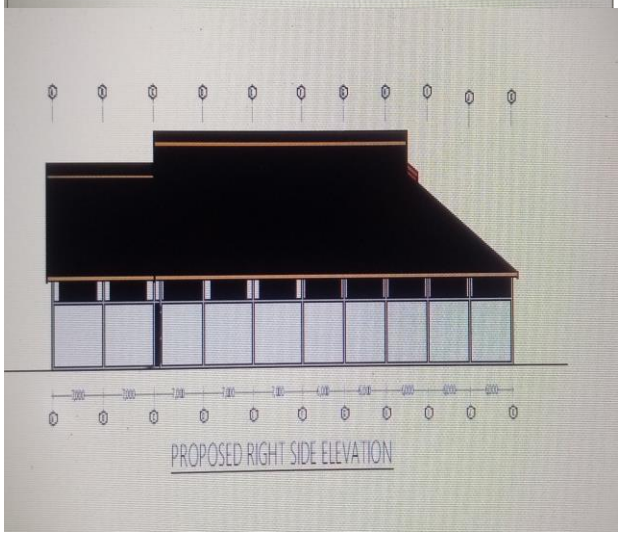


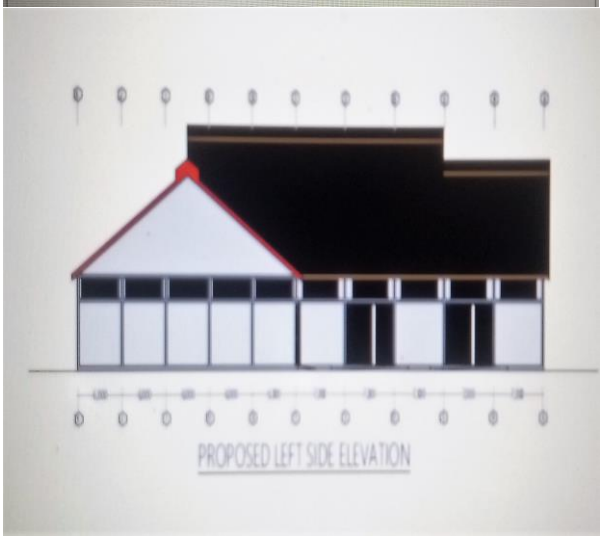





PROPOSED SECTION Y-Y


PROPOSED FRONT ELEVATION


PROPOSED RIGHT SIDE ELEVATION


PROPOSED LEFT SIDE ELEVATION

4.6.1 Mobilization phase

Mobilization phase of the project will constitute mobilization of human resources, equipment, construction materials for the plant, storage site and site preparation. The topography and geology of the area will determine some of the extent of activities during the mobilization phase. Additionally, the mobilization phase will involve site preparation that entails clearing ground for constructing the battle water plant and, the drilling borehole/wells, transmission lines and storage tank areas. Further, mobilization will include gathering materials for construction and other facilities related to project operation.

4.6.2 Activities during the construction phase

The key activities for the construction phase are discussed in above of this report. However, the construction of the production facility will consist in setting up a foundation to support the grinding machines. This will be done as per normal construction technique, as it does require special purpose engineering. In fact, it is a medium scale project and as such, the

construction would not be significant as compared to a multi complex building or mining facilities etc.

The key construction activities associated with the proposed project include:

- transportation of construction phase materials and staff (via existing roads);
- clearing of vegetation
- site establishment including storm water controls;
- foundations and structures
- equipment, pipework and utilities installations;
- collection, storage and removal of construction related waste

Activities are expected to take place 10 hours a day for seven days a week. During the construction phase, about 25 people will be employed to work on the construction of the plant. Construction facilities would be removed at the end of the construction phase (unless incorporated into the operational phase facilities when deemed necessary).

4.6.3 Activities during the operation phase

The main activities of this project during operational phase would be the buying of maize and wheat grain and transportation to industry, milling, packaging and transportation of maize and wheat flour to customers. However, the key operational activities associated with the proposed project include:

- arrival and departure of personnel (in shifts);
- delivery of raw materials and other supplies by truck and removal of waste by truck;
- storage of incoming materials
- maize and wheat preparation, milling and refinery;
- final product and by-product storage and transportation;
- Associated services and support activities.

The main facilities would include:

- corn off-loading, cleaning and storage silos;
- chemical intake and storage tanks;

- steeping, milling and drying area;
- by-product load out area;
- refinery plant, tank farm and load out area;
- warehouses and spent carbon storage area;
- workshops and truck wash;

The plant would process a maximum of 15 tons per day each maize and wheat. The grain will be dry cleaned in enclosed cleaning machineries to remove screenings. The cleaned maize will then be conditioned by the addition of water and let to lay for a period of time to make separation of outer covering easy and also reduce power used to grind. The grade of the flour will be fine flour and the flour will be stored in bulk bins ready for packing while the by-products will be turned into animal feed. The flour will be bagged in 5, 10, 25 and 50 kg bags. The packed flour will be stored in warehouse waiting to be dispatched to suppliers or customers via the existing roads on trucks. During this phase, about 20 people will be employed to work on different sections of the operation.

4.6.4 Decommissioning and Closure phase

The plant is estimated to run for a period of 30 years with scheduled maintenance and ongoing equipment replacement or upgrades. This would allow the plant to operate for a longer period. During phase, an Environmental Impact Assessment (EIA) will be required.

4.7 Associated services and support facilities

Services required to support the construction and operation of the plant are outlined in the sections below:

4.7.1 Power requirement

The power is already available on the site and is provided by ZECO. The estimated power usage during operation is 70KVA. During the construction phase, the power requirements would be less than that needed for the operational phase. In case of emergency, there will be power generators on the site during construction and operational phase set to start automatically to supply power to meet the emergency power requirements.

4.7.2 Water supply and use

The farm has one operational waster boreholes and planning to implement the ZAWA system very soon. Therefore, water would be sourced from the 1 borehole installed on the site. In this project, water is required during the construction phase for domestic use, dust suppression, concrete mixing, washing vehicles and equipment, fire-fighting, earthworks and landscape irrigation. The estimated total water usage during construction phase is 150L/hr for 10 hours a day. While during the operational phase, water is required for domestic use, maintenance activities, utilities, fire-fighting, conditioning, milling and landscape irrigation. The estimated total water usage for operational phase is 100L/hour for 10 hours a day. It is recommended to implement a system of rainwater collection to supply the plants with water after rainy season.

4.7.3 Access and transportation

Access to the plant would be via the existing road and the transport of construction workers and operational personnel would be by car via the existing earth road connecting about 0.5 km from Wete to Wingwi main road. Transportation of raw materials and products to and from the facility would be by truck. While the transportation of materials and products within the site would be by truck and tractor. Currently the internal roads are not of good quality, thus, they would be established to allow for efficient movement of vehicles within the plant and would be surfaced. See the access internal roads below.

4.7.4 Domestic sewer

During the construction phase, there would be some portable toilets and temporary ablution facilities utilised during the construction phase. An agreement would be made between the proponent and external service provider to service the portable toilets on a regular basis.

During the operational phase, domestic sewage would be pumped to an on-site sewage package plant to be installed on the site. The duration for the construction is not yet known.

4.8 Workforce Requirement and Staff Categories

As stated earlier on this report, it is estimated that about 25 people will be employed during the construction phase and will increase over the course of the project. During the operational phase, it is estimated that about 20 or more people will be employed to work on this project. Employees for operational phase would be in different categories but not limited to:

- Drivers i.e. truck, tractor, operators
- Secretary

- Accountants
- Electricians
- Mechanical engineers
- Production staff
- Grain movement staff
- Securities

4.9 Mission statement

Flying Fox Company aims at delivering clean, affordable and fresh wheat and maize flour to the potential clients without causing any delays or other inconvenience situations of the client's product. The goal of the company is to assist flour traders in the region to conduct business in an efficient and reliable way. Taking this into account, the company shall adhere to all the safety measures necessary for the operation of the plant, improvement of the plant as well as adequate skills to the employees of the company. The employees of milling plant shall be given international standard training on the operation of the plant to give confidence to clients on the quality of their products,

4.10 Market and Competition

With the quality and efficient services for our clients, most of the clients will prefer Flying Fox products for their convenience in terms of transportation and reliability in conducting their business in a smooth and reliable way. Flyng Fox Company shall also work hand in hand with other players in the industry in ensuring strict compliance to quality and efficient way in operations. Zanzibar has not achieved 100% access to clean/affordable wheat and maize flour and though the government is committed to ensure that every citizen has access to. This gives an opportunity for private investors to support government efforts in service delivery to the citizen. With other companies either having bottlenecks or low capacity of their plants, we shall stand among the best milling plant in the country.

Due to the awareness and increased demand of wheat and maize flour, we expect a fair competition for in the market due to the fact that there are few well know milling plant in Unguja and none in Pemba where the factory will be located. Zanzibar demographics shall provide a better opportunity for our plant to perform efficiently.

With clients given free space to air complains and views, we shall enable the service in the plant to be at a higher level by customizing the service according to their preference while

taking the safety procedures keenly. This will allow potential clients to treat the plant as their own which shall increase our market share in the region.

4.11 Existing Milling plants

There is no commercial milling plant in Pemba and the traders are forced to outsource their demand from Unguja, Mombasa or Tanzania mainland.

4.12 Project demand

There is indeed a high demand for this project in Pemba as it will eliminate perennial wheat and maize flour stock out and will tremendous reduce the price to the final consumer and hence extending the price benefit to the final consumer. We believe the project will be a stimulus to other investors and a reason for robust and sustainable development of Pemba.

4.13 Pricing Policy

Our pricing will mainly be based on the cost plus reasonable premium just to keep the plant afloat. We shall not hesitate to offer our products at cost when need arises.

4.14 Financial Evaluation and Investment Costs

4.14.1 Proposed Investment Plan

Flying Fox Company intends to investment United States Dollars Two hundred thousand (USD200,000/=) as initial investment. The investment shall cater for plant and machineries, land acquisition, construction of go downs and offices and other initial settlements. The investment is mainly made through capital raised by the shareholders.

4.14.2 Revenue projections

Based on the current data for flour consumed in Pemba, the project is assumed to satisfy Pemba market for the first 5 months before supplying other regions. The Flying Fox Company has sought to establish the viability and technical feasibility of operating a milling plant in Pemba. The facts and assumptions used are considered reasonable and realistic in achieving the goals and target of the company. Positive attributes of the project include:

1. To support government policy of industrialization
2. Increase government revenues
3. Boost economic activities
4. Creation of employment in the surrounding community and beyond.

The project is expected to offer attractive returns to the shareholders as well as ascertaining positive economic development attributes to the country.

4.15 Waste Generation and Management

4.15.1 Construction Phase

During construction stage of the project waste materials to be generated will include among others:

- Soil Wastes such as landscape and land clearing debris, gravel and aggregate products, concrete, masonry scrap and rubble (brick, concrete masonry, stone), and plastics and paper from cement bags
- Gaseous emissions. The majority of the air pollution will be in the form of dust, being generated during construction.

Sufficient waste management on a construction site is crucial to ensure sustained building.. Such wastes as rubbles and other debris will be used for landscaping purposes on site.

4.15.2 Operation Phase

4.15.2.1 Solid Waste

During proposed project operation solid waste that will be generated include, grain crushed and powder waste, plastic bags, papers, and others associate with plant production on-site. Crushed and powder from grains is a beneficial waste as it is treasured by poultry feeds and crop farmers as a fertilizer. Other wastes are domestic wastes such as food and general wastes, and office wastes including paper, cardboard, and printer cartridges/ribbons and human sewage.

4.15.2.2 Waste Water

Water requirements in project production activities will be mainly for drinking and cleaning. Process wastewater generated during these activities residues of chemicals such as chlorine used for washing and disinfection. These may have negative repercussions on downstream water resource as they have high eutrophication potential.

Effluents generated by plant operations come from such different sources as: runoff from plant housing; feeding and watering, and waste storage and management facilities. Both types of effluents have the potential to contaminate surface water and groundwater with nutrients, ammonia, sediment, pesticides, pathogens, and feed additives and antibiotics. Therefore, waste management approaches may lead to non-point source effluents due to runoff. Other Wastewater sources may include non-contaminated wastewater from utility operations, non-contaminated storm water, and sanitary sewage.

4.15.2.3 Gaseous Emissions

Gaseous emissions from milling plant process mainly consist of dust due to grain crushing waste, odours and waste management, dust caused by grain and flour storage, loading and unloading, as well as dry waste management. Other air emissions are from combustion sources, such as electrical generators.

4.15.2.4 Waste Management

All effluent and other wastes generated during the proposed project operation shall be properly managed and disposed of without adverse effects on people's health and the environment. Liquid and/or solid wastes should not be spread on the property within the prescribed distance of dwellings, watercourses or roads. In the following sub-sections description on how different forms of waste will be managed is made.

4.15.2.5 Waste Water Management

Wastewater that will be generated by the project is due to such activities as facilities cleaning as well as domestic activities. In addition to sweeping grain sheds to remove litter, they shall be washed in order that any residual materials are removed. The process will lead to wash-down water containing very small amounts of organic matter and microbes. No direct discharge shall be made into environment instead all water resulting from the washing down of the milling plant houses or silo will be passed over fine mesh screens to remove solid particles which will then be used for poultry feed or composted for fertilizer, the remaining water will be processed through a septic tank system on the site to breakdown any organic matter and then released into a soak pit.

Similarly, all wastewater from processing halls and domestic activities (staff housing and cottages) shall be handled through septic tanks with soak away pits and later on disposed to

designated oxidation ponds. Moreover, storm water from roof tops shall be directed towards the installed septic tanks and not directly into the surrounding environment.

5 STAKEHOLDERS CONSULTATIONS

5.1 Introduction

The Zanzibar Environmental Management Act no. 3 of 2015 and their EIA and audit regulation provide directives and guidelines on public participation during the EIA process. Regulation stresses that "the developer or proponent shall in consultation with the Council, seek the views of any person who is or is likely to be affected by the project". Their involvement ensures all interested and affected parties are involved in the project. Detailed stakeholder consultations have been carried as a part of this EIA study

Most stakeholders consulted supported the proposed grain milling project. The stakeholders' support is based on the grounds that the project will reduce the long-lasting problems caused by shortage of clean and safe wheat and maize flours for business use as well as easy availability in the Pemba Island.

5.2 Stakeholder Identification and Participation

Stakeholder participation involves identification of people with interest in the outcome of the project whether positive or negative, and participates in decisions, planning and management of the proposed development. Stakeholder analysis in relation to the project activities, helped in identification of the stakeholders who were then consulted. After the stakeholder analysis, a list of stakeholders to be consulted, informed about the project and their views and their concerns gathered was prepared. In addition, various authorities that influence the implementation of the activities of the project also formed part of stakeholders.

After identification of the stakeholders, a participation matrix was prepared and initial contact was made with various officials at the Shehia, District and Ministries level to secure appointments. This was then followed by visits to various stakeholders with the purpose of informing them about the project and its potential negative and positive impacts. Interviews and general meetings were held with key stakeholders to provide information but also to collect stakeholders' views and concerns regarding the project.

5.3 Stakeholder's Views and Concerns

	Name of stakeholders	Comment	Concern	Recommendation
1	Wete District Offices	The project is very welcome as it will have immense contribution to the local communities and the national economy through promotion of poultry subsector	- The District has no objection in development projects that are aimed at improving the livelihoods of the local communities and ensure the implementation of MKUZA-III and Investment Policy of Zanzibar.	- The investor is required to apply for certificate of registration issued by authorized institutions. - The investor is supposed to consult District council office in Wete on the proposed site plan and design prior to construction work. - The investor will be required to seek for permits before importing grains and other materials.
2	ZEMA and DoE	The project is essential for boosting local economy but should observe environmental and social safeguards	Use of common natural resource shared with local communities like catchment area if any.	- Project should show clearly and implement what has been agreed and planned in environmental and social management plan (ESMP) - Support socioeconomic activities in the surrounding communities and avoid raising unattainable promises - Ensure efficient training to the local employers is provided
3	Ministry of Trade, Industry and Marketing	Project is good because will create employment, revenues, local business opportunities and improvement of people's livelihoods	- Compliance with national trade, construction industries and cross cutting policies such as proper land acquisition, addressing HIV/AIDS, contract labors	- Have a plan to support socioeconomic to the project surrounding communities - Put a realistic budget for EMP's - Attach all necessary documents such as certificates in land acquisition, company registration, water right

			issues etc. - Environmental pollution including dust emission	permits, factory layout, and process flow sheet diagram and organization structure in the final report. - Consult OSHA before construction for further advices
4	Zanzibar Food and Drugs Authority (ZFDA) - Senior food inspection and Drug inspector and data entry	The Developer should comply with ZFDA policies and regulations	- Any kind of imported grains and chemical is registered by the authority - Responsible industry for manufacturing imported material should be inspected by ZFDA officials and developer should prepare good manufacturing practices inspection fee -	- The investor will be required to seek certificate of registration before importing grains and other materials issued by ZFDA - Before importing grains and chemical investor will be required to bring samples to the ZFDA for laboratory analysis - All imported grains should be labelled in either English or Swahili Languages - Retention fee for imported grains should be paid annually
5	Occupational Safety and Health (OSH)	The Investor is required to comply with occupational health and safety Act which emphasizes provision of safety gear	- Medical examination to project employees - Health and safety system for the project	- Do medical examination particularly fitness to the workers prior commencement of construction and production processes - Formulate healthy and safety policy which will show commitment between investor and workers - Formulate healthy and safety committee comprising members from each department - Provide health and safety training to the workers - Submit architectural drawings to OSH

				for advise/recommendations and site visit
6	ZAWA	There is no anticipated impact caused by the project to the public borehole and spring, therefore project will be useful to the communities.	On-going water shortages issue in the villages surrounding Finya is a result of worn out water supply infrastructure which cannot supply the amount of water required by all villages due to population growth	- If developer will need to construct boreholes, he will be required to apply for a water use permit from ZAWA. - It is important for a developer to collaborate with the communities on water resource management and to hear their opinions on water use from Shehia office. - As part of Corporate Social Responsibility (CSR) as well as fostering good relations, the developer may consider constructing boreholes in the surrounding communities.
7	Commission of Land – Pemba	The project will boost the economy of community as well as government. Have a modern industry is the part of the government strategies and proper land use plan	- All matters pertaining to land ownership and inheritance must be cleared before the authorities decide to go ahead with the activities that will lead to submergence of lands.	- The case of crop compensation should be resolved appropriately since the land is owned by government and that the commission of Land should carry out all those pending matters before any decision is made, as per the laws of Zanzibar. - Land Use and Land Tenure will contribute to major environmental challenges, given the existing pressure on land resources and conversion to an increasing population.
8	Finya Shehia Office	- The Shehia is positive about the project since there is assurance of bottled water service since there is no	- Employment is also viewed as a benefit to the Shehia during construction and	- Employment opportunity should be given priority to local people most from Finya Shehia during construction

		such kind of the Industry within the District. - Community welfare and standard of living could be improved. - There is no land/boundary conflict between Village and the proposed project developer. - There are no any discovered or reported historic and cultural remains such as cemeteries and monuments in the project area.	operation. - Increasing of moral erosion due to the sudden influx of people that could result into increase of theft and prostitution. -	and operation phase - Developer should introduce himself and the project to the village government and communities. - Feeder roads like that go through the proposed project site should not be closed. -
9	Local community	- The potential environmental impacts for proposed project include soil erosion and clearing of perennial vegetation and loss of agricultural/arable land. - Local people (skilled and unskilled) will be employed during construction and operation phases. The resulting income will be used to fund children's education and household needs. - Through this project other forms of trade will grow due to increased income among local people. - Through revenue collection District GDP will rise as well as that of the country	- The proposed project may bring in positive outcome but great care should be taken in addressing the issues concerning daily livelihoods of all the members of the community - Air pollution caused by dust and steam during and after construction phase will be a serious problem to both workers and surrounding villages. - Spread of sexual transmitted disease like HIV/AIDS. -	- The Government and project owner should see it that all crops plots owners on land that would be used for project should be adequately and properly compensated. - Proper care should be undertaken to conserve environment from pollution - The developer should solidify good neighbourhood with surrounding villages by offering better prices for their crops, training, employment and support to local development projects. - The developer should provide HIV/AIDS education, awareness and preventive measures to its customers and workers together with surrounding communities.

6 ANALYSIS OF ALTERNATIVES

In terms of environmental impact assessment best practice, assessment of potential impacts from a proposed activity must include the assessment of alternatives. Assessment of alternatives is undertaken to identify the option that will minimise harm to the environment and may include site, technology and other alternatives, but must always include the option of not implementing the activity, known as the "no-go" alternative.

6.1 Alternative Site

The proponent has the option of undertaking the proposed development in a different location other than the chosen site. This could also entail acquiring land elsewhere to carry out the development. The Finya Plot was selected as the target area for the proposed project and has the required services and infrastructure. The pre-feasibility phase confirmed the availability of basic services to the facility. The Wete district or Zanzibar as a country, require economic stimulation and would benefit from a project of this magnitude. The Finya plot area was selected as the preferred site for the proposed plant and no fatal flaws were noted. However, there is an alternative site almost 6km east of the main site with similar properties as the main site.

The following reasons justify the use of the proposed site for the development:

- The power is already available and is provided by ZECO
- The farm has 1 operational boreholes
- The site has the required services and infrastructure e.g. power, water, petrol tanks, tractors, trucks/required vehicles, other required equipment, maize and maize importation, etc.
- The Go-Ahead with the project attracts potential transformation and economic benefits and potential negative environmental and social impacts
- It will create employment opportunities and revenue generation and other social benefits in terms of food security such as maize flour supply,
- The project furthermore has the potential to create opportunities for supplier and enterprise development.
- It will give an opportunity to local farmers to sell their maize to the project before purchasing from commercial growers.

6.2 The "No Project" Alternative

The No-Go alternative represents the option not to proceed with the proposed wheat and maize mill project, implying a continuation of the current situation/ status quo. In the environmental-socio-economic point of view, the no project option is the least preferred option due to the following factors:

- The option of not proceeding with the project retains the status quo, but with potential loss in transformation and employment opportunities and revenue generation and related social benefits, which could potentially be generated by the development.
- No employment opportunities will be created for the locals who would work on the project and that their skills would remain underutilized.
- The option of not proceeding with the project will prevent local farmers from selling their maize to the project and that they will not be able to earn an income for the living.
- The costs for flour will stay high

6.3 Alternative technology

Throughout construction of wheat/maize mill plant, alternative technology is issue to be considered properly. Where necessary, the construction should use steel structure type where all the frames and major components including frame, floor steel, nuts doors and windows, sound proofing partitions are pre-fabricated overseas and assembled in Tanzania. This alternative technology can minimize the use of concrete-related materials i.e. bricks, gravel/stones, sand, cement which have environmental impacts to the surroundings.

6.4 Alternative energy efficiency

The proposed wheat/maize project intends to use electricity supplied by ZECO will meet the electricity cost used in operating the plant and the associated machines. This will entail the developer to install the alternative source of energy such as solar power, gas, and standby generator to provide electricity in case of power shortage during construction and operation period.

7 IMPACTS ASSESSMENT AND MITIGATION

7.1 Introduction

This chapter presents the relevant environmental and social issues that may occur (potential impacts) throughout the project cycle. The assessment is based on identified potential impacts through fieldwork, measurement, stakeholder's consultations, interviews and experience drawn from similar projects. The proposed project is expected to have both positive and negative impacts on environment. Specifically, the chapter covers the main environmental and social impacts that have been identified during construction, operation and decommissioning phases of the proposed project.

7.2 Impacts Assessment Methodology

7.2.1 Impact Analysis and Evaluation

Evaluation of impact significance is essential component in Impact assessment. It provides a key to developing mitigation/enhancement measures to deal with the impact and selecting project alternatives. Determination of the significance of the impact contributes to internalization of environmental costs in the overall project costs. Mitigation measures are developed for impacts that are considered negative, while enhancement measures are developed for impacts that are considered positive.

In evaluation process impacts were considered significant if they met the following criteria:

- The magnitude and likelihood of the impact and its spatial and temporal extent;
- The likely degree of recovery of the affected environment;
- The value of the affected environment;
- The level of public concern;
- Political repercussions of the impacts;
- Environmental standards and compatibility with identified impacts.

Similarly, the Impacts are likely to be significant if they are:

- Extensive over space and time;
- Intensive in concentration or in proportion to assimilative capacity;
- Exceed environmental standards or thresholds;
- Do not comply with environmental policies, land use plans, sustainability strategy;
- Adversely and seriously affect ecologically sensitive areas;

- Adversely and seriously affect heritage resources, other land uses, communities and/or indigenous peoples, traditions and values.

Numerous methods are commonly used in evaluating significance of impacts. Some of these include comparison with applicable environmental standards, and use of the matrices with ratings to determine which impacts are significant. In this EIA the following ratings have been used:

- +2 High positive impacts
- +1 Minor positive impacts
- 0 No impacts
- -1 Minor negative impacts
- -2 High negative impact

Mitigation and enhancement measures are developed for significant impacts that were rated +2 and -2 whereas those impacts that were rated at -1 and +1 are discussed under cumulative impacts since they could be insignificant where they stand alone but cumulatively they produce significant impact.

Table: Impact matrix

Impacts vs Project activities	Mobilization Phase				Construction phase									Operation phase								Decommission Phase		
	Legal permits / documents	Structure Design	Recruitment of workers	Materials Mobilization	Site clearing and levelling	Establishment of workers operation area	Transmission lines Installation	Drilling of borehole and installation of storage	Construction of basement and wastewater infrastructures	Construction of the Milling plant and Silo	Solid waste management	Liquid waste management	Construction of storage facility	Power generation	Flour production, supply and management	Liquid waste management	Organic waste management	Solid waste management	General operation of the plant structures	Transportation of product and facilities	Employment opportunity and revenue	Demolition of the structures	Restoration of the site	Laying off workers and services
Impact Related to Physical Environment																								
Increased Surface run off due to construction activities and	0	0	0	0	-1	0	0	0	-2	-2	0	0	-1	0	0	0	0	0	0	0	0	-1	-1	0
Increased noise and Vibration	0	0	0	-1	-2	0	-1	-1	-1	-2	0	0	-1	-2	-1	0	0	0	-1	-2	0	-2	-2	0
Change in surface and Ground water quality	0	0	0	-1	-2	0	0	0	-1	-2	-2	-2	-1	0	-1	-2	-2	-2	-1	-1	0	-2	-2	0
Impact Related to Ecological Environment																								
Loss of vegetation (flora and fauna)	0	0	0	-1	-2	-1	-1	-1	-2	-2	0	0	-1	0	0	0	0	0	0	0	0	+2	+2	0
Impact Related to Land Use and Landscape																								
Air/dust pollution	0	0	0	-1	-2	0	0	-1	-2	-2	-1	0	-1	0	-1	0	0	-1	-1	-2	0	-2	-2	0
Change in landscape and scenic quality	0	0	0	-1	-2	-1	-1	-2	-2	-2	-1	-1	-1	0	0	-1	-1	-1	-1	0	0			
Increased pressure on local resources	0	0	0	-2	-1	0	0	-2	-2	-2	0	0	-1	-1	+2	0	0	0	0	0	+2	+2	+2	-2
Loss of land and other properties	0	0	0	-1	-2	-1	0	-1	-2	-2	0	0	-1	0	0	0	0	0	0	0	0	+2	+2	0
Change in volume and types of waste	0	0	0	-1	-2	0	0	0	-2	-2	-2	-2	-2	0	0	-1	-1	-1	-1	0	0	-2	-2	0
Soil pollution	0	0	0	-2	-2	-1	0	-1	-2	-2	-2	-2	-1	0	0	-2	-2	-2	-1	0	0	-2	-2	0

Impacts vs Project activities	Mobilization Phase				Construction phase									Operation phase								Decommission Phase		
	Legal permits and other documents	Structure Design	Recruitment of workers	Materials Mobilization	Site clearing and levelling	Establishment of workers operation area	Transmission lines Installation	Drilling of borehole and installation of storage	Construction of basement and wastewater Infrastructures	Construction of the Milling plant and silo	Solid waste management	Liquid waste management	Construction of storage facility	Power generation	Flour production, supply and management	Liquid waste management	Organic waste management	Solid waste management	General operation of the plant structures	Transportation of product and facilities	Employment opportunity and revenue	Demolition of the structures	Restoration of the site	Laying off workers and services
Impact related to Social-economic Environment																								
Increased Noise levels	0	0	0	-1	-2	-1	0	-2	-2	-2	-1	-1	-1	0	-1	-1	-1	-1	-1	-1	0	-2	-2	0
Increase in HIV/AIDS and other diseases	0	0	-1	-1	-2	-2	-1	-1	-2	-2	-1	-1	-1	0	-2	-1	-1	-1	-2	-2	+2	-2	-2	-2
Change in level of crime, norms and local values	0	0	+2	-1	-1	-1	-1	-1	-1	-1	0	0	-1	-1	-2	0	0	0	-2	-2	+2	-1	-1	-2
Increased population size	0	0	-1	-1	-2	-2	-1	-1	-2	-2	0	0	-1	0	+2	-1	-1	-1	-2	-2	+2	-1	-1	+1
Increased pressure on social services	0	0	-1	-1	-2	-2	0	0	-2	-2	0	0	-1	-2	-2	0	0	0	-2	-1	-2	-1	-1	+2
Change in levels Employment	+1	0	+1	+1	+2	+1	0	0	+2	+2	0	0	+1	0	+2	0	0	0	+2	+2	+2	+1	+1	-2
Increased benefit to Government	+2	0	+1	+2	0	0	0	0	0	0	0	0	0	+2	+2	0	0	0	+1	+2	+2	-1	-1	-2
Increased benefit to local economy/ communities.	0	0	+2	+1	+1	+1	+1	+1	+2	+2	0	0	0	+1	+2	0	0	0	+2	+2	+2	+1	+1	-2
Change quality of existing infrastructure	0	0	0	-1	-2	-1	0	-2	-2	-2	-1	-1	-1	0	0	-2	-1	-1	-2	0	0	-2	-1	0
Increased risks and hazards	0	0	-1	-1	-2	-1	-1	-2	-2	-2	-2	-2	-1	-1	1-	-2	-2	-2	-2	-2	0	-1	-1	0

7.3 Impacts Identified, Mitigation and Enhancement Measures

Potential positive and negative impacts with respective mitigation associated with the proposed project were preliminarily identified during scoping study through expert opinion and stakeholder consultations. Further impacts were identified through expert analyses of information and consultations during full EIA study. The identification process included the following:

- identification of project boundaries;
- identification of stakeholders within the project boundaries;
- expert identification of potential impacts;
- stakeholders identification of issues to arise from project implementation, and
- harmonization of potential impacts and issues.

7.3.1 Impacts Associated with Construction Phase

7.3.1.1 Employment Creation

Positive Impact, this is a job creation and economic benefit to local community since the construction activities associates with the installation of services infrastructure which will require labourers from the surrounding.

Mitigation measures:

- Various employment opportunities will be created during all phases of the development, ranging from highly skilled to unskilled. When recruiting, the responsible contractor should ensure gender equality is taken into consideration that both men and women are employed equally and treated equally.
- Preference should be given to local residence and to Zanzibar an Citizens
- Equity, transparency, should be put into account when hiring and recruiting and that Public Participation i.e. Community Leaders or Community committees should also take part in the recruiting process for decision makings.
- In terms of human resource development and capacity building, the contractor must enforce training programs that skilled workers should always train unskilled workers when necessary, in order for them to enhance their performances and to gain more knowledge that they might demonstrate at other levels in future.

7.3.1.2 Stimulation of Skills Transfer

We expect during project implementation local community will gain different skills concerned construction activities and maize and wheat milling process at the plant.

Mitigation measures

As the construction and operation of the development requires specialized work and skills it can be expected that experts will be training locals in certain skills during development and operation.

7.3.1.3 Air Quality Impacts

These are expected to be site specific and surrounding area, short-termed and will most probably pose a negligible nuisance and health threat to those residing nearby. The construction of the proposed facility will have impact on the surrounding air quality as construction vehicle will be frequenting the site and surrounding.

Mitigation measures:

- Dust may be generated during the construction/decommissioning phase and might be aggravated when strong winds occur therefore; dust suppression during the construction process is advised if dust becomes an issue.
- Vehicles travelling to and from the construction site must adhere to the speed limits so as to avoid producing excessive dust.
- A speed limit of 40 km/hr should be set for all vehicles travelling over exposed areas.
- Loads could be covered to avoid loss of material in transport, especially if material is transported off site.

7.3.1.4 Solid Waste Impacts

The construction phase of the development is likely to generate waste from clearing of vegetation, builder's rubble, general construction refuse and minor hazardous waste including paint tins, cleaning acids, asphalt’s and oils. The development could therefore impact on the environment by generating solid waste pollution.

Mitigation measures:

- Ensure that no excavated soil, refuse or building rubble generated on site are placed or dumped on surrounding properties or land.

- Contaminated wastes in the form of soil, litter, building rubble and other material must be disposed off at an appropriate disposal site.
- Waste handling procedures must be cleared with the Wete town council and the construction contractor should be informed about this.
- The contractor and developer should ensure that all the waste generated by the development is appropriately disposed of at the recommended waste disposal sites close to the area.
- Strictly, no burning of waste on the site or at the disposal site is allowed as it possess environmental and public health impacts;
- No construction waste should enter the surrounding environment no cleared vegetation to be burnt on-site.
- To avoid contaminating the soil and underground ecosystem, no wastewater should be disposed on soil.
- No on-site landfill (waste disposal) facilities.

7.3.1.5 Noise caused by construction activities

Noise levels are expected to rise during the construction phase of the development. Construction activities that cause noise include vehicle trafficking, generator noise, pressure hammers and construction worker's voices, including earthmoving equipment which will be utilized during the construction phase.

Mitigation measures:

- Construction should be limited to normal working days and office hours.
- No construction activities may be undertaken on Friday .
- Provide ear plugs and ear muffs to staff undertaking the noisy activity or working within close proximity thereof or alternatively, all construction workers should be equipped with ear protection equipment.
- Noise pollution should be addressed and mitigated at an early stage of construction phase.

7.3.1.6 Sewage Pollution of environment with waste materials

Mitigation measures:

- Adequate sanitation facilities e.g. chemical toilets must be provided at the camp depot and construction site.
- Adequate sanitation facilities i.e. 15 employees per facility should be provided.
- The toilets should be located at least 50m from the construction site.
- They should be kept clean and hygienic regularly to ensure that they are usable.
- Effluent must not be discharged into natural environment and bush-toileting is prohibited.
- Letter of consent from a registered waste facility to allow contractor to empty the toilet facility at their sewer system should be provided.

7.3.1.7 Heritage Impacts

There are no known heritage areas or artefacts were identified at the project site during the site visit. Therefore, no impacts on heritage and cultural resources are expected as no heritage resources occur on the project site and paleontological resources, if they do exist, would be located well below the foundations of the plant.

Mitigation measures:

- There were no sites or objects of archaeological finds, Graves, historical and cultural significance identified, however, if during construction any possible finds are made (e.g. Pottery, bones, shells, ancient clothing or weapons, ancient cutlery, graves etc), it should be barricaded off and the operations must be stopped and the relevant authorities should be contacted immediately for the qualified archaeologist to come and do the assessment of the findings. Work may only commence once approval is given from the heritage agency.

7.3.1.8 Health and Safety

- Health and Safety Regulations pertaining to personal protective clothing, first aid kits being available on site, warning signs, etc. is very important and should be adhered to.
- During construction phase, there is a possibility of injuries to occur if no measures are taken into consideration.
- During construction, earthmoving equipment will be used on site. This increases the possibility of injuries and the responsible contractor must ensure that all staff members are briefed about the potential risks of injuries on site.

- Health and Safety Regulations pertaining to personal protective clothing, first aid kits being available on site, warning signs, etc. is very important and should be adhered to. Specific areas of concern are:
  - ✓ Manual handling of equipment, heavy loads and repetitive work.
  - ✓ Working at heights (falling/drowning)
  - ✓ High noise - can lead to hearing deficiencies
  - ✓ Exposure to chemicals (paints etc.)

Mitigation measures:

- A health and safety plan is to be developed and implemented as soon as land clearing commences.
- Ensure the appointment of a Safety Officer to continuously monitor the safety conditions during construction.
- Adequate measures must be brought in place to ensure safety of staff on site, and includes:
  - Proper training of operators, handling of chemicals and hazardous materials;
  - First aid treatment
  - Medical assistance
  - Emergency treatment;
  - Protective clothing
  - Ventilation and protective equipment;
  - Install mechanical lifting aids - rotate work tasks - reduce repetitive activities;
  - Reduce noise exposure - isolate noisy equipment, rotate tasks, make use of protective equipment;
  - Working at height - permit to work system

7.3.2 Impacts Associated with Operational Phase

7.3.2.1 Solid wastes

- The main wastes produced from the mill plant are organic matters such as maize residues from sieves i.e. impurities smaller or larger than grain and they cannot cause significant hazards to human health or the environment when properly managed. Wastes from grain processing are considered to be non-hazardous wastes

- Some solid waste comes from the field in a way that the grains are received in the uncleaned state and contains a variety of different types and sizes of foreign material including grain bran, chaff, rust, and weed seeds, various types of pollens, different mold spores, and pieces of grain, dirt, and insect parts.

Mitigation measures:

- Mixing biodegradable waste with the other waste for production of high quality fertilizer.
- All by products produced by the Milling plant should be developed into animal feed
- Artificial and non-biodegradable materials (metals, glasses, plastics, etc) should be collected in separate containers from the site and reused where possible or taken to approved landfill in the region.
- The contractor and developer should ensure that all the waste generated by the development is appropriately disposed of at the recommended waste disposal sites close to the area.
- No on-site landfill (waste disposal) facilities.

7.3.2.2 Waste water

Normally water in flour production projects is used for watering (to reduce air emissions, to prevent fire), for wet shelling. Wastewater of the milling factory can cause a number of impacts ranging from a loss of aesthetics up to affecting health of the nearby households.

Mitigation measures:

- The treated waste water should be supplied to grow vegetables in the factory's compound.
- Waste water should be treated using a range of physical, chemical, and biological treatment technologies to manage waste water quality to acceptable levels.
- Waste water should not be discharged to the environment without any treatment
- To avoid contaminating the soil and underground ecosystem, no untreated wastewater should be disposed on soil.

7.3.2.3 Air pollution

- Raw materials received in flour factory commonly contain much fine dust and long fiber shaped dust particles. The fine dust may include the actual soil in which the wheat and maize was grown, owing to wind or rain action in the field.

- Other fine particles may originate from weeds or insects or be produced from the grain itself by abrasion in handling and storing.
- Particulate Matter (PM) or dust gets in to the environment during all processing stages starting with grain entering the elevator to its milling processes. PM is emitted into the air during pouring and packing processes.

Mitigation measures

- During the operational phase, the proposed mill will not utilise steam during the process and would not directly combust gas or any other fuels. Therefore, the potential emission source has been considered negligible and excluded from the assessment.
- For human health and safety, all employees must wear their protective clothes (PPE) including face masks at all time.
- Fine particle size of the mill dust can be managed by the installation of air handling cloth type filters

7.3.2.4 Impacts of Noise pollution

- Noise pollution is the exposure of people or animals to levels of sound that are annoying, stressful, or damaging to the ears. Since the industry is installed far from residential area noise problem is not an issue for the nearby residents.
- The noise is expected to be generated at the processing section, milling section and packaging section of the machines which will cause discomfort noise. The noise pollution will only disturb people working in the factory.

Mitigation measures:

- Provide ear plugs and ear muffs to staff undertaking the noisy activity or working within close proximity thereof or alternatively, all workers operational section should be equipped with ear protection equipment and must be worn at all time.

7.3.2.5 Accidents

Employer shall take the necessary measures to adequately safeguard the health and safety of the workers.

Mitigation measures:

- Workers should be provided with personal protective equipment such as high boots, protective uniform, dust masks, helmets and Eye goggles.

- Provide safety training awareness to train employees about the importance of safety equipment and do regular inspections to inspect the implementation of PPE.
- Provide insurance services in case of accident to employees

7.3.2.6 Stimulation of Economic Development (Positive Impact)

- The development of the flour mill plant is expected to enhance the economic development of the surrounding area and boost the development confidence of the area.
- Creation of new employment opportunities, this is deemed to be a positive impact. Although it is not clear how many new, permanent employment positions will be created but it is expected to be about 20 or more people, this will enables them to generate income for their families.
- The project expected to earns considerable profit for the proponent and also it increases revenue through tax. It also expected to supplies 15 tons of quality flour /day to its customers.

Mitigation measures:

- Employment should be given to people from Wete district for them to boost the development of Wete and for them to increase the value of their properties and to increase the value of their land.
- It is recommended to put local people at forefront when hiring or recruiting people, therefore unskilled people from the local community should be employed and semi-skilled from the region so that unskilled workers can be trained by semi-skilled for them to learn and be able to compete with others in future.
- Flour should be packaged in quality environmental friendly bags.

8 ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN

8.1 Introduction

The EIA guidelines define an Environmental and Social Management Plan (ESMP) as a report or document prepared by the proponent after the conduction of EIA study to present the case for the assessment of their proposal as part of the environmental and social impact assessment process. The ESMP as presented in this chapter contains recommendations and cost estimates for mitigation measures designed to address the negative impacts of the proposed project. The ESMP provides a general outlay of the environmental and social aspects, potential impacts, mitigation measures, performance indicators, monitoring means and frequency, responsibility for monitoring and associated cost estimates.

The responsibility for the incorporation of mitigation measures for the project implementation lies with the Supervising Engineer, who must ensure that the contractor implements all specified mitigation measures. In order for the contractor to carry out environmental management activities during construction, the contractor should draw up an environmental management plan of his/her own to show how s/he will address the mitigation measures during the construction period. The Supervising Engineer is responsible for assessing the contractor's environmental management plan.

The ESMP has been developed with project knowledge and information available to date. As project commencement and scheduling plans are developed and changed, components of the ESMP might require amendments. This is therefore a working document, which can be updated whenever new information is received or site conditions change.

The objectives of the ESMP are to:

- to bring the project into compliance with applicable national environmental and social legal requirements social policies and procedures; and
- to outline the mitigation/enhancing, monitoring, consultative and institutional measures required to prevent, minimize, mitigate or compensate for adverse environmental and social impacts, or to enhance the project beneficial impacts.

The objectives, activities, mitigation measures and allocation of costs and responsibilities pertaining to prevention, minimization and monitoring of significant negative impacts and maximization of positive impacts associated with the project equipment installation and

operational phases are outlined in the proposed ESMP in the following section. It outlines corresponding management strategies proposed in chapter 8 that will be employed to mitigate potential negative environmental impacts and assign responsibility for the implementation of mitigation measures.

8.2 Matrix for Environmental and Social Monitoring Plan

Identified impact	Mitigation/ enhancement measure	Institutions responsible	Monitoring frequency	Parameters	indicators	Cost (Tsh)
Surface and ground water quality change	- Proponent to confine all construction works in designated areas	- Contractor - Proponent - ZAWA - Commission Of Land	Daily construction period	Levels of pH and suspended solids in effluents against Zanzibar standards	- Water volume per unit time - Concentration of pollutants in grams/litter	200,000/
	- Proponent to use appropriate technologies to contain emissions and comply with Zanzibar Standards.	- Proponent - Contractor - Operators	Daily project period	Change in water quality per unit time		
	- Proponent to ensure waste heaps is properly kept in enclosed and safe places to prevent leachates.	- Proponent - Contractor - Operators	Daily project period	Quantity and type of waste sent off to site disposal		
	- Proponent to ensure wastewater treatment plant are properly functioning to minimize polluting underground water	- Proponent - Contractor - Operators	Daily project operation period	Change in water volume per unit time		
Vegetation cover	- Proponent to maintain green zones in areas that are not earmarked for construction. - Proponent to confine construction and operation activities to core area.	- Proponent - Contractor - Operators	Continuously with project operation	Green zones/area earmarked	Measure and count number of new plant species planted per 6 month per year	100,000/
Landscape and scenic quality of the area change	- Proponent to confine all construction activities within designated core areas.	- Proponent - Contractor - Operators	Quarterly during construction			100,000/
	- Proponent to maintain green zones in areas that are not earmarked for construction activities	- Proponent - Contractor - ZEMA - C. Of land	Daily project operation period	Area covered	Direct observation	

Identified impact	Mitigation/ enhancement measure	Institutions responsible	Monitoring frequency	Parameters	indicators	Cost (Tsh)
Increased level of noise and vibration	- Ensure noise abatement measures do not exceed standard for residential areas - Proponent to ensure strict compliance with regulation and standard to limits for environmental noise. - Proponent to implement regular maintenance of vehicles, machines and equipment to minimize effect on noise generation. - Proponent to ensure availability and enforce use of Personal Protective Equipment (gears) such as ear protectors to workers.	- Proponent - Contractor - Local -Governments Authority -ZEMA	Every 4 month in project life cycle or appropriate need	Number of reported incidences of noise and crack since the start of the project	- Measure increase or decrease of existing noise and cracks - Magnitude of displacement in mm and frequency per sec.	100,000/
Change in surface and ground water quality	- Undertake storage of fuels and oils in properly designed and secured areas that do not allow leakages. - Vehicle repairs and maintenance to be done in designated areas with concrete bays to prevent spillage. - Collected oil spills should be properly disposed off in designated areas or re-used	- Proponent - Contractors - Operators - ZAWA	Every 3 month	Change in water quality per unit time	- Water volume per unit time - Concentration of pollutants in grams/litter	100,000/

Identified impact	Mitigation/ enhancement measure	Institutions responsible	Monitoring frequency	Parameters	indicators	Cost (Tsh)
Increased air pollution (dust, fumes and exhaust)	- Proponent to ensure strict compliance with state standards on air quality - .	- Proponent - Local authority - Contractor	Quarterly for particulates matter and annually for others	Emissions type and levels against approved standard.	- Dust, fumes and exhaust excessive report - Observation	150,000/
	- Trucks transporting raw materials like concrete must be properly covered during transportation. - Proponent to ensure availability and enforce use of Personal Protective Equipment (gears) such as ear and eye and mouth protectors to workers	- Proponent - Local authority - Contractor - Operators	Continuous in project life cycle			
Increased Pressure on Local resources	- Water recycling technologies be developed to supplement the available sources	- Proponent - ZAWA - Contractor - Operators - ZEMA	Once per month	Amount of water recycles and used per month against approved abstraction	- Water volume per unit time	150,000/
	- Proponent to use alternative sources of energy and building materials		Annually	Capacity of tenant using alternative energy		
Increased Soil Pollution	- Vehicle repairs and maintenance to be done in designated areas prevent spillage. - Collected oil spills from the generators should be properly disposed off in designated areas or re-used.		Quarterly	Record of compliance with approved standards.	Direct observation	100,000/

Identified impact	Mitigation/ enhancement measure	Institutions responsible	Monitoring frequency	Parameters	indicators	Cost (Tsh)
Increased hazards, risks and accidents	- Proponent and local authority to inform local people and the general public on the use of the existing roads by trucks to know and adhere to traffic rules and regulations. - Proponent to sensitize drivers on traffic rules and regulation - Proponent to ensure availability and enforce use of Personal Protective Equipment (gears) such as hard hats, gloves, welding glasses, hoods and ear and eye and mouth protectors to workers. - Provide accessible assembly points and signposts to enable workers and guests access safe areas in case accidents and evacuations. - Provide First Aid kits	- Proponent - OSH office - Contractor - Operators - ZEMA - Town council - Traffic office	Daily during mobilization and construction phase and Quarterly during operation phase	Decrease in number, frequency and type of incidences Records of compliance with protective measures	No of record of hazard, risk and accidents	150,000/
	- Proponent to prepare and implement through stakeholder participation a decommission Plan that address social, economic and environmental effects of decommissioning process. - Proponent to ensure availability and enforce use of Personal Protective Equipment/gears to workers during decommissioning works.		Monthly during decommissioning		Direct observation	

Identified impact	Mitigation/ enhancement measure	Institutions responsible	Monitoring frequency	Parameters	indicators	Cost (Tsh)
Change in volume and type of waste	- Proponent to work with town council in providing a solid waste facility that will also cater for people outside the project site.	- Proponent - Contractor - Operators - ZEMA - Town council	Quarterly	Percentage volume of waste per unit time Record of compliance with approved standards	Direct observation	100,000/
	- Proponent to implement a waste management programme involving sorting and disposing of solid waste in designated areas. - Proponent to implement programmes aimed at recycling and re-use of waste (crushed grains, bags and others). - Proponent to ensure wastewater treatment plants are properly constructed to ensure efficiency.		Daily for liquid/solid waste and monthly for plastic, metals and others			
Change in land quality	- Proponent to prepare and implement through stakeholder participation a decommission Plan that provides details of how to address social, economic and environmental effects of decommissioning. - Developer to provide compensation to the crops and properties affected by the project.	- Proponent - Contractor - Operators - ZEMA - Town council	Once during Decommissioning and once in two years after decommissioning	Rate of recovery and species composition of restored areas	Direct observation	100,000/

Identified impact	Mitigation/ enhancement measure	Institutions responsible	Monitoring frequency	Parameters	indicators	Cost (Tsh)
Change in the level of crime, norms and local values	- Institute proper screening of employees/labourers - Strengthen security in the project area - Proponent and local government to sensitize local communities and workers on the need to preserve and maintain valuable local cultures, norms and values. - Developer to sensitize workers to be prepared for closure of the construction works and plan new employment opportunities, including self-employment. - Local government to sensitize local people to diversify economic activities to cope with changes.	- Local Government - Labour office - District office - Proponent - Contractor	Weekly in Project development phase	Crime trends and type reported Sensitization meetings records New emerging economic activities after closure of project	Social-economic survey Direct observation	150,000/
Increased Pressure on social services	- Proponent to provide social services for the workers to reduce pressure on community services. - Local government to improve existing social services, in tandem with increasing population so that they offer better services to the local communities.	- Local Government - Labour office - District office - Proponent	Every six month	Availability of improved social services	Direct observation Social service survey	100,000/

Identified impact	Mitigation/ enhancement measure	Institutions responsible	Monitoring frequency	Parameters	indicators	Cost (Tsh)
Cost to communities **(Due to loss of employment, incomes and revenue to local people, district and nation).**	- Proponent to promptly pay terminal benefits to the workers so that they can engage in other activities. - Proponent to prepare and implement through stakeholder participation a decommission Plan that provides details of how to address social, economic and environmental effects of decommissioning. - Local government to sensitize local people to diversify economic activities to cope with changes.	- Local Government - Labour office - District office - Proponent	Once during decommissioning	Satisfaction of workers on terminal benefit Records of sensitization meetings	Survey Retirement fund earned Amount of Revenue collected	100,000/
Increase in the spread of HIV/ AIDS and other communicable diseases	- Sensitization of workers and local communities on pathways of HIV/AIDS and other communicable diseases	- Labour office - District health - Proponent - Contractor	Monthly at start up and quarterly during operation	Number of HIV/AIDS cases reported after start of the project	Voluntary Testing	100,000/
	- Local government in collaboration with the developer to sensitize local people to undertake Voluntary Counselling and Testing (VCT) for HIV/AIDS and other communicable diseases.		Annually		Direct observation on the availability of improved health services	

Identified impact	Mitigation/ enhancement measure	Institutions responsible	Monitoring frequency	Parameters	indicators	Cost (Tsh)
	- The Government to improve services nearby health facilities to be able to handle increasing cases of health-related problems. - Pre-employment and periodic medical examination be conducted for all workers		Annually	Causes, numbers, frequency and type of diseases		
Improvement of social services and economic infrastructure	- Proponent should work with District office to improve existing social services so that they offer better services to the local communities	- LG - District office - Proponent - Contractor	Annually	Number and quality of social services provided over time	Number of new or improved social services/per population	100,000/
Employment levels Change	- Proponent to ensure that local labour force with relevant skills is given priority in employment opportunities.	- Labour office - District office - Proponent - Contractor	Semi-annually to check on employment records	Number of local community holding skilled/managerial positions	Number of local community employed	100,000/
	- Local government should sensitize local people to diversify and engage in quality production of various goods and services to meet market demands.	- Labour office - District office - Proponent	Quarterly	Number and type of emerging economic activities		

Identified impact	Mitigation/ enhancement measure	Institutions responsible	Monitoring frequency	Parameters	indicators	Cost (Tsh)
Change in life style and quality of life	- Proponent should engage local people with relevant skills - Local government should work with NGOs and other institutions to raise awareness and prepare locals to take anticipated jobs.	- Labour office - District office - Proponent - Contractor	Continuous with Project Phases	Records of sensitization meetings	Observation	100,000/
	- Local government to provide awareness on HIV/AIDS to prevent effect to local people.	- Labour office - District health - Proponent Contractor				
	- District office and proponent should sensitize local people so that they are prepared for the new development and engage in ancillary activities that will enhance their employment opportunities in activities outside the building operation	- District office - Proponent - Contractor		Records of sensitization meetings New development plan in place	Records Verification	
Benefits to Local community and economy	Priority of employment to be given to local labour force with relevant skills.	- Local Government - District office - Proponent - Contractor	Annually	Number of Zanzibar an in key strategic positions	Revenue collection annually Change in income	100,000/
	Proponent should target local products and materials		Weekly	Trends and levels of tax collection in Wete District	income levels after project implementation	

Identified impact	Mitigation/ enhancement measure	Institutions responsible	Monitoring frequency	Parameters	indicators	Cost (Tsh)
	- Local government and developer should sensitize local people to diversify and engage in quality production of various goods and services to meet market demands.	- Local government - Proponent - Community	Quarterly	Quantities and values of materials purchased from local communities	Good and services from local people	150,000/
	- Local government to support formation and functioning of small and medium enterprise, and other services	- Local government - Proponent - Community	Annually	Number of Tanzanians trained Change in income levels	small and medium enterprise	
	- Proponent to comply with government policies and laws regarding taxation - ZRB and TRA to strengthen tax collection in the emerged ancillary activities and other commercial activities - Proponent to strengthen the production of bottled water and collection of fees monthly to maintain the services rendered	- ZRB / TRA - Proponent - Operators	the entire project operation phases	Tax compliance by the developer Compliance to scheduling and sequencing of project development	Revenue collection annually Change in income Quantity supply of Flour	

9 CONCLUSION

The Flying Fox Company proposes the construction and operation of Maize and Wheat Milling Plant on a portion situated on Finya Shehia within the Wete District, North Region in Pemba, to cater for the maize and wheat flour. The plant will be developed on a 1 hectors site on the farmed land. The proposed Milling Plant would process raw gains to produce the wheat and maize flour. The by-products produced would be used for animal feed production.

ISMACO Consultant Company had conducted an Environmental Impact Assessment (EIA) and prepared an Environmental Management Plan (EMP) for the construction, operation and decommissioning phases of the proposed Mill Plant. Therefore, potential environmental issues associated with the proposed activities have been identified. A number of potential impacts were assessed and mitigation measures are provided. The area is generally suitable for the proposed activity. All environmental risks can be minimised and managed through implementing preventative measures and sound management systems.

It is assessed that the development of this project would not be affecting any of the locals in a negative way. On the contrary there will be abundant opportunities for employment during the construction phase (both skilled and labor), although temporary and there will be permanent employment opportunities during the operational period of the project. This proposed development would enhance the quality of life in and around this area. Not proceeding with the project retains the status quo, but with a loss in employment and transformation opportunities, revenue generation and related social benefits, which could potentially be generated by the development. Lastly, it is unanimously concluded that the proposed development go ahead without any objections since the project would generate significantly more employment and economic value than the site currently does.

The main recommendation therefore is that the proposed project for the establishment of wheat and maize milling industry/plant, production and supply services in Wete District should be considered for development as it meets relevant policy objectives. However, negative impacts to the environment need to be mitigated per environmental management and monitoring plan as much as possible and positive impacts should be enhanced. Proponent should prepare an empowerment programme for communities outside the project areas to explore ways in which they can effectively benefit from the project development. There are

no adverse impacts that can prevent the implementation of the project, or put the expected outcomes and results at high risk.

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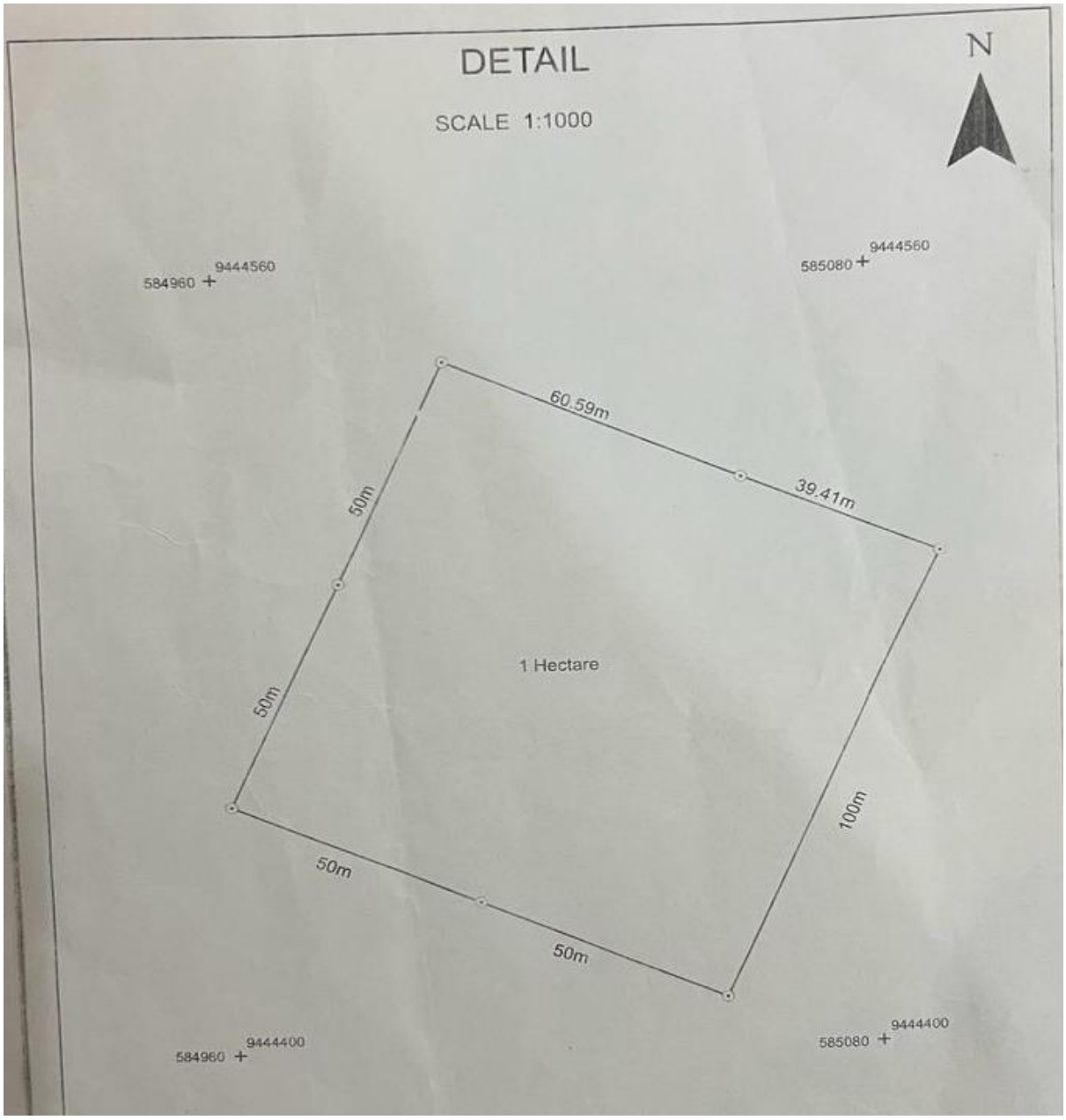
APPENDICES

Site plan



Stakeholder consultation form

Interenvironmental Service and Management Company
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Email : Ssmart157@yahoo.com
Tel: + 255 773 078 409

Community Consultation Form for the Construction of Flying Fox Industry at Finya, Wete - Pemba

Date .....

S/No	Name	Address/Tel.	Signature
1	ADIL KHAMIS BARAK	0776625356	
2	SHEHA MRISHO SALIM	0719593031	
3	ABRAHMAN ALI OMAR	0774738165	
4	ABUUBAKAR ABDULLA OMAR	0777367525	
5	BAKAR SALUM ABDULLA	0773135541	
6	HAMZA ABDALLA SAID	0714043445	
7	SAID JUMA OTHMAN	0776369141	
8	MUSTAFA ALI JUMA	0676780758	
9	KHAMIS NASOUR HAMAD	0773699638	
10	Yussuf Mohd Yussuf		
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12	YUSSUF OMAR HAJI	0678569181	
13	Hamad Soud Hamad	0745859569	

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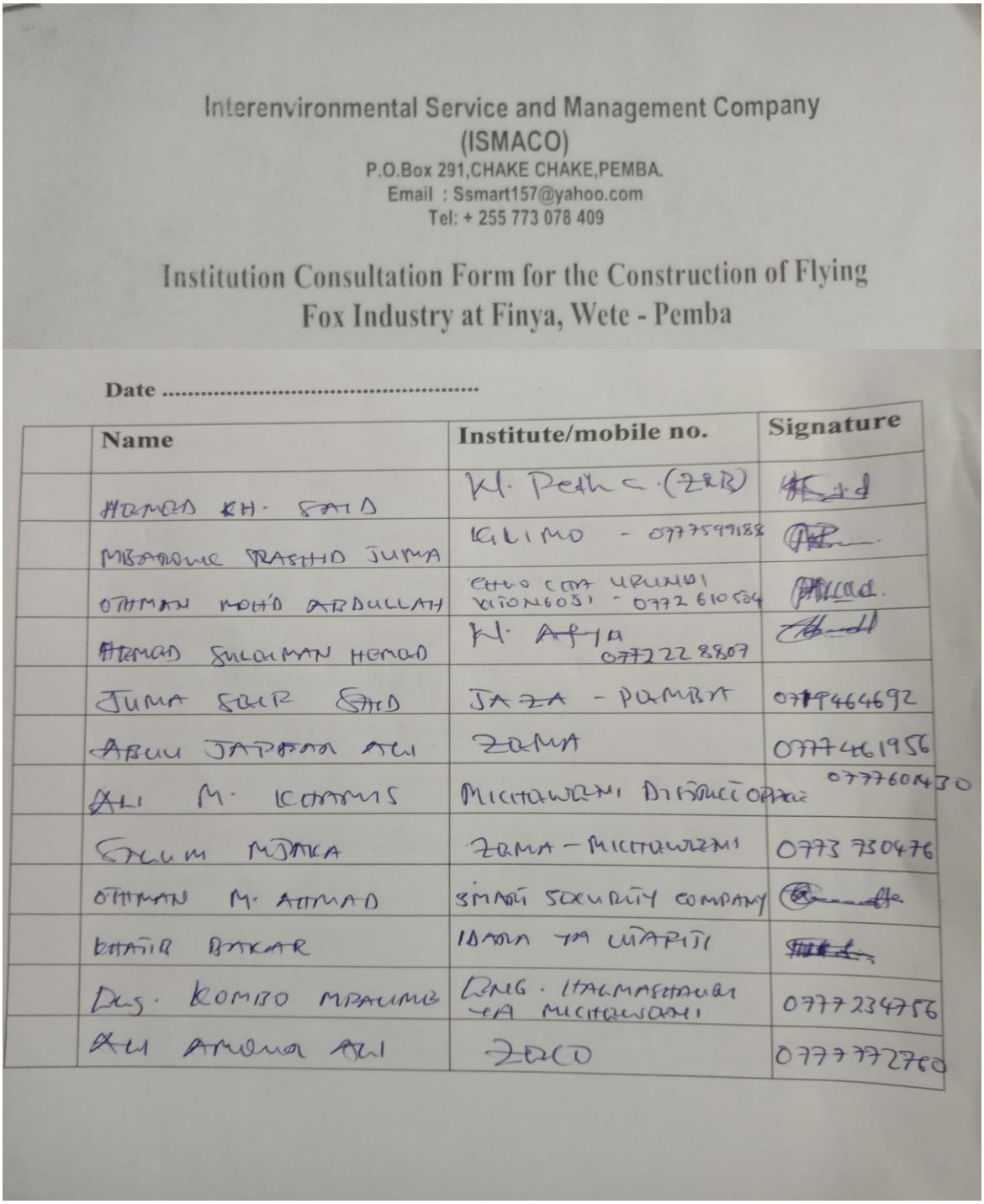
Date .....

S/No	Name	Address/Tel.	Signature
14	YUNUS KHAMIS KHATIB	0713210159	
15	MUSTAFA ALI JUMA	0676780758	
16.	MUSTAFA HAMAD SHAAMS	0776239774	
	ADKAM AHMED	0658-971731	
	FAHIM AHMED	0655568930	
	FAKI KOMBO	0675'35'7494	
	SAIDI NASORO	0672322207	
	MOHAMMED ISSA	0782 908272	
	ABUUBAKAR ALI	0789968506	
	MOHD ALI	0658575886	
	BASHIR JUMA	0621798441	
	HASSAN MOH'D	0620333181	
	MASSUD SALIM	0772479631	



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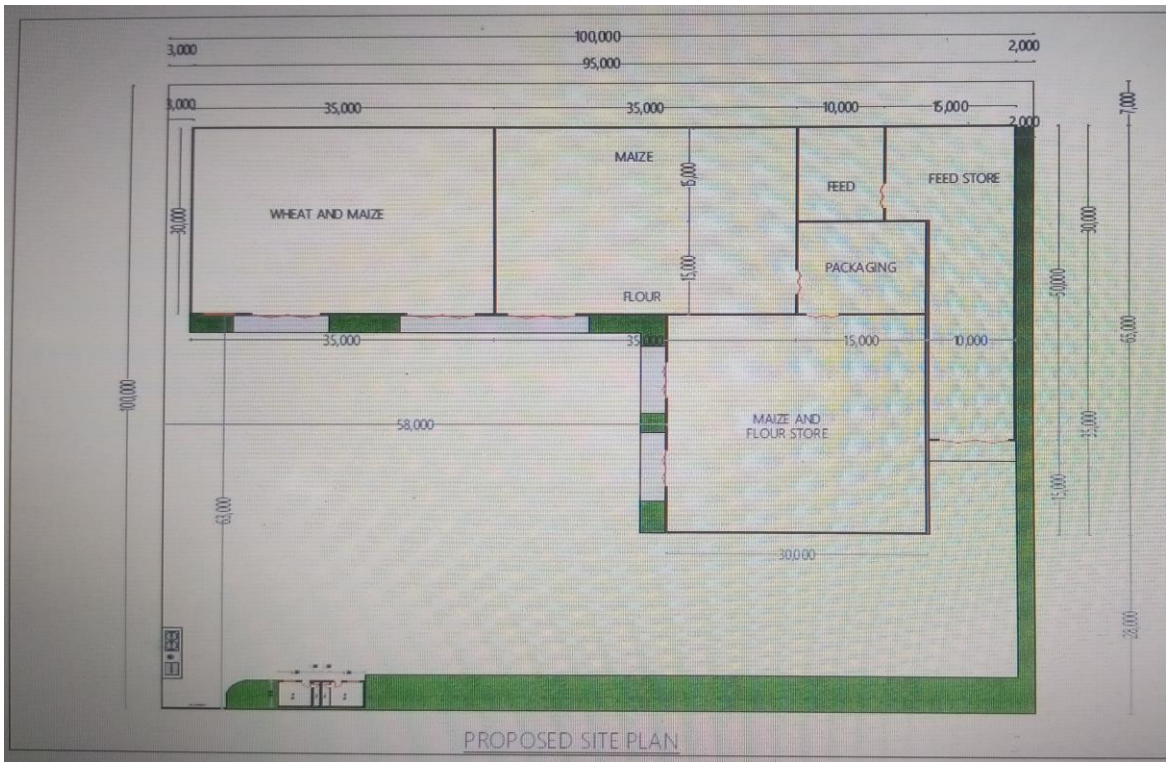
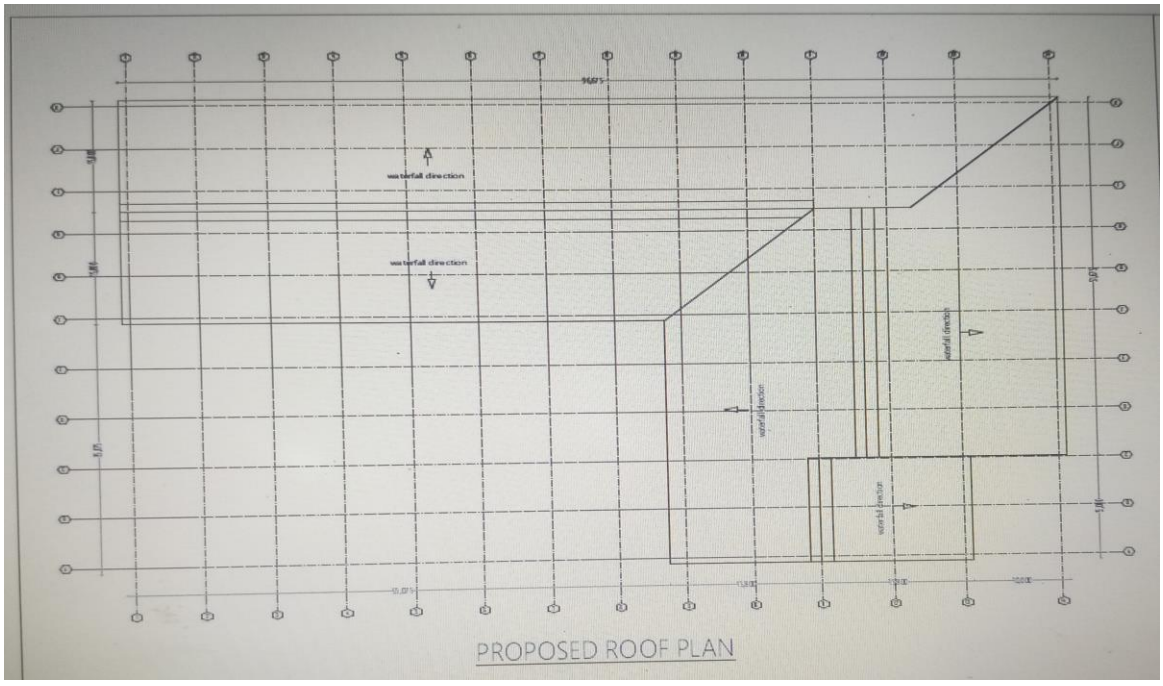
Institution Consultation Form for the Construction of Flying Fox Industry at Finya, Wete - Pemba

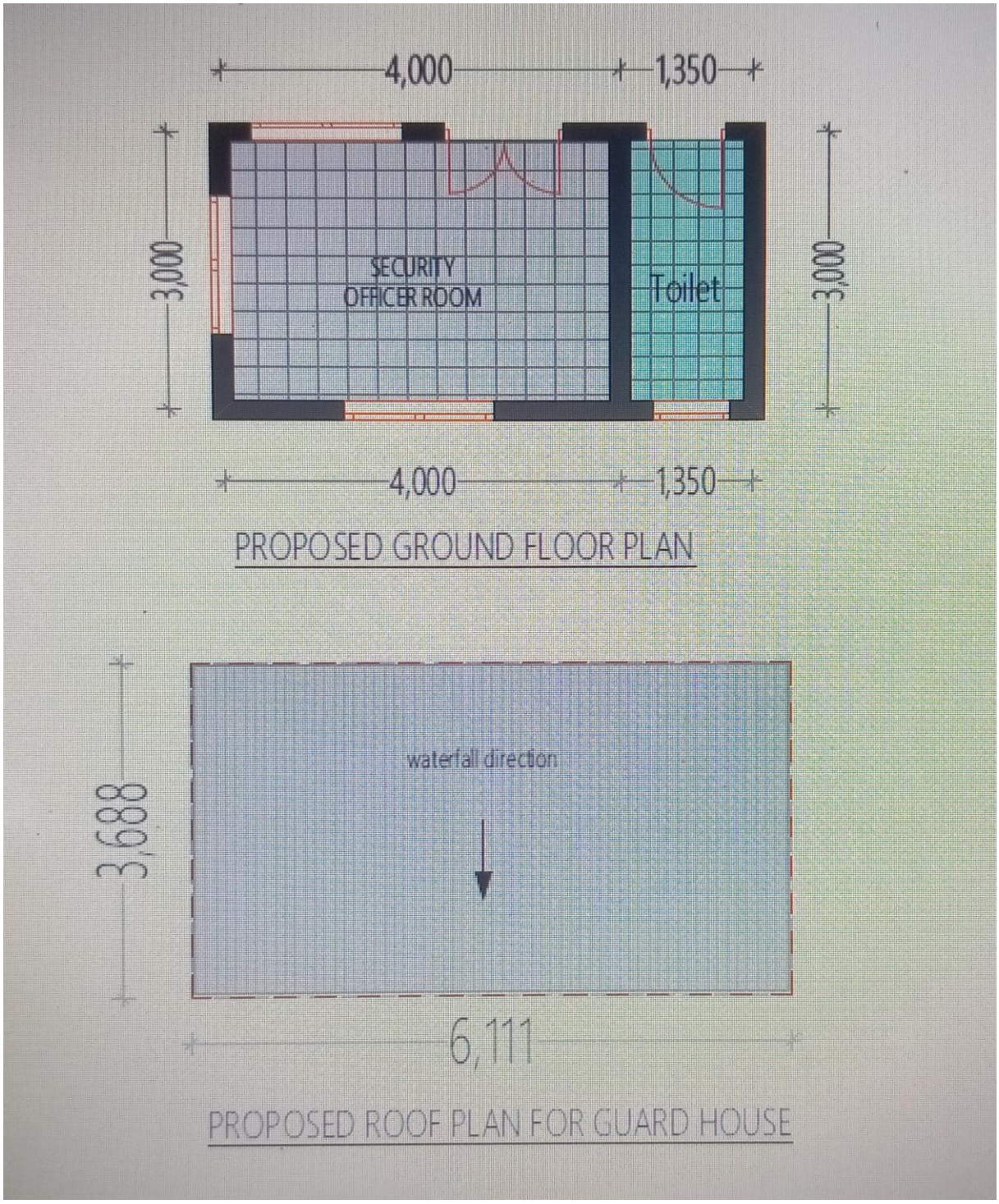
Date .....

	Name	Institute/mobile no.	Signature
	HEMED KH. SAID	Kl. Peth c.(ZRB)	
	MBAROUK RASHID JUMA	KILIMO - 0777599188	
	OTHMAN MOH'D ABDULLAH	CHWO CHA UKUMBI KIJONGOJI - 0772 610 504	
	AHMED SULEIMAN HEMED	Kl. Afya 0777228807	
	JUMA SAUD SAID	JAZA - PAMBA	0779464692
	ABUU JAPHAR ALI	ZAMA	0777461956
	ALI M. KOMBO	MICHEWENI DISTRICT OFFICE	0777604430
	SALUM MJAKA	ZAMA - MICHEWENI	0773 730476
	OTHMAN M. AHMAD	SIMAMI SECURITY COMPANY	
	BAKARI BAKAR	IDARA YA UHAPITI	
	Dkt. KOMBO MBARUK	CHAIRMAN ITALAMASHAURI YA MICHEWENI	0777234756
	ALI AMOUR ALI	ZACO	0777777760

Expected factory design






4,000
1,350
3,000
SECURITY
OFFICER ROOM
Toilet
3,000
4,000
1,350
PROPOSED GROUND FLOOR PLAN
3,688
waterfall direction
6,111
PROPOSED ROOF PLAN FOR GUARD HOUSE

Flying Fox certificate of business registration

The Revolutionary Government of Zanzibar

Certificate of Registration

Business Entities Registration Act No. 12 of 2012

Registration Number: Z0000196262

The Registrar of Sole-proprietorships and Partnerships hereby certify that

Flying Fox Mill

is on 26th day of June 2023 registered pursuant to and accordance with provisions of Business Entities Registration Act No. 12 of 2012 and that entity is a sole-proprietorship

ORIGINAL STAMPED

With Shs.....

Compared

Having Compared this copy with the Original, I Certify that it is a true copy

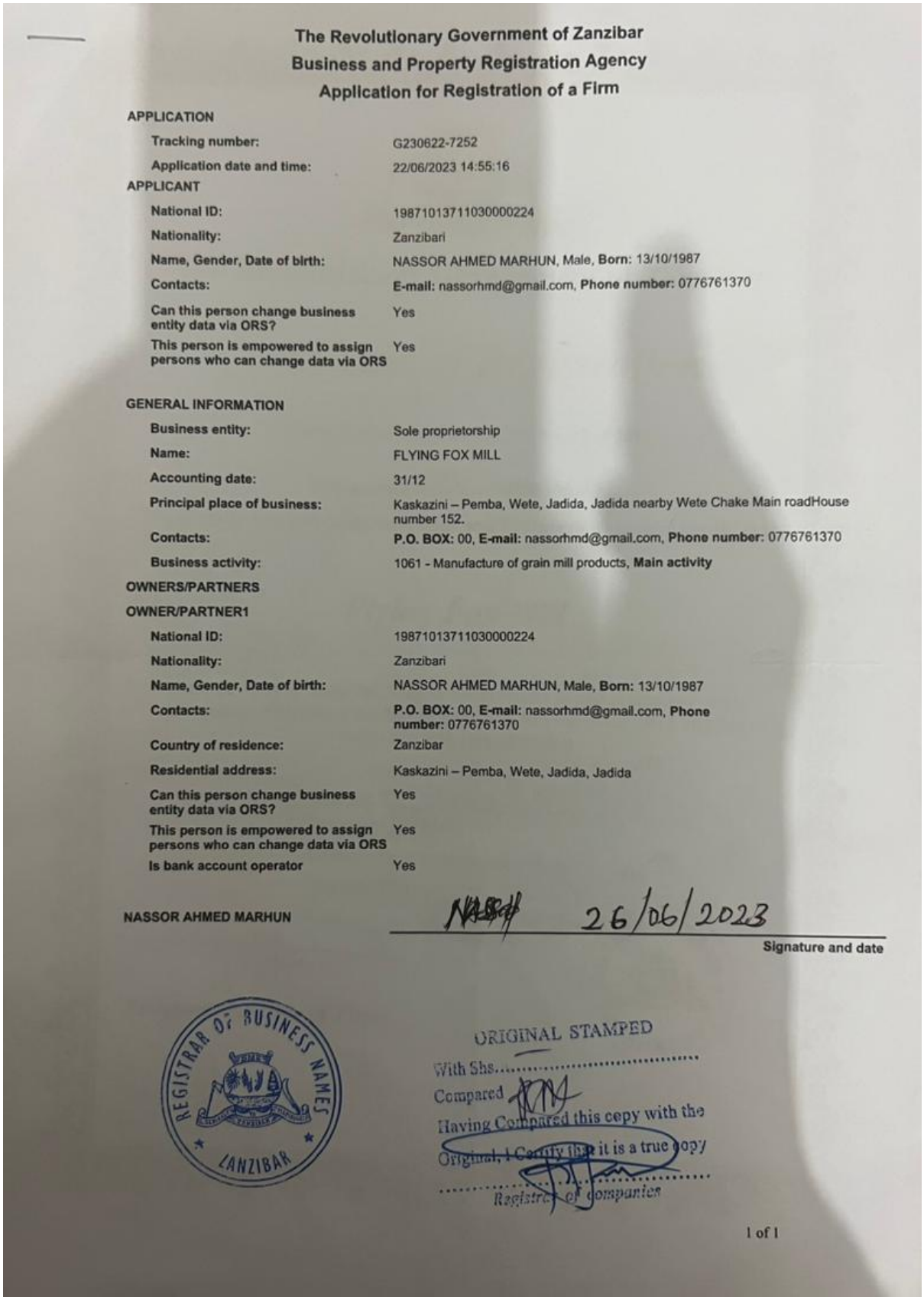
.....

Registrar of Companies

Assistant Registrar of Firms

REGISTRAR OF FIRMS ZANZIBAR

Application of a Firm



The Revolutionary Government of Zanzibar
Business and Property Registration Agency
Application for Registration of a Firm

APPLICATION

Tracking number:	G230622-7252
Application date and time:	22/06/2023 14:55:16

APPLICANT

National ID:	19871013711030000224
Nationality:	Zanzibari
Name, Gender, Date of birth:	NASSOR AHMED MARHUN, Male, **Born:** 13/10/1987
Contacts:	**E-mail:** nassorhmd@gmail.com, **Phone number:** 0776761370
Can this person change business entity data via ORS?	Yes
This person is empowered to assign persons who can change data via ORS	Yes

GENERAL INFORMATION

Business entity:	Sole proprietorship
Name:	FLYING FOX MILL
Accounting date:	31/12
Principal place of business:	Kaskazini – Pemba, Wete, Jadida, Jadida nearby Wete Chake Main roadHouse number 152.
Contacts:	**P.O. BOX:** 00, **E-mail:** nassorhmd@gmail.com, **Phone number:** 0776761370
Business activity:	1061 - Manufacture of grain mill products, **Main activity**

OWNERS/PARTNERS

OWNER/PARTNER1

National ID:	19871013711030000224
Nationality:	Zanzibari
Name, Gender, Date of birth:	NASSOR AHMED MARHUN, Male, **Born:** 13/10/1987
Contacts:	**P.O. BOX:** 00, **E-mail:** nassorhmd@gmail.com, **Phone number:** 0776761370
Country of residence:	Zanzibar
Residential address:	Kaskazini – Pemba, Wete, Jadida, Jadida
Can this person change business entity data via ORS?	Yes
This person is empowered to assign persons who can change data via ORS	Yes
Is bank account operator	Yes

NASSOR AHMED MARHUN 26/06/2023

Signature and date

REGISTRAR OF BUSINESS NAMES ZANZIBAR

ORIGINAL STAMPED
With Shs.....
Compared
Having Compared this copy with the Original, I Certify that it is a true copy
.....
Registrar of Companies

1 of 1

Business owner tax payer certificate of registration

CTIN: 1689335

TRA

TANZANIA REVENUE AUTHORITY

CERTIFICATE OF REGISTRATION
FOR
TAXPAYER IDENTIFICATION NUMBER (TIN)
(ISSUED UNDER SECTION 23 OF THE TAX ADMINISTRATION ACT 2015)

THIS IS TO CERTIFY THAT

MR. NASSOR AHMED MARHUN

T/A FLYING FOX BAKERY

HAS BEEN REGISTERED WITH THE TANZANIA REVENUE AUTHORITY
AND ASSIGNED THE TAXPAYER IDENTIFICATION NUMBER

138-885-542

WITH EFFECT FROM: 06 March 2019

TRA LOCATION: PEMBA TAX OFFICE: WETE

PHYSICAL LOCATION:

STREET / AREA: CHASASA

ELIJAH O. MWANDUMBYA
COMMISSIONER FOR DOMESTIC REVENUE

OFFICIAL SEAL

NOTE: THE REQUIREMENTS UNDER WHICH THIS CERTIFICATE IS ISSUED ARE STATED OVERLEAF

ISMACO certificate of incorporation

The Revolutionary Government of Zanzibar

Certificate of Incorporation

Business Entities Registration Act No. 12 of 2012

Registration Number: Z0000084933

The Registrar of Companies hereby certify that

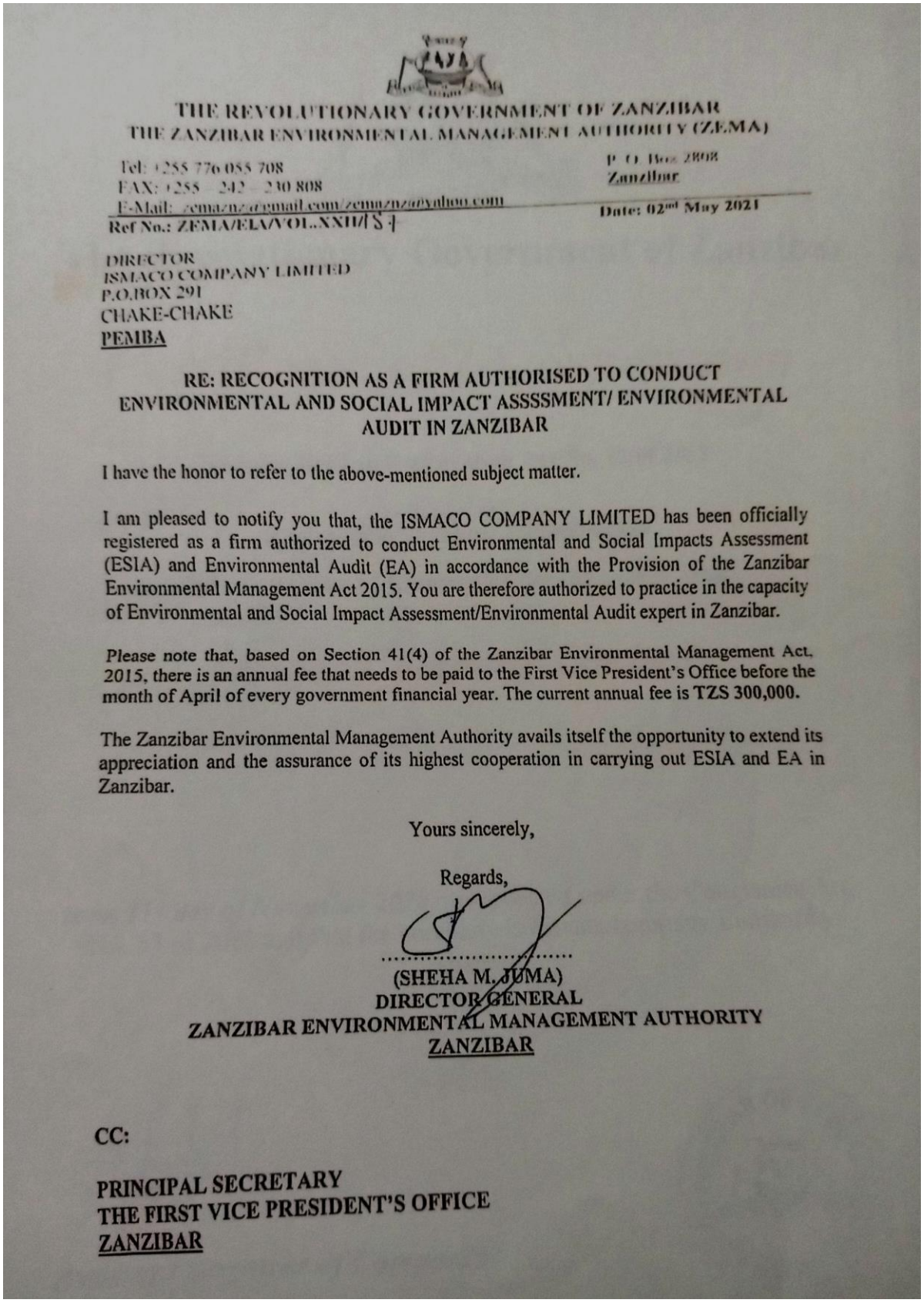
Ismaco Company Limited

is on 11th day of November 2020 incorporated under the Companies Act, No. 15 of 2013 and that the company is Private company Limited by shares

Assistant Registrar of Companies

REGISTRAR OF COMPANIES ZANZIBAR

ISMACO Recognition latter by ZEMA



THE REVOLUTIONARY GOVERNMENT OF ZANZIBAR
THE ZANZIBAR ENVIRONMENTAL MANAGEMENT AUTHORITY (ZEMA)

Tel: +255 776 055 708
FAX: +255 242 230 808
E-Mail: zemaznz@gmail.com/zemaznz@yahoo.com
P. O. Box 2808
Zanzibar

Ref No.: ZEMA/ELA/VOL..XXII/ 5 4
Date: 02nd May 2021

DIRECTOR
ISMACO COMPANY LIMITED
P.O.BOX 291
CHAKE-CHAKE
PEMBA

RE: RECOGNITION AS A FIRM AUTHORISED TO CONDUCT ENVIRONMENTAL AND SOCIAL IMPACT ASSSSMENT/ ENVIRONMENTAL AUDIT IN ZANZIBAR

I have the honor to refer to the above-mentioned subject matter.

I am pleased to notify you that, the ISMACO COMPANY LIMITED has been officially registered as a firm authorized to conduct Environmental and Social Impacts Assessment (ESIA) and Environmental Audit (EA) in accordance with the Provision of the Zanzibar Environmental Management Act 2015. You are therefore authorized to practice in the capacity of Environmental and Social Impact Assessment/Environmental Audit expert in Zanzibar.

Please note that, based on Section 41(4) of the Zanzibar Environmental Management Act, 2015, there is an annual fee that needs to be paid to the First Vice President's Office before the month of April of every government financial year. The current annual fee is **TZS 300,000.**

The Zanzibar Environmental Management Authority avails itself the opportunity to extend its appreciation and the assurance of its highest cooperation in carrying out ESIA and EA in Zanzibar.

Yours sincerely,

Regards,

.....

(SHEHA M. JUMA)
DIRECTOR GENERAL
ZANZIBAR ENVIRONMENTAL MANAGEMENT AUTHORITY
ZANZIBAR

CC:

PRINCIPAL SECRETARY
THE FIRST VICE PRESIDENT'S OFFICE
ZANZIBAR

Abdilah Oth. Mussa (Team leader)	**Academic:** Master of Project Planning and Management, Institute of Rural Development Planning (IRDP), Dodoma. BSc. Environmental Planning and Management, Institute of rural Development Planning (IRDP), Dodoma. Diploma in Development Planning (IRDP), Institute of rural Development Planning, Dodoma. Certificate in Procurement **Contact details:** The ISMACO Company P.O. Box 291, Chake Chake Tel: + 255 652 308 508
Amini Ismail Hamad (Assistance team leader)	**Academic:** MSc. Marine science. University of Dar es Salaam, Institute of Marine Sciences BSc. Biology, University of Dodoma, College of Natural and Mathematical Sciences Contact details: Department of Biotechnology and Bioinformatics, School of Biological Sciences, College of Natural and Mathematical Sciences, Dodoma University - P. O. Box 338, Dodoma, Tanzania. Mobile Phone: +255-713-377399 / +255-77-889492 E-mail:aminisma@yahoo.com