Report Prepared by: Earth Environmental Consultants Ltd
Plot 106
Kantanta Street
Nkana East
Kitwe, Zambia

Client: Kaleya Smallholders Company Ltd (KASCOL)
Plot No. 235a/235A along Livingstone Road
P.O. Box 670371
Mazabuka, Zambia

TITLE: SCOPING REPORT FOR THE PROPOSED CONVERSION OF 2,164HA OF SUGAR CANE IRRIGATION SYSTEM FROM FARROW TO SUB-SURFACE DRIP IN MAZABUKA SOUTHERN PROVINCE

Report No: SC/KDI/01

Issue No: 01

Date of First Issue: September 2021
Date of Second Issue:
Date of Third Issue:

Executive Summary

Introduction

This report is a scoping report for the proposed conversion of sugar cane irrigation system from farrow to sub-surface drip. The proposed project will be located at the Kaleya Estate approximately situated about 7 kilometres from Mazabuka Town, on the eastern side along the Mazabuka to Livingstone road. The proposal is to develop a sub-surface drip irrigation system. Currently the irrigation used is furrow. The proposed development will entail some sugar cane clearing, land preparation and the installation of sub-surface drip irrigation pipes and other auxiliary equipment

KASCOL has water rights of 152,000 m3 per day. Zambia Sugar provides bulk water supply for irrigation pumped from Kafue River to the central reservoirs (Earth dams) before distribution to individual cane fields through a network of canals, for potable water supply, there is a dam near the proposed site so water will be pumped from this dam and distributed to the drip irrigation pipes.

Project Background

Kaleya Smallholders Company Ltd (KASCOL) is one of the leading smallholder agricultural schemes in the Southern African region. Popularly known as KASCOL, it was established in 1980 after Zambia Sugar Plc expanded its milling capacity to meet domestic demand for sugar and to supply excess to the neighbouring countries. Zambia Sugar Plc could not expand its plantation due to limited land availability. Consequently the idea of an out-grower scheme emerged, and among its objectives was the enhancing of Zambian smallholder participation in the sugar cane industry and that of improving the condition of Zambian small-scale farmers. These objectives were achieved to a great extent with the establishment of KASCOL. This project came into existence with the support of the Zambian Government. KASCOL has since evolved from the initial 65 hectares planted in 1981 to the current crop area of 2,500 hectares, of which 1,074.5 hectares belong to the 160 smallholders at KASCO and the rest belong to KASCOL management.

Purpose of the Scoping Report

This Scoping Report represents the first step in the ESIA process for the Project. The development will be guided by the Environmental and Social Impact Assessment (ESIA) Scoping Report for the drip project. This report is prepared to identify the likely significant environmental and social effects (beneficial and adverse) of the proposed development, which will need to be assessed in detail in the subsequent ESIA report before development consent is granted.

This Scoping Report sets out the views of the Project Proponent, with regard to the proposed scope of the environmental and social issues to be considered in the ESIA and the method by which assessment will be undertaken.

The scoping process allows all interested and affected persons and other stakeholders to comment on the proposed development, the scope of the ESIA and the proposed assessment methodology. It also provides an opportunity for stakeholders to raise any issues that they consider to be relevant to the ESIA process.

Particulars of the Project Proponent

The Project developer is Kaleya Smallholders Company Ltd (a statutory body) with its registered address at:

Address: Kaleya Smallholders Company Ltd (KASCOL)
Plot No. 235a/235A along Livingstone Road
P.O. Box 670371
Mazabuka, Zambia

KASCOL Contact person details:

Name: M. Mufana
Designation: Eastate Manager
Phone number: +0978240240
Email Address: mmufana@kascol.co.zm

Regulatory framework

The study will be conducted in compliance with all relevant polices, legislation and institutional requirements. These will include the Environmental Management Act, the Environmental Impact Assessment Regulations, the Environmental Management (Licensing) Regulations, and other relevant regulatory requirements listed in this report. The study will also be conducted in compliance with the International Finance Corporation Performance Standards. The Institutional Framework will be provided by the Zambia Environmental Management Agency, the Ministry of Housing and Infrastructure Development and others listed in this report.

Project Objectives

The main objectives of the project are:

- To convert 2,164ha under furrow irrigation system to sub surface irrigation system at Kaleya estates in Mazabuka District.
- To facilitate optimal use of water resource in the project area
- To help reduce on the incidence of water wastage by the use of the most efficient irrigation system.

Existing Environmental Conditions

Biophysical Environment

Climate

Southern province, like any other province in Zambia has a tropical climate with three distinct seasons: the warm-wet season, stretching from November through April; cool-dry cold season from May to August with the mean temperatures varying between 14ºC and 30ºC. The hot dry season is experienced during the months of September and October. The annual rainfall averages 1240mm, most of which falls in the months of December to February. The rains in southern province (Mazabuka) like the rest of the country are caused by the convergence of the North-east and South-east Trades winds that form the Inter-tropical Convergence Zone (ITCZ). The rainy season of the Province is relatively long and the mean annual rainfall is relatively high. The average

length of the rainy season is just over five months with the December, January and February period experiencing greatest rainfall while November and March have less.

Table 1: Seasons and associated temperatures

SEASON	MONTHS	Min Temperature{ºC}	Max Temperature{ºC}
Cool dry season	May to July	8	21
Hot dry season	August to October	21	32
Hot wet season	November to April	16	16

Precipitation

Southern province receives an annual rainfall in the range of 500mm to 1000mm with a mean annual rainfall of 800 mm, the months of December, January and February receiving over 70% of the rain for an entire year *(Met. NWFR 2010).*

Evapotranspiration

The average annual evapotranspiration for Southern province is 734 mm whilst the average annual potential evapotranspiration is 1,571m. *(Met. NWFR 2010).*

Relative Humidity

Relative humidity varies throughout the year, reaching peak in the wet season. Wet season humidity levels are about 83%, dry season humidity levels are 41%, with mean relative humidity of the area recorded as an average of 65.0%. The relative humidity of the project area is typical of the Mazabuka climatic conditions. The annual relative humidity of the area is 65%, while the average monthly relative humidity ranges from 40.9% in September to 83% in February. The table below shows the summary of relative humidity of the project area.

Table2: Relative Humidity

Month	Jan	Feb	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Relative humidity %	82.5	83	79.7	65.9	61.1	54.6	46.6	40.9	47.3	64.9	80.4

Air Quality

The project area is largely agriculture and is devoid of industries discharging air polluting substances. The air quality is typical of an agriculture and residential area with no industrial activity. The air quality is however, occasionally impacted on by sugar can fires induced during harvesting which generate smoke to form a haze. Localised air pollution is also caused by dust emissions from unpaved road surfaces. This emission is intermittent and not significant in view of the light traffic in the area and the fact that the dust emission usually occurs during windy conditions.

Wind Speed and wind direction

The project site is dominated by prevailing easterly winds during the dry season with fresh winds experienced in the months of July and August. The rains experience light variable winds predominantly northerlies and north-easterlies in January and February. Mean wind speed ranges from 4.0m/s to 9.0m/s.

Noise and Vibration

The source of noise in the project area is limited to vehicular movement of light vehicles and farm equipment. There was no baseline noise data available for the project area at the time of scoping. There were no sources of vibration observed in the project area during the site visit.

Hydrology and hydrogeology

There Kaleya River is the only surface water body near the site. The hydrogeology of the project area is that of deep-seated aquifers with an approximate water table depth of about 15m to 30m,

Landscape and Topography

The proposed project site falls in Mazabuka the predominate topology is that of central Zambia, which is characteristic of the mid-tertiary peneplain of Central Africa, which for the district stands at 1,128 m above sea level in the east and 1,240 m in the west. Flat-topped hills north of the town, marking prominent quartzite horizons, are probably remnants of a Cretaceous peneplain. The geomorphology in detail is more complex and is controlled by the geology. Dolomites and limestones forming typical karrenfeld topography outcrop as flat lying areas, whereas schists and quartzites underlie more broken, hilly country. The older quartzites in particular form extensive ridges several hundred feet high. Schistdolomite boundaries are normally indicated by steep downward slopes. However, this is not the case with the proposed site.

Geology and Soils

Generally, the rocks of the Mazabukas area are metamorphic rocks of Pre-Cambrian age belonging to the Katangan system. As such most of the town is underlain by the calcareous rocks of dolomite, the youngest of the Katangan rock formations, which continues to outcrop over an extensive area to the south and west of the town.

Built Environment

The project site has a mixed type of land use with residential settlements and smallholding around the site. The site is bordered by Kaleya residential area and other commercial farm

Biodiversity

Flora / fauna

The site is generally characterized by short grass, with moderately dense trees typical of Miombo Woodland or Savannah Woodland. A wide concentration of shrubs are scattered around the boundary of the sugar estate. There is no protected ecosystem within or near the project site, neither is it a habitat to any rare or endangered animal species, although there is substantial occurrence of the acacia which were identified during field assessment as *Acacia polyacantha, Acacia giraffae,Acacia gerrardii ,Bauhinia thonningii, Brachystegia longifolia Dichrostanchys cinerea* and some *Combretum species* The flora on site should be preserved by incorporating it in the design to avoid loss of vegetation that can lead to soil erosion and disturbing the ecosystem.

No **rare** and/or **endangered** species exists at the project site.

Socio-economic Environment

Administrative and political organisation and governance

Mazabuka is a town in the Southern Province of Zambia. It is one of the thirteen administrative towns in the Southern Province. The name Mazabuka originates from a Tonga local language word

"Twazabuka" or "Kuzabuka" which means "To cross over the river". It is believed that the name was coined after the Tonga people crossed the *Magoye River* during their migrations. The town lies on the south east edge of the Kafue Flats wetland, along the Lusaka to Livingstone Road. It is approximately 135 kilometres by road southwest of Lusaka, The geographical coordinates of Mazabuka are:15°50'48.0"S, 27°44'51.0"E (Latitude:-15.846667; Longitude:27.747500).[Mazabuka sits at an average elevation of 1,067 metres above mean sea level. The national census and household population survey puts the town population at 71,700 inhabitants.

Political and Civic administration

Administration of Council business at the town level is undertaken by a full time Town Clerk heading the institution. The Mayor gives general and specific guidance to the Town Clerk in his delivery of services. In terms of planning the district Council is guided by the Development Coordinating Committee (DCC) with representation from Heads of Government Departments and other vital institutions in the district. Execution of the DCC's planning decisions on a day to day basis is undertaken by a dedicated Department responsible for Development Planning. Other Council departments involved in implementing development plans include those responsible for Engineering, Public Health and Social Services. Similarly, central government departments implement developmental projects under their respective ministries in liaison with the Council.

Land Tenure

All land in Zambia is vested in the Republican President who holds it on behalf of the Zambian people. Therefore, access to land is on tenure basis as governed by the Lands Act. Basically, there are two main land tenure systems in Zambia namely traditional and leasehold. The project site together with other properties has been designated as commercial industrial area and fall under leasehold.

Land use

According to the Town and Country Planning Act (CAP 283 of the Laws of Zambia) the following constitute key land use categories:

- dwelling-houses, flats or other residential developments of various classes and densities;
- offices, shops and other commercial development;
- industries of various classes and warehouses;
- public buildings and places of assembly;
- Government and local authority or township purposes;
- cemeteries and crematoria;
- schools;
- Agriculture, horticulture and forestry.

Land use in the province encompasses all the above land uses with the major area around the site composed of industries. The land use around the project site is that industries and warehouses as designated by the district council.

Ethnicity

The Province has a diverse mix of ethnic or tribal groupings from different parts of the country. Most (98.7 percent) of Zambia's population comprises about 72 Bantu-speaking ethnic groups. Almost 90 percent of Zambians belong to the eight main ethnolinguistic groups, which are the Bemba, Nyanja-Chewa, Tonga, Lunda, Luvale, Kaonde, Nkoya, and Lozi. Europeans make up 1.1

percent, and others 0.2 percent.. The major vernaculars is tonga while Bemba, Kaonda, Lozi, Lunda, Luvale, Nyanja and about 70 other indigenous languages.

The country is 85 percent Christian, with Catholicism being in the majority. Anglicans, Methodists, Baptists, and Seventh Day Adventists all have established a presence as well. While Zambia is predominantly a Christian country, few have totally abandoned all aspects of their traditional beliefs. Zambia has a very small Jewish community, composed mostly of white Ashkenazi. Muslim, Hindu and Baha'i citizens together represent about two percent of the population.

Population

As per the 2010 Zambian census, Southern Province had a population of 1,589,926 accounting to 12.08% of the total Zambian population of 13,092,666. There were 779,659 males and 810,267 females, making the sex ratio to 1,039 for every 1,000 males, compared to the national average of 1,028.[The literacy rate stood at 71.20% against a national average of 70.2%. The rural population constituted 75.33%, while the urban population was 24.67%. The total area of the province was 85,283 km^2 and the population density was 18.60 per km^2. The population density during 2000 Zambian census stood at 18.60. The decadal population growth of the province was 2.80%. The median age in the province at the time of marriage was 20.6. The average household size was 5.4, with the families headed by females being 4.6 and 5.7 for families headed by men. The total eligible voters in the province was 64.10%.[The unemployment rate of the province was 12.10%. The total fertility rate was 6.1, complete birth rate was 6.2, crude birth rate was 37.0, child women population at birth was 807, general fertility rate was 160, gross reproduction rate was 2.5 and net reproduction rate was 1.8. The total labour force constituted 55.00% of the total population. Out of the labour force, 64.1% were men and 46.7% women. The annual growth rate of labour force was 4.4%.[Tonga is the most spoken language with 74.70% speaking it. condition stood at 3,068. The life expectancy at birth stood at 56 compared to the national average of 51.

.

Religion

Christianity is the dominant religion in the area. Denominations with churches in the settlements close to the project area include Seventh Day Adventist Church (SDA), Pentecostals, Lutheran Wesley Church, Jehovah's Witnesses, New Apostolic Church, Catholic, Anglican Church and Baptist Church.

Health Facilities

Mazabuka town has one general hospitals and some private. The main hospital is Mazabuka general, HIV prevalence rate for Mazabuka districts stands at 15.8 per cent. The national HIV prevalence rate is 17 percent among adults ages 15 to 49. According to Ministry of Health information new infections have been increasing from an estimated 67,602 adults in 2006 and are projected to rise further to 72,019 in 2015. Only 15 per cent of Zambians access counselling despite the country recording a high HIV prevalence rate.

The proposed project is not expected to impact negatively or positively on the existence and operation of health institutions and service delivery in a big way owing to the limited number of staff expected to in-migrate as the majority of staff will be drawn from the local communities. However, the potential for increased respiratory diseases and injuries exist if occupational health and safety measures are not implemented effectively and this could put stress on existing facilities. Another potential source of stress on health services by the project relate to HIV/AIDS. The proposed project will generate employment and increase money circulation in the area. An increase in disposable income by employees and those transiting for business to the area has potential to increase social interaction and despondence especially with sexual workers naturally being attracted to areas of economic boom.

Main causes of transmission include unprotected casual sex, sexual abuse/defilements and sexual cleansing together with limited cases of mother to child transmission. Efforts in place to address the problem include education and sensitization programs as well as, Voluntary Counseling and Testing. Those involved in these programs include Government and Volunteer Health Care providers, Non- Governmental Organizations (NGOs).

Education facilities

Mazabuka district has several school infrastructures; almost each and every township has two or more schools. Despite the number of schools in each and every township, the levels of illiteracy are still high due to poverty levels especially in the unplanned settlements of the district. This situation makes it difficult for pupil progression after Grade 9 because most pupils do not have enough money to take them to higher levels of education.

Water Supply and Sanitation Facilities

Water supply in the district is centralized and water is supplied by Southern Water and Sewerage Company (SWSC). However, the supply of water is limited to areas surrounding the central business district. The outlying areas mostly comprise localized systems of water and sanitation. The key sources of water for domestic use mainly comprise shallow wells and boreholes in the unplanned settlements. Of these, the most preferred water source is borehole water. However, the distribution of boreholes is far apart with some households having to cover more than 300m to access borehole water and this status is an indicator that more needs to be done to improve safe water supply in the unplanned settlements. Most boreholes are sunk by the local authority using resources from the Constituency Development Fund, while individuals also hire private borehole drillers. The main source of water at the proposed project site is the borehole.

Transport, Communication and Energy Infrastructure

Mazabuka has a number of road networks, the main roads that connect the town to different parts of the country is the Kafue to Livingstone Road, Road. A number of gravel roads also exist within the townships leading to various parts of the district. Consequently, the majority of the travelling public use road transport mostly public buses and minibuses. It is also not uncommon to see pedestrians, cyclists, and motor riders in the district.

Radio and television reception from the Zambia National Broadcasting Corporation and private stations are also accessible in the area. Other digital networks are also available providing TV and other communication services. The area is equally serviced in terms of mobile phone communication with all the three mobile phone service providers namely Cell Z, MTN and Airtel present in the area making it easy for local people to easily communicate using mobile phones. This consequently enhances social interaction and business transactions. However, connectivity varies from place to place.

In terms of energy, Mazabuka is well connected to the national grid. Although the grid line passes through most areas of the district, the costs involved in installing transformers to step down power for consumption is a major limiting factor to electricity access. Consequently, only those with enough money to afford high connection costs have access and this comprise mostly of those educated and working and/or those who own some business. The main source of electricity at the site is ZESCO.

Analysis of Project alternatives

The best alternatives will be adopted for implementation.

- *Site alternative*- The allocated land is the only feasible site in the area, as it is integral to the Councils Development Plan, and is owned by Kascol for the specific purpose of sugar cane cultivation.
- *Design alternative*- The adopted design for the proposed Project is the sub surface drip irrigation. An appropriate design is vital to the effectiveness of the Project in terms of cost, material and market suitability.
- *Power alternative*- The proposed energy source for the Project site is hydro-power connected through the Zambia Electricity Supply Corporation Limited (ZESCO) mains. The alternative power source considered was the use of on-site generators or solar panels but this was not adopted due to the continuous supply of power required at the facility, and the cost of implementation for a medium cost facility.
- *Water supply and sewer disposal*- The adopted water supply alternative is the use of boreholes since there is no immediately identifiable Water mains from Southern Water and Sewerage Company Limited (SWSC) in proximity to the site. The use of sewer ponds or mechanised treatment systems is being considered for waste water treatment as opposed to a connection to SWSC serviced lines which have not been identified near the site.
- *Raw material alternative*- The raw material for the construction of the proposed Project will be laterite, building/river sand, steel, aluminium and PVC pipes which will be acquired locally, and only when they are not available locally will they be acquired outside the district area.
- The no-Project alternative in respect to the proposed conversion of the drip irrigation Project implies that the status quo is maintained. Under the no-Project alternative, the existing furrow irrigation will not change; the cost and ineffective use of the water resource with furrow irrigation will continue

Consultation and Public Participation

Public consultation in the framework of the proposed Project is organised in three main stages:

- Pre-Scoping phase consultation;
- Scoping phase consultation; and
- Environmental and Social Impact Assessment (ESIA) phase consultation

Analysis of possible information gaps

Full descriptions of the ESIA methodologies to be employed along with supporting studies that will be conducted are included in the Terms of Reference submitted to the Zambia Environmental Management Agency (ZEMA) for this ESIA. Any limitations or absence of data that may lead to uncertainties during impact prediction and evaluation will be considered and articulated in the ESIA. Monitoring measures will be put in place to address any uncertainties where applicable.

This Scoping Report has been developed based on the expert opinion of the Project team, desktop studies of the information available for the Project area, data collected during the initial site visit and information from the stakeholders during the scoping meetings. The ESIA team will make commitments to carry out adequate baseline surveys to fill some of the information gaps.

CONTENTS

List of Figures

List of Tables

Abbreviations & Acronyms

Acronym	Description
AIDS	Acquired Immune Deficiency Syndrome
BSAP	Biodiversity Strategy Action Plan
CBD	Central Business District
CBD	Convention on Biological Diversity
CHS	Community Health Safety
CITES	Convention on International Trade and Endangered Species
CO_2	Carbon Dioxide
SWSC	Southern Water and Sewerage Company
ECZ	Environmental Council Of Zambia
EHS	Environmental Health and Safety
EIA	Environmental Impact Assessment
EIS	Environmental Impact Statement
EMA	Environmental Management Act
EPPCA	Environmental Protection and Pollution Control Act
EPRP	Emergency Preparedness and Response Plan
ESIA	Environmental and Social Impact Assessment
ESIS	Environmental and Social Impact Statement
ESMP	Environmental and Social Management Plan
ESMS	Environmental and Social Management Systems
GDP	Gross Domestic Production
GIIP	Good International Industry Practice
GMO	Genetically Modified Organism
Ha	Hectare
HIV	Human Immune-deficiency Virus
IAP	Interested and Affected Persons
IDPs	Internally Displaced Persons
IFC	International Finance Corporation
ILO	International Labour Organization
KASCOL	Kaleya Smallholders Company Ltd
NBSAP	National Biodiversity Strategy Action Plan
NCC	National Council for Construction
NCS	National Conservation Strategy
NEAP	National Environmental Action Plan
NEP	National Energy Policy
NGO	Non-Governmental Organization
NHCC	National Heritage Conservation Commission
NPS	National Pension Scheme
NPS	National Pension Scheme
NSDI	National Spatial Data Infrastructure
OHS	Occupational Health and Safety
PS	Performance Standards
R-NASF	Revised National HIV and Aids Strategic Framework
RTSA	Road, Transport and Safety Agency
TOR	Terms of Reference

UNFCCC	United Nations Framework Convention on Climate Change
ZEMA	Zambia Environmental Management Agency
ZESCO	Zambia Electrical Supply Corporation Limited
ZICTA	Zambia Information and Communication Technology Authority

1 INTRODUCTION

1.1 Overview of the Project

Kascol has 2,500ha of arable land whose current irrigation methods is as follows

a) Furrow - 2,164 ha,
b) Sprinkler - 8 ha,
c) Pivot - 328 ha

With funding from DFCD and WWF for developmental Impacts evaluation, it intends to put some of this money for the preparation of an Environmental Social Impact Assessment (ESIA) for the proposed conversion of the 2,164ha under furrow irrigation to sub-surface drip irrigation
.

In September 2021, Kaleya Smallholders Company Ltd (KASCOL) entered into a contract with Earth Environmental Consultants to conduct an environmental assessment for the development of the sub surface drip irrigation at Kaleya sugar cane estates.

The proposed project comprises the conversion of 2,164ha of land under furrow irrigation to sub surface in Mazabuka Districts of southern Province. The Project site is located to the south east of Mazabuka town approximately 7km from the Central Business District (CBD).

Figure 1.1shows the location of the proposed Project site and Figure 1.2 shows the general layout of the proposed site.

1.2 Purpose of the Report

This Scoping Report represents the first step in the ESIA process for the Project. The development will be guided by the Environmental and Social Impact Assessment (ESIA) Scoping Report for the drip irrigation project. This report is prepared to identify the likely significant environmental and social effects (beneficial and adverse) of the proposed development, which will need to be assessed in detail in the subsequent ESIA report before development consent is granted.

This Scoping Report sets out the views of the Project Proponent, with regard to the proposed scope of the environmental and social issues to be considered in the ESIA and the method by which assessment will be undertaken.

The scoping process allows all interested and affected persons and other stakeholders to comment on the proposed development, the scope of the ESIA and the proposed assessment methodology. It also provides an opportunity for stakeholders to raise any issues that they consider to be relevant to the ESIA process.

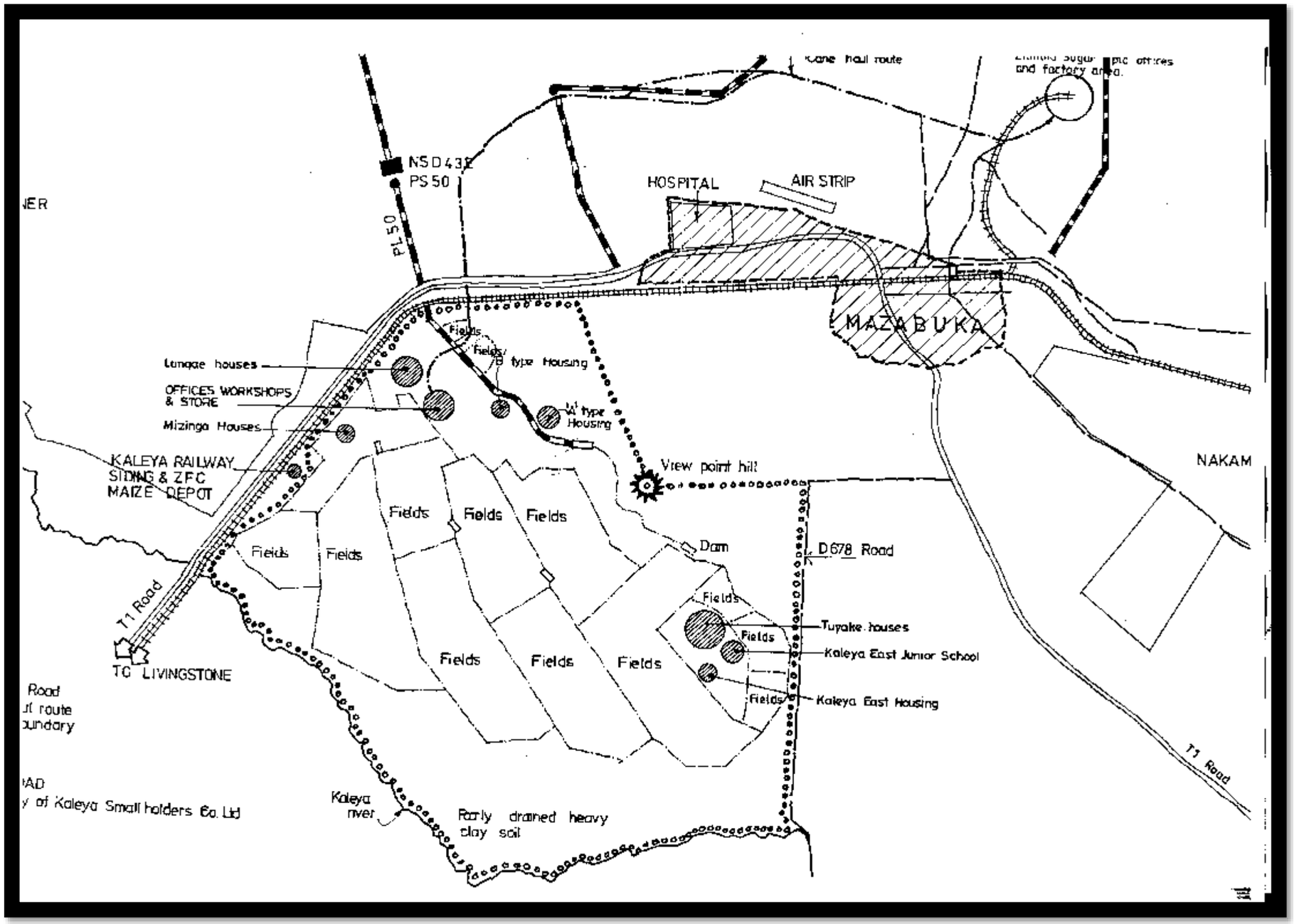


Figure 1.1: Location of the Proposed Project Site

Figure 1.2: General Proposed Project Site Layout

1.3 The Project's Environmental and Social Impact Assessment (ESIA) Process

The Project Proponent's overall approach to the ESIA follows The Environmental Management Act (EMA) of 2011, read together with the Environmental Impact Assessment (EIA) Regulations of 1997 and will be performed in accordance with international lending guidelines as defined by the International Finance Corporation (IFC) Performance Standards (PSs) of 2012.

According to the EIA Regulations, 1997, the proposed Project falls under the Second Schedule which requires an Environmental and Social Impact Assessment (ESIA).

The first step in the ESIA process is the Scoping process which was commenced by Earth Environmental Consultants. The aim was to define the required scope of the ESIA. The scoping process has the following objectives:

- Identify district and community stakeholders that could be affected by the Project, as well as other interested parties;
- Ensure adequate stakeholder engagement on environmental and social issues that could potentially affect them through a process of information disclosure and meaningful consultation;
- Maintain a constructive relationship with stakeholders on an on-going basis through meaningful engagement during the different phases of the Project (e.g. alternatives assessment, scoping, ESIA and Project implementation);
- Preliminarily identify and assess environmental and social impacts and issues, both adverse and beneficial, associated with the Project;
- Identify measures to avoid, or where avoidance is not possible, minimise, mitigate, or offset/compensate for adverse impacts on workers, affected communities, and the environment; and
- Identify and, where feasible, adopt opportunities to improve environmental and social performance.

This Scoping Report presents the findings of the scoping process on the basis of the available information. Section 9 gives a summary of the Scoping consultation meetings that have been conducted to inform the scoping process. Consultation activities will continue throughout the Project life cycle.

The second step in the ESIA process will be the baseline studies which will involve the assessment and description of the existing environmental and social conditions in the Project area. Areas of possible resettlement as a result of the Project will be identified.

The third step in the ESIA process will involve the identification and evaluation of the positive and negative impacts of the Project activities.

The fourth step in the ESIA process will involve adequate stakeholder consultation and disclosure of Project activities. Stakeholder engagement will be sustained throughout the Project lifecycle to obtain the public's views and consent for the proposed Drip irrigation Project.

The fifth step in the ESIA process will involve the identification of mitigation and/or enhancement measures for all the Project impacts identified. The ESIA team will assess Project alternatives with regards to the biophysical, social and cultural environment.

1.4 ZEMA Requirements of the Scoping Phase

The Second Schedule in the Environmental Impact Assessment Regulations No. 28 of 1997 specifies that the scoping study should be conducted with the aim to:

i. Identify the various alternatives for the development of the Project (sites, technology and design).
ii. Identify all the possible environmental impacts of the Project.
iii. Determine which of the impacts shall be the subject of the study based on the following criteria:
   - magnitude, including the impact of the Project on environmental resources;
   - extent, including the geographical extent of the impact;
   - significance, including the actual effects of the impacts on the environmental resource; and
   - Special sensitivity, including impacts which are significant in the specific local economic, social and ecological setting.

ZEMA also requires that the affected community is engaged through adequate public consultation and participation during the scoping phase. Other relevant information includes: maps, photographs, signed list of meeting attendees and meeting minutes.

2 PROJECT BACKGROUND

2.1 History of the Project

2.1.1 The Kascol model

Two drivers triggered the establishment of the KASCOL model. One was the need of the Zambia Sugar Company, at the time the sole sugar milling company in the country, to expand the area of sugarcane after it had expanded its plant processing capacity in the Mazabuka district. The other was the interest of the Zambian Government to improve the incomes of the poor by involving them in the sugar industry.

The Commonwealth Development Corporation (CDC) was asked to suggest an organisational model based on its experience with similar projects in Africa. The model suggested by CDC would create a sugarcane production and farming services company (KASCOL) which would,

a) Own the 4,179 hectares of land given by the Zambian Government for the development of this project
b) Would lease part of the 2,500 hectares of arable land to smallholders for the production of sugarcane
c) Would plant its own sugarcane on the remaining area to cover its overhead costs
d) Would provide agricultural services and advice to the smallholders; and
e) Would facilitate relationships between the smallholders and the Zambia Sugar Company who would provide irrigation water and buy the sugarcane. The smallholders would assume the responsibility of activities such as ridging, smut rouging, chemical application, weeding, and irrigating their cane fields. KASCOL would be responsible for cane-harvesting; supervising the farmers' field activities; replanting the cane; water management; providing the technical, financial, and managerial skills; grading community roads; and providing other social amenities such as domestic water and recreational facilities to smallholders. In 1980, the company was formed.

2.2 Justification of the Project

Drip irrigation is the most efficient water and nutrient delivery system for growing sugar cane and other crops. It delivers water and nutrients directly to the plant's roots zone, in the right amounts, at the right time, so each plant gets exactly what it needs, when it needs it, to grow optimally

2.3 Description of the Project Area

The proposed Project is located about 7km for Mazabuka CBD along the Mazabuka to Livingstone. There is significant amount of traffic with both small vehicles and haulage trucks using the road.

The flora on and around the Project site is characterised by the miombo and savanna vegetation. Land use in the Project area is mainly for agriculture by the surrounding communities. Agricultural activities range from subsistence small scale farming to medium scale and right through to commercial farming.

Mazabuka is connected to the three main telecommunication network provider's namely; Zamtel, Airtel and MTN. Other modes of communication include the Post Office for Zambia Postal Services.

2.4 Associated Projects within the Region

It should be noted that at the time of the study commercial farming such as the Nakambala sugar estates are within the area that would compete for the same resources as the proposed project.

2.5 By-Products and Processes

The table below summarises the processes and corresponding by products expected from the proposed project. The Management plan to be prepared shall include the handling of by products that have the potential to harm the environment.

Table 2.1: Processes and corresponding by-products

Phase	Process	By-product/ waste
Construction	Land Clearing and Excavation	Wood waste, Top soil.
	Concrete mixing	Slurry
	Maintenance of Construction Equipment	Waste oil, Batteries and Tires
	Construction	Packaging material, scrap material, wood waste
Operation/ Maintenance	Occupation of Housing Units	Domestic waste, Sewage, and tree/wood chippings.

Where applicable, waste will be reduced, reused and recycled employing Good International Industry Practice (GIIP). Where reuse or recycling is not an option, wastes will be collected and disposed of at the closest ZEMA approved dump site.

2.6 Resources Required for Successful Implementation of Project

The resources required for successful implementation of the project include:

- Water resource
- Materials e.g. aggregate, cement, steel, petroleum products, gravel, etc.
- Human resource
- Capital (Finances)
- Machinery
- Plant and Equipment
- Electrical Infrastructure

2.7 Parties involved

2.7.1 The Project Developer

The Project developer is Kaleya Smallholders Company Ltd (a statutory body) with its registered address at:

Address: Kaleya Smallholders Company Ltd (KASCOL)
Plot No. 235a/235A along Livingstone Road
P.O. Box 670371
Mazabuka, Zambia

KASCOL Contact person details:

Name: M. Mufana
Designation: Eastate Manager
Phone number: +0978240240
Email Address: mmufana@kascol.co.zm

Table 2.2: Details of Directors

SHAREHOLDING IN KASCOL		
NAME	**% SHAREHOLDING**	**NO OF SHARES**
Development Bank of Zambia	25.00%	250,000
Mazabuka sugar cane growers trust	25.00%	250,000
Growers investment holdings limited	30.50%	305,000
Kaleya smallholders farmers trust	19.50%	195,000
Total	100.00%	1,000,000

SHAREHOLDERS REPRESENTATIVES

SHAREHOLDERS REPRESENTATIVES NAME	INSTITUTION	PHONE	EMAIL
Dr. Samuel Bwalya	Development Bank of Zambia	0971021036	smbwalyas@dbz.co.zm
Ms Hephzibah Beyani	Mazabuka Sugar Cane Growers Trust	0760633424	Hbeyani@zamsugar.zm
Mr. Muna Hantuba	Grower Investment Holdings Limited	0977770833	hantuba@aflife.co.zm
KAST Chairman	Kaleya Smallholders Trust	0979499602	kastchairman@kascol.co.

2.7.2 The ESIA Consultant

Earth Environmental Consultants was engaged by the Project Developer as the ESIA Consultant for the proposed Project and the consultants details are shown in Table 2.2.

Table 2.3: ESIA Consultant Contact details

ESIA Consultant contact details	
Name of company	Earth Environmental Consultants
Contact	Lovemore Muma
Address	Plot 106 Kantanta Street Nkana East Kitwe
Telephone	+260 966904567
Email	earth@zambia.co.zm

2.8 Policy Framework

The National Conservation Strategy (NCS) is the forerunner to environmental legislation in Zambia. The NCS was adopted by the Government of Zambia in 1985 and led to the enactment of the Environmental Protection and Pollution Control Act in 1990 and provided for the establishment of the Environmental Council of Zambia (ECZ) which became operational in 1991. The NCS provided guidance for the sustainable development of Zambia through the use and conservation of natural resources within a centrally planned and controlled economy. However in 1992, the National Environmental Action Plan process was established to update the NCS, to meet the demands of an economy undergoing liberalisation and to update technical information.

The following policies are relevant to the proposed housing Project.

1. Zambia Vision 2030

The developmental vision of Zambia, to become a prosperous middle-income country by 2030, is elaborated in a document entitled Vision 2030. The Vision 2030 is founded on seven key basic principles. These principles are: (i)sustainable development; (ii) upholding democratic principles; (iii) respect for human rights;(iv) fostering family values; (v) a positive attitude to work; (vi) peaceful coexistence; and (vii) upholding good traditional values. The characteristics of the nation that Zambia is building can be described as follows:

a. A common and shared destiny, united in diversity, equitably integrated and democratic in governance, promoting patriotism and ethnic integration;
b. Devolved political systems and structures while retaining the roots and positive aspects of their own mould of social, cultural and moral values;
c. A continuous path of ever refining, ever advancing and ever consolidating democratic dispensation and progressive adaptation from global best practices;
d. Economically, socially and politically integrated within the sub-region, Africa and the rest of the world;
e. Diversified and balanced and strong industrial sector, a modern agricultural sector and an efficient and productive services sector;

f. Technologically proficient, fully able to adapt, innovate and invest using its human and natural resources;
g. Strong and cohesive industrial linkages in the primary, secondary and tertiary sectors;
h. Sustained high and increasing productivity levels with regard to every factor of production;
i. Well developed and maintained socio-economic infrastructure;
j. A robust and competitive transport and communications network that services the region;
k. Strong entrepreneurial capabilities, self-reliant, outward looking and enterprising, where nationals take advantage of potential and available opportunities;
l. Exemplary work ethics, honesty, high human and ethical values, quality consciousness and the quest for excellence;
m. A macroeconomic environment conducive for growth;
n. Development policies consistent with sustainable environment and natural resource management principles;
o. Access for all to good quality basic human necessities such as shelter, titled land, health and education facilities and clothing;
p. Diversified education curricula that are responsive to the knowledge, values, attitudes and practical skill needs of individuals and society at large;
q. Regional centre of excellence in health and education;
r. Decent work opportunities that ensure respect for fundamental human rights and principles;
s. Opportunities for all citizens to become resourceful and prosperous nationals;
t. Decentralized governance systems; and,
u. Safe and secure social environment.

Relevance: *This project addresses both the provision of the provision of decent work opportunities*

2. Seventh National Development Plan

The Seventh National development Plan is the vehicle that will deliver the broad objectives of Vision 2030 during the period 2017 -2021. The integrated approach recognises the multi-faceted and interlinked nature of sustainable development which calls for interventions to be tackled simultaneously through a coordinated approach to implementing development programmes. The key development outcomes envisioned by this plan include economic diversification and job creation; poverty and vulnerability reduction; reduced developmental inequalities; enhanced human development; and an enhanced governance environment for a diversified and inclusive economy.

Relevance: *This project reduces inequalities through providing access to for middle-income groups.*

3. National Resettlement Policy - 2015

The policy aims to protect the resettlement land and provide for the welfare of persons resettled in order to achieve stability and sustained development and improved livelihoods. The policy has the following guiding principles:

- The Government shall ensure that guidelines and procedures regarding settler selection criteria are clearly spelt out.

- The size of the land allocated shall be commensurate to the ability of the settler to develop the land and/or be adequate to support an average family with basic subsistence food and reasonable surplus.
- Two (2) types of settlement patterns shall be promoted by the Government. The first is the dispersed type of settlement pattern where each settler has his own dwelling house and family on his farm. The second type is the concentrated settlement pattern where settlers' dwelling houses are clustered next to each other in communal /village setup.
- There is need to provide basic public services in resettlement schemes if settlers are to be attracted and encouraged to settle there.
- The Government will as much as practicable, encourage the use of the already existing ministries/institutions to carry out activities relevant to their respective mandates in the resettlement schemes. This also includes forging partnerships with all interested stakeholders including Cooperating Partners, the private sector and NGOs.
- Involuntary resettlement should be in line with the international human rights and humanitarian law as set out in the 1998 United Nations Guiding Principles on Internal Displacement, which are recognised as an important international framework for the protection of internally displaced persons.
- Humanitarian and development aid to Internally Displaced Persons (IDPs) and other vulnerable populations should not place them in greater danger or empower those responsible for the violence, exploitation or abuse suffered by IDPs. External aid should not produce inequalities or dependencies, nor should it exacerbate local tensions.
- Involuntary resettlement should be avoided where feasible. Where population displacement is unavoidable, it should be minimised by exploring all viable project options.
- People unavoidably displaced should be compensated and assisted, so that their economic and social future would be generally as favourable as it would have been in the absence of the project or better.

Involuntary resettlement should be conceived and executed as part of the project. The full cost of resettlement and compensation should be included in the presentation of project costs and benefits.

***Relevance**: Any displacement that might be triggered by the project will be guided by this policy.*

4. Agricultural Policy

The aim of the Agriculture Policy is to facilitate and support the development of a sustainable and competitive agricultural sector that assures food security at national and household levels, and maximises the sector's contribution to Gross Domestic Product (GDP).

The policy has the following specific objectives:

- To ensure national and household food security through an all-year round production and post-harvest management of adequate supplies of basic foodstuffs at competitive costs;
- To contribute to sustainable industrial development by providing locally produced agro-based raw materials;
- To increase agricultural exports thereby enhancing the sector's contribution to the National Balance of Payments;

- To generate income and employment through increased agriculture production and productivity; and
- To ensure that the existing agricultural resource base is maintained and improved upon.

***Relevance**: Impacts of the project on any agricultural areas will be governed by this policy.*

5. National Energy Policy - 2008

The aim of the 2007 NEP is to create conditions that will ensure the availability of adequate supply of energy from various sources, which are dependable, at the lowest economic, financial, social and environmental cost consistent with national development goals. This policy seeks to ensure environmentally sustainable exploitation of the biomass resource, to expand generation and transmission capacity and also increase accessibility to electricity and private sector participation. The policy seeks to ensure an adequate, reliable and affordable supply of petroleum products. On sources of energy, the policy aims to increase the contribution of coal, to promote the exploitation of Uranium and to increase the deployment of renewable energy sources. The energy policy seeks to reduce dependence on wood fuel and ensure sustainable provision of affordable, reliable modern energy services to rural and urban households as a means of raising productivity and standards of living.

***Relevance**: Supply of energy to housing structures will be governed by this policy.*

6. National Policy on Environment - 2007

The National Policy on Environment was developed in 2007 to safeguard the environment and ensure the sustainable use of natural resources. The purpose of the policy is "to create an umbrella policy for the welfare of the Nation's environment so that socio-economic development will be achieved effectively without damaging the integrity of the environment or its resources".

The National Policy on Environment aims to achieve increased economic growth that is not damaging to the environment and natural resources. The policy recognises the need to develop and promote alternative energy sources to fuel-wood and technologies to reduce the use of fuel-wood and enhance carbon-sinks. It offers strategic guidance on key economic sectors related to the environment.

***Relevance**: This policy guides the planning for sustainability in development activities such as the proposed project.*

7. National Water Policy - 2010

The National Water Policy is the main policy framework for the water and sanitation sector in Zambia. The Policy was developed and adopted by the Government of the Republic of Zambia in 1994, and updated in 2010. The National Water Policy envisions “to optimally harnessing water resources for the efficient and sustainable utilization of this natural resource to enhance economic productivity and reduce poverty”. In order to achieve the national goal of increasing accessibility to reliable safe water by all sectors of the economy the policy addresses two broad categories of water resources management and development. The major outcome of the policy is to improve the management of water resources, institutional coordination and defined roles and responsibilities. The policy encourages the use of water resources in an efficient and equitable manner consistent with the social, economic and environmental needs of present and future generations.

Relevance: *The provision of water supply to the project is guided by this policy.*

8. National Industrial Policy - 2018

This policy aims to ensure the growth of industrial activity in the country especially for Micro, Small and Medium Enterprises. In addition, it serves as a framework for collaboration between the Government, private sector stakeholders and cooperating partners in the development of the Zambian Industrial Sectors. The policy aims to foster new industrial capacity, promote the diversification of production, facilitate the creation of inter-sectoral and inter-industry linkages, promote the establishment of cooperatives across value chains, promote the development of industry specific skills and facilitate the shifting of economic activity towards higher value-added activities to spur sustainable economic growth. This Policy focuses on eight (8) Manufacturing sub-sectors as priority drivers of Industrialisation. The priority sub-sectors are as follows:

- Processed Foods;
- Textiles and Garments;
- Engineering Products;
- Wood and Wood products;
- Leather and Leather Products;
- Mineral (metallic and non-metallic) processing and products (beneficiation);
- Pharmaceuticals; and
- Blue Economy

In addition to the eight priority sub-sectors, Construction, Agriculture, Tourism, Education, Energy, ICT and Health, will be the key supportive sectors.

Relevance: *The purchasing of engineering products for the construction phase will be guided by this policy.*

9. National Social Protection Policy - 2014

The overall objective of this policy is to contribute to the well-being of all Zambians by ensuring that vulnerable people have sufficient income security to meet basic needs and protection from worst impacts of risks and shocks. Specific objectives are to:

- Reduce extreme poverty and destitution among vulnerable and poor households;
- Enhance food and nutrition security for vulnerable populations;
- Build the human capital of extreme poor households;
- Attain an all-inclusive and comprehensive Social Security System;
- Achieve Universal Health Coverage through Social Health Insurance for all, with a special emphasis on the Vulnerable and the marginalised population groups;
- Enhance access by poor and vulnerable populations to productive resources and skills;
- Promote employment opportunities and income generating activities for the unemployed and other vulnerable groups;
- Increase livelihood potential among vulnerable populations;
- Protect vulnerable populations from all forms of abuse, violence, discrimination, denial and neglect;
- Enhance the social status and progressive realization of the socio -economic and cultural rights of the excluded and marginalised;
- Safeguard and promote the realisation of the right to an adequate standard of living for people living with disabilities; and

- Ensure equitable access to opportunities by persons living with disabilities.

***Relevance**: This policy ensures the consideration and protection of all social groups that will be impacted by the project, as well as the promotion of employment opportunities through the construction phase.*

10. National Policy on Disability – 2012

An Act to continue the existence of the Zambia Agency for Persons with Disabilities and define its functions and powers; promote the participation of persons with disabilities with equal opportunities in the civil, political, economic, social and cultural spheres; provide for mainstreaming of disability issues as an integral part of national policies and strategies of sustainable development; incorporate a gender perspective in the promotion of the full enjoyment of human rights and fundamental freedoms by persons with disabilities; ensure accessibility by persons with disabilities to the physical, social, economic and cultural environment, and to health, education, information, communication and technology; provide for the regulation and registration of institutions that provide services to persons with disabilities and organizations of, and for, persons with disabilities; continue the existence of the National Trust Fund for Persons with Disabilities; provide for the domestication of the Convention on the Rights of Persons with Disabilities and its Optional Protocol and other international instruments on persons with disabilities to which Zambia is party, in order to promote, protect and ensure the full and equal enjoyment of all human rights and fundamental freedoms by persons with disabilities and to promote respect for their inherent dignity; repeal and replace the Persons with Disabilities Act, 1996; and provide for matters connected with, or incidental to, the foregoing.

***Relevance**: This policy will guide the design and access points to ensure persons with disabilities have suitable access to all public facilities*

11. National Employment and Labour Market Policy – 2004

The main objective of the Employment and Labour Market Policy is to create adequate and quality jobs under conditions that ensure adequate income, protection of workers' and basic human rights.

The National Employment and Labour Market Policy is directed by the following principles:

- Equity: facilitation of equitable and freely chosen productive employment for all;
- Equality: remunerations that are equal for work of equal value;
- Responsiveness: a free and responsive labour market environment where players have no undue leverage against one another;
- Social Protection: a comprehensive social protection system for people of all walks of life to avoid all forms of destitution;
- Productivity: a productive work culture among the workforce;
- Social Dialogue: facilitation of continuous social dialogue among players on the Labour Market; and
- Sustainability: sustainable development through effective implementation of the National Employment and Labour Market Policy

***Relevance**: This policy will guide the terms of reference for the contractor to ensure fair employment conditions during construction.*

12. National Policy on Wetlands – 2018

The aim of the policy is to ensure the wise use of wetlands and their resources, and to create a comprehensive, stakeholder-based institutional and legal framework for their management.

The specific objectives are:

- To promote the integrity and natural productivity of wetland ecosystems and the maintenance of their functions and values to conserve their biodiversity;
- To promote their socio-economic development potential and contribution to the local and national economy;
- To strengthen the legal and institutional framework for their management;
- To promote a multi-sectorial approach to planning and management;
- To develop public education and awareness;
- To promote research, inventorying and monitoring of wetland resources;
- To conserve wetlands;
- To promote international action of national interest for the conservation of wetlands;
- To restore degraded wetlands;
- To promote community participation and ensure equitable sharing of benefits;
- To provide training and strengthen the capacity of wetland conservation institutions;
- To promote "new" and created wetlands.

***Relevance**: This project does not impact any wetlands directly; however this policy will guide treatment of any impacts to wetlands as a result of expansion to utility lines and facilities in the future due to development.*

13. Draft National Fisheries Policy – 2009

The aim of the policy is to provide an overall national vision for the development of the sector. The National Fisheries Policy seeks to give substance to the national fisheries vision. The policy prescribes the institutional arrangements for the management of the fisheries sector and identifies relevant stakeholder institutions that will support implementation to address current concerns. The objectives of the policy are:

- To increase the quality and quantity of aquaculture production at both small-scale and industrial levels.
- To ensure and increase the production of a diversified range of fish products including finfish and crustaceans from aquaculture.
- To identify fishery areas with potential for live ornamental fish production and encourage development of aquarium fisheries;
- To increase fish production in small water bodies.

***Relevance**: This Project does not impact any aquaculture as there is a robust water monitoring system of discharge of waste to natural bodies close to the project site.*

14. Draft Livestock Development Policy – 2012

The overall objective of the Livestock Development Policy is to promote increased and sustainable livestock production, productivity and management in order to ensure food security, income generation, creation of employment opportunities and a reduction in poverty levels. The following are some of the principles:

- The endeavour to create an economic environment which encourages individual initiative and self-reliance among the people and promote private investment.
- Inclusiveness in the formulation of development plans and programmes.
- The stimulation of agriculture, industry and technological development.
- The eradication of poverty and illiteracy.
- The institution of measures for disaster management and preparedness.
- Development and preservation of local languages.
- Protection to privacy.
- Protection of consumer rights.
- Protection of health, safety and economic interest.
- Access to information.
- Rights of the citizen to food, water, sanitation and a safe environment.
- Sustainable and productive management of land resources.
- Sound conservation and protection of ecologically sensitive areas.
- The respect of the integrity of natural processes and ecological communities including conservation of habitats and species.
- The sustainable exploitation, utilization, management and conservation of the environment and natural resources for the present and future generations.
- Protection of genetic resources and biological diversity.

***Relevance**: This policy will be considered with respect to potential impacts to livestock which may graze close to the project area, specifically during construction phase.*

15. Draft National Land Policy - 2015

The objectives of the Draft National Land Policy are as follows:

- Ensure that boundaries are clearly marked in order to minimise border disputes.
- Prepare and update internal boundaries in order to promote national identity, fiscal, electoral administration and good governance frameworks.
- To address the land tenure constraints that impact social and economic development through the implementation of a comprehensive land policy.
- To implement measures that will ensure that leasehold land managed in an effective and sustainable manner.
- To strengthen customary land administration in order to guarantee security of tenure.
- To institutionalise public land tenure in policy and law.
- To protect and conserve commons lands, which are essential for the livelihood support, economic growth and for the overall well-being of a community.
- To regulate access to land by non-Zambians with a view to providing for access and use rights on land to non-Zambians while restricting ownership of land, both state and customary to Zambians only.
- To ensure accountability, transparency, monitoring and compliance to lease conditions to protect land rights and safeguard against environmental damage.
- To review the compulsory acquisition of land and other property.
- To improve security of leasehold tenure
- To achieve a gender sensitive, and a youth friendly land sector which is inclusive of persons living with disabilities and other socially marginalised groups.
- To strengthen the administration and management of land services.
- To clarify institutional mandates

- To create and maintain a professional, accountable, transparent and timely land registration system.
- To enhance efficiency and cost effectiveness of survey and mapping functions through commercialisation, notwithstanding the public need to provide all basic and control services.
- To prepare basic topographic maps at scales which conform to policy needs and technological advances and regulate the preparation of Atlases and Tourist maps according to the law.
- To fix and record property boundaries through a variety of techniques, accuracies and costs.
- Implement a National Spatial Data Infrastructure (NSDI) framework.
- To maintain an accurate, gender-disaggregated and up-to-date land information for regional and urban land management.
- To implement an easy, equitable, transparent and cost effective land allocation system.
- To simplify taxes, improve collections and strengthen valuation capacity at all levels.
- Formalise land ownership in the country to create an asset base for the poor, promote a property market, expand financial intermediation and widen the municipal tax base.
- Strengthen valuation capacity at all levels of land administration and improve valuation systems and regulatory compliance.
- Prepare and update a national planning framework to guide national development planning proposals.
- To harmonise local land allocation policies and draw up plans for major urban expansions to provide land for housing in large tracts with plot layouts and trunk services (major roads and primary water supply and sanitation services) provided ahead of demand.
- To guide the identification of most suitable areas for location of various activities in rural areas in order to provide for orderly provision of essential services.
- To regulate with a view to eliminating the growth of unplanned areas through timely provision of shelter or serviced building plots.
- To institute forward planning of land for housing and publicise its availability.
- Enhance collaboration with Chiefs and Government to continually avail adequate land for resettlement purposes in all districts of the country.
- To improve smallholder access to secure ownership of agriculture land.
- Ensure optimal utilisation of the land resources through formulation of provincial, district and local land use policies that incorporate area-specific concerns and priorities.
- To manage land with a view to improving carbon storage by protecting grasslands, rangelands and forests to meet the food needs of a growing population and exports.
- To ensure that mining developers adopt principles of Free, Prior and Informed Consent of local people for decisions that may affect them.
- To ensure the preservation of land for future use.

***Relevance**: This policy will be given due consideration in the design of the concept plan, the land use plan, as well as the detailed design for the development.*

16. National Forestry Policy 2014

The current vision and policy on Forestry in Zambia is to attain the sustainable forestry management of all types of forests so as to enhance the contribution of forest products and services to the mitigation of climate, income generation, poverty reduction, job creation and to the

protection and maintenance of biodiversity. The forest policy aims to reduce deforestation and forest degradation by focusing on increasing forest cover and enhance carbon stocks through integrated participatory forest management, improved law enforcement and private sector investment. It also provides for the domestication of international environmental agreements on the premise that forests play a key role in improving the global environment and sustainability. These include the United Nations Framework Convention on Climate Change (UNFCCC), Convention on International Trade in Endangered Species of Wild Flora and Fauna (CITES), the Convention on Wetlands of International Importance, the Convention on Biological Diversity (CBD), the Convention to Combat Desertification and other relevant international agreements to which Zambia is a party

***Relevance**: This policy will be considered in the positive and negative impacts of the site development, that is, positive with respect to improving access to electrical power thereby minimising need to tree cutting and charcoal usage, and negative in terms of any potential impacts to tree life impacted during construction works in the Project site.*

17. Decentralisation Policy

The National Decentralization Policy was developed in 2002 and launched in 2004. The policy aimed at decentralizing government responsibilities and functions to lower levels of government through 'devolution'. It reaffirms the local authorities as the institutions responsible for water supply and sanitation.

***Relevance**: This policy will be considered when reviewing the impact of providing affordable housing opportunities to employees of local authorities, thereby encouraging resource decentralisation.*

18. National Solid Waste Management Strategy

The overall goal of the National Waste Management Strategy is to improve the environmental quality of the Zambian environs through the development and implementation of an efficient and sustainable waste management system.

The objectives of the national waste management strategy are to:

- Minimise generation of waste;
- Maximise the collection efficiency of waste;
- Reduce the volume of waste requiring disposal and maximise the economic value of waste; and
- Develop and adopt environmentally sound treatment and disposal methods and practices.

***Relevance**: This policy will be considered when reviewing the impact of solid waste management of the development.*

19. National Conservation Strategy

The National Conservation Strategy (NCS), adopted by the Government of Zambia in 1985 has been the main policy document on the environment. The NCS led to the establishment of environmental legislation and institutions. The NCS was developed to manage natural resources and the environment in the context of a centrally planned and controlled economy.

The goal of the strategy is to "satisfy the basic needs of all the people of Zambia, both present and future generations, through the wise management of natural resources".

The objectives of the NCS are:

- To ensure the sustainable use of Zambia's renewable natural resources;
- To maintain Zambia's biological diversity; and
- To maintain essential ecological processes and life-support systems.

The NCS triggered the enactment in 1990 of the Environmental Protection and Pollution Control Act (EPPCA) which is a regulatory instrument that cuts across sectors; and the creation in 1991, of the Environmental Council of Zambia (now Zambia Environmental Management Agency) to regulate environmental matters and deal with related issues

***Relevance**: This policy will be considered when reviewing the impact of development on the natural environment.*

20. National Environmental Action Plan

The overall objective of the National Environmental Action Plan is to integrate environmental concerns into Zambia's social and economic development planning process. The NEAP was prepared as a comprehensive plan to contain the increasing environmental degradation in Zambia.

The NEAP is founded on three fundamental principles:

- The right of citizens to a clean and healthy environment;
- Local community and private sector participation in natural resources management; and
- Obligatory Environmental Impact Assessment is made compulsory for major development projects in all sectors.

***Relevance**: This policy will be considered when reviewing the impact of development on improving the quality and standard of living of the local population by providing affordable access to housing.*

21. National Biological Diversity Strategy and Action Plan

In May 1993 Zambia ratified the Convention on Biological Diversity. By ratifying the Convention on Biological Diversity, Zambia has committed herself to fulfilling its objectives and recognises that a Biodiversity Strategy and Action Plan (BSAP) is necessary in order to guide the country's future activities intended to achieve the objectives of the CBD in line with biodiversity conservation and usage. As part of the commitment to fulfil its objectives, Zambia developed the National Biological Diversity Strategy and Action Plan (NBSAP), which was finalised in 1998.

The goals of the NBSAP are to:

- Ensure the conservation of the full range of Zambia's natural ecosystems through a network of protected areas;
- Conserve the genetic diversity of Zambia's crops and livestock;
- Improve the legal and institutional framework and human resources to implement the strategies for conservation, sustainable use and equitable sharing of benefits from biodiversity management;
- Sustainably manage and use Zambia's biological resources;
- Develop an appropriate legal framework and the needed human resources to minimise the risks of the use of Genetically Modified Organisms (GMO's).

***Relevance**: This policy will be considered when reviewing the impact of development on the natural environment.*

22. National HIV and AIDS Strategic Framework

The Revised National HIV and AIDS Strategic Framework (R-NASF) covers the period 2014 - 2016. It is a framework to guide implementation of the National HIV Multi-sectorial Response in Zambia.

The purpose of the framework is to:

i. Provide an overall strategy for the planning, coordination and implementation of the multi sectorial national response based on available evidence;
ii. Articulate national priorities, expected outcomes and targets that all stakeholders should work towards, based on their respective mandates, resources and comparative advantage;
iii. Articulate an agreed framework for the implementation of the multi-sectorial response developed in partnership with civil society, private sector, public sector and development partner inputs that is in line with the three-ones principle (one strategy, one coordinating body and one M&E system); and
iv. Provide a transparent framework to form the basis for reaching agreement with development partners on their technical and financial support and the management and coordination of the response.

The six themes of the NASF represent the cooperating partners' priority action areas and include:

- Intensifying efforts for prevention of HIV;
- Expanding treatment, care and support for people affected by HIV and AIDS;
- Mitigating the socioeconomic impact of HIV and AIDS;
- Strengthening the decentralised response and mainstreaming HIV and AIDS;
- Improving the monitoring of the multi-sectorial response; and
- Integrating advocacy and coordination of the multi-sectoral response.

***Relevance**: This policy will be considered when preparing the Project health and safety plan to be utilised by the contractor to ensure mitigation of the spread of viruses from external contractors to the local population and vice versa.*

2.9 Institutional Framework relevant to ESIA

The Zambia Environmental Management Agency (ZEMA) is the umbrella environmental institution in Zambia and the lead agency on matters pertaining to environmental impact assessments (EIA). It is empowered by the Environmental Management Act (No. 12 of 2011) (EMA) to identify Projects, plans and policies for which an EIA is necessary.

The services provided by ZEMA specifically in relation to EIA studies include:

- Assisting the developer to determine the scope of EIA studies;
- Reviewing project briefs, terms of reference, and environmental impact statements (EIS) and decision-making;
- Disclosure of the EIS to the public through the media;
- Holding public hearing meetings to discuss the EIS with stakeholders;
- Conducting verification surveys of the affected environment;
- Monitoring the Project once implemented;

- Conducting compliance audits of the project between 12 and 36 months after implementation; and
- General administration of all the Regulations under the EMA.

The proposed Project will be required to submit an ESIA to ZEMA and approval from the agency will be required to undertake the proposed Project.

Other competent authorities potentially relevant to the Project include:

- Ministry of Lands and Natural Resources
- Ministry of Water Development, Sanitation and Environmental Protection
- Ministry of Housing and Infrastructure Development
- Ministry of Local Government
- Ministry of Agriculture and Livestock
- Ministry of Labour and Social Security
- Ministry of Health
- Ministry of Education
- Ministry of Community Development and Social Services
- Ministry of Chiefs and Traditional Affairs
- Ministry of Tourism and Arts
- Ministry of Transport and Communications
- Ministry of Works and Supply
- Ministry of Mines and Minerals Development
- Water Resources Management Authority
- Forestry Department
- National Heritage Conservation Commission (NHCC)
- ZESCO Limited
- Department of Water Affairs
- Department of National Parks and Wildlife
- Mazabuka Town Council

2.10 Legal Framework relevant to ESIA

Title	Summary of relevant contents	Relevance	Compliance
The Environmental Management Act (EMA), No. 12 of 2011	This Act is the principal environmental law in Zambia and provides for integrated environmental management, the protection and conservation of the environment and the sustainable management and use of natural resources among others. The Zambia Environmental Management Agency (ZEMA), established under the EMA, is responsible for EIA review and approval, and for monitoring the implementation of the Proponent's Environmental Management Plan. The Act also provides specific regulations for discharge, collection, storage, transportation and disposal of gaseous, liquid and solid waste, and makes the Proponent responsible for meeting them. The ZEMA is responsible for enforcing environmental regulations and coordinating of government agencies involved in environmental management in their sectors.	The EMA ensures that environmental issues are considered during the project planning and management as it is the principal law to be followed whenever projects are implemented.	The Proponent and any contractor will comply with all the requirements of this Act and will obtain all approvals and permits stipulated in the Act. During the detailed study, the ESIA team will not only review the EMA but will also identify the positive and negative environmental and social impacts likely to result from the project. The ESIA team will further develop mitigation measures for the negative impacts and advise the Proponent on how best to implement the mitigation measures in order to minimise the impacts in line with these requirements.
Environmental Impact Assessment Regulations No. 28 of 1997	The Environmental Impact Assessment is undertaken in accordance with the requirements of the EMA. They provide the framework for conducting and reviewing environmental impact assessment for any project. Further, it provides regulations for auditing project implementation. The regulation requires Project Proponents undertaking projects that may have an effect on the environment to conduct environmental and social impact assessment prior to obtaining written approval of the Project from ZEMA. The Project falls within the Second Schedule of the EIA regulations and as such requires an EIA.	The proposed Project is likely to cause environmental and social impacts during implementation and thereby falls under the First Schedule of these Regulations.	This Terms of Reference along with the Scoping Report is the first step towards fulfilling the requirements of these Regulations. The TORs and Scoping Report will be submitted to ZEMA for scrutiny. Once ZEMA approves this TORs and the Scoping Reports, the ESIA team shall proceed to carryout detailed studies and consequently submit an Environmental and Social Impact Statement (ESIS) which shall include an Environmental and Social Management Plan (ESMP).
Environmental Management (Licensing) Regulations, 2013 Part 3 (Waste Management)	These regulations provide for licensing of solid non-hazardous waste transportation and operating or owning of a non-hazardous waste disposal site.	The Environmental Management (Licensing) Waste Regulations are relevant to the proposed project because during construction, the contractor	The ESIA Team will propose measures of how the Proponent shall comply with requirements of these regulations and this will apply to the Project area in total. In addition, the ESIA Team will propose measures that the Proponent, through the risk assessment,

Title	Summary of relevant contents	Relevance	Compliance
		will generate solid and hazardous waste which will need to be disposed of.	environmental, health, and safety guidelines, shall use to manage all wastes generated during Project implementation.
Environmental Management (Licensing) Regulations, 2013 Part 2 (Air & Water)	These regulations provide for licensing of emissions and liquid waste discharge to the environment and provide for statutory discharge limits for respective parameters.	This Act regulates the way water waste produced during project implementation should be managed and discharged into the environment. This Act is also relevant due to the increase in vehicular emissions during construction and operation of the project.	The ESIA Team will propose measures of how the Proponent shall comply with requirements of these regulations as well as to manage all liquid wastes generated during project implementation.
Local Government Act No 2 of 2019	This legislation provides for an integrated local government system; gives effect to the decentralisation of functions, responsibilities and services at all levels of local government; ensures democratic participation in, and control of, decision making by the people at the local level; revises the functions of local authorities; provides for the review of tariffs, charges and fees within the area of a local authority; provides for the proceedings of the council and committees; provides for the role of traditional leadership in democratic governance; repeals and replaces the Local Government Act, 1991; and provides for matters connected with, or incidental to, the foregoing.	The Project falls under a district councils and the Proponent will be required to obtain all relevant permits from the council regarding the Project.	The Proponent will seek and comply with any relevant approvals from theCouncil.
Water Resources Management Act No. 21 of 2011	This legislation establishes the Water Resources Management Authority and defines its functions and powers; provides for the management, development, conservation, protection and preservation of the water resource and its ecosystems; provides for the equitable, reasonable and sustainable utilisation of the water resource; ensures the right to draw or take water for domestic and non-commercial purposes, and that the poor and vulnerable members of the society have an adequate and sustainable source of water free from any charges; creates an enabling environment for adaptation to climate	The Proponent of the project will have to develop groundwater resources and manage surface runoff.	Protection measures, particularly for the discharge of any effluents or control of run-off, are required to avoid any potential impacts to water resources and will be included in the ESMP. The Proponent and any contractor will comply with all the regulations under this Act.

Title	Summary of relevant contents	Relevance	Compliance
	change; provides for the constitution, functions and composition of catchment councils, sub-catchment councils and water users associations; provides for international and regional co-operation in, and equitable and sustainable utilisation of, shared water resources; provides for the domestication and implementation of the basic principles and rules of international law relating to the environment and shared water resources as specified in the treaties, conventions and agreements to which Zambia is a State Party; repeals and replaces the Water Act, 1949; and provides for matters connected with, or incidental to, the foregoing.		
Zambia Wildlife Act No. 14 of 2015:	This legislation provides for governing the affairs of the Zambia Wildlife Authority; establishes the Department of National Parks and Wildlife in the Ministry responsible for tourism; provides for the establishment, control and management of National Parks, bird and wildlife sanctuaries and for the conservation and enhancement of wildlife eco-systems, biological diversity and objects of aesthetic, pre-historic, historical, geological, archaeological and scientific interest in National Parks; provides for the promotion of opportunities for the equitable and sustainable use of the special qualities of public wildlife estates; provides for the establishment, control and co-management of Community Partnership Parks for the conservation and restoration of ecological structures for non-consumptive forms of recreation and environmental education; provides for the sustainable use of wildlife and the effective management of the wildlife habitat in Game Management Areas; enhances the benefits of Game Management Areas to local communities and wildlife; involve local communities in the management of Game Management Areas; provides for the development and implementation of management plans; provides for the regulation of game ranching; provides for the licensing of hunting and control of the processing, sale, import and export of wild animals and trophies; provides for the implementation of the Convention on International Trade in Endangered Species of Wild Fauna and Flora, the Convention on Wetlands of International Importance especially as	This Act is relevant to ensure that only those areas necessary for the Project activities are cleared.	During the detailed study, the Proponent shall make recommendations in the ESMP to ensure that there is adherence to the principles highlighted in this Act during implementation of the proposed Project.

Title	Summary of relevant contents	Relevance	Compliance
	Waterfowl Habitat, the Convention on Biological Diversity, the Lusaka Agreement on Cooperative Enforcement Operations Directed at Illegal Trade in Wild Fauna and Flora and other international instruments to which Zambia is party; repeals the Zambia Wildlife Act, 1998; and provides for matters connected with, or incidental to, the foregoing.		
Forest Act No. 4 of 2015	This legislation provides for the establishment and declaration of National Forests, Local Forests, joint forest management areas, botanical reserves, private forests and community forests; provide for the conservation and use of forests and trees for the sustainable management of forests ecosystems and biological diversity; establishes the implementation of the United Nations Framework Convention on Climate Change, Convention on International Trade in Endangered Species of Wild Flora and Fauna, the Convention on Wetlands of International Importance, especially as Water Fowl Habitat, the Convention on Biological Diversity, the Convention to Combat Desertification in those Countries experiencing Serious Drought and/or Desertification, particularly in Africa and any other relevant international agreement to which Zambia is a party; repeals and replaces the Forests Act of 1999; and provides for matters connected with, or incidental to, the foregoing.	This Act provides that the Proponent will need to develop mitigation measures for possible impacts on terrestrial flora	The ESIA will be developed in line with this legislation and will be managed by the Project Proponent via the ESMP.
Fisheries Act No.22 of 2011	This legislation promotes the sustainable development of fisheries and a precautionary approach in fisheries management, conservation, utilisation and development; establishes fisheries management areas and fisheries management committees; provides for the regulation of commercial fishing and aquaculture; establishes the Fisheries and Aquaculture Development Fund; repeals and replaces the Fisheries Act, 1974; and provides for matters connected with, or incidental to, the foregoing.	This Act ensures consideration be given with respect to discharge of treated wastewater into drainage facilities which may eventually lead to water bodies with fish presence.	The Proponent and any contractor will comply with all the regulations under this Act.
National Heritage Conservation Commission Act No. 23 of 1989, and	This legislation repeals and replaces the Natural and Historical Monuments and Relics Act; establishes the National Heritage Conservation Commission; defines the functions and powers of the Commission who are responsible for the conservation, restoration,	During Project implementation, activities will be undertaken that may lead to the discovery of	During the detailed ESIA study, the ESIA team will pay particular attention to establish the presence of any artefacts or objects of archaeological significance in the Project area.

Title	Summary of relevant contents	Relevance	Compliance
National Heritage Conservation Commission Amendment Act No. 13 of 1994	rehabilitation, reconstruction, adaptive use and good management of heritage conservation; provides for the conservation of ancient, cultural and natural heritage, relics and other objects of aesthetic, historical, prehistorical, archaeological or scientific interest; provides for the regulation of archaeological excavations and export of relics; and provides for matters connected with or incidental to the foregoing.	artefacts or objects of archaeological significance. This Act will provide guidance on reporting channels and procedures should such items be discovered.	
Petroleum Act No. 8 of 1995	This legislation provides for the conveyance and storage of petroleum, inflammable oil and liquids.	This act will regulate the handling and usage of petroleum, inflammable oils and liquids required for construction equipment.	The ESIA will be developed in line with this legislation and will be managed by the Project Proponent via the ESMP.
Explosives Act No. 10 of 1974	This legislation provides for the handling, storage and general management of explosives used for blasting in the mining industry.	The use of explosives during Project implementation will be guided by this act	If explosives are used during construction activities, measures will be included in the ESMP to ensure compliance with this Act.
Electricity Act No 11 of 2019	Regulates the transmission, distribution and supply of electricity.	This act will regulate the handling and usage of electricity during Project implementation.	The Proponent and any contractor will comply with all the regulations under this Act.
Mines and Minerals Development Act No. 11 of 2015	This legislation regulates activities relating to mines and minerals operations including quarrying; provides for safety, health and environmental protection in mining operations; repeals and replaces the Mines and Minerals Development Act of 2008; and provides for matters connected with, or incidental to, the foregoing.	Construction activities will involve the use of resources such as sand and aggregates from borrow areas.	During the detailed study, the ESIA team will make recommendations so the Proponent and contractor can implement project activities in compliance with this Act.
Occupational Safety and Health Act No. 36 of 2010	This legislation provides for preventing work- related injuries, illnesses, and death by issuing and enforcing workplace health and safety standards; provide for the establishment of health and safety committees at workplaces and for the health, safety and welfare of persons at work; provide for the duties of manufacturers, importers and suppliers of articles, devices, items and substances for use at work; provide for the protection of persons, other than persons at work, against risks to health or safety arising from, or in connection with,	This Act provides for the dissemination of information on occupational health and safety at the work place.	The Proponent will comply with all provisions of this Act to protect workers and the public near the site. Measures will be proposed in the ESMP to ensure compliance.

Title	Summary of relevant contents	Relevance	Compliance
	the activities of persons at work; and provide for matters connected with, or incidental to, the foregoing.		
Workers Compensation Act No. 10 of 1999	This legislation provides for the establishment and administration of a Fund for the compensation of workers disabled by accidents to, or diseases contracted by, such workers in the course of their employment, and for the payment of compensation to dependants of workers who die as a result of such accidents or diseases.	The nature of the work means workers will be exposed to accident risks or risks of contracting disease, this Act provides for compensation of workers in case of accidents.	Accident prevention and mitigation measures will be developed and managed as part of the Project ESMP. The Proponent will ensure that all employees are registered, and contributions are submitted accordingly.
Water Supply and Sanitation Act No. 28 of 1997	This legislation establishes the National Water Supply and Sanitation Council and defines its functions; provides for the establishment, by local authorities, of water supply and sanitation utilities; provides for the efficient and sustainable supply of water and sanitation services under the general regulation of the National Water Supply and Sanitation Council; and provides for matters connected with or incidental to the foregoing.	Workers and the residents will require suitable water and sanitation services during the construction and operations phases of the Project.	Water used in the Project will be monitored frequently and stored appropriately. Applicable permits will be obtained from the relevant authority.
Public Health Act No. 22 0f 1995	This legislation provides for the prevention and suppression of diseases and generally regulates all matters connected with public health in Zambia.	Workers and the residents may interact with disease agents and/or environmental media. Project activities have the potential to spread pollutants and increase the risk of contamination to the environment, hence the relevance of this Act to the proposed Project.	During the ESIA study, measures to prevent diseases and pollution dangerous to human health will be considered and included in the ESMP.
Factories Act of 1994	This legislation makes further and better provision for the regulation of the conditions of employment in factories and other places as regards the safety, health and welfare of persons employed therein; provides for the safety, examination and inspection of certain plant and machinery; and provides for purposes incidental to or connected with the matters aforesaid.	Implementation of Project activities will employ the use of various machines for construction works. The use of machinery in terms of safety and welfare of	Measures to ensure the safety of persons operating machinery will be included in the ESMP and supporting occupational health and safety (OHS) documentation.

Title	Summary of relevant contents	Relevance	Compliance
		employed persons is regulated under this Act.	
Road Traffic Act No. 11 of 2002	This legislation establishes the Road Transport and Safety Agency (RTSA) and defines its functions; provides for a system of road safety and traffic management; provides for licensing of drivers and motor vehicles; provides for registration of motor vehicles and trailers; provides for compulsory third party insurance of motor vehicles; provides for licensing and control of public service vehicles; provides for promotion of road safety; provide for the regulation of road transport between Zambia and other countries with which Zambia has concluded cross – border road transport agreements; provides for the implementation of the SADC protocol on Transport, Communication and Meteorology, the protocol on the third party motor vehicle insurance scheme adopted by the member states of COMESA and Protocols on transit trade and transit facilities, and repeals the National Roads Safety Council Act of 1995.	This Act ensures traffic control measures are taken to avoid accidents as a result of construction activities.	The ESIA will be developed in line with this legislation and will be managed by the Project Proponent via the ESMP.
Public Roads Act No 12 of 2002	An Act to establish the Road Development Agency and to define its functions; to provide for the care, maintenance and construction of public roads in Zambia; to regulate maximum weights permissible for transmission on roads; and to provide for matters connected with and incidental to the foregoing.	This Act is relevant to the Project because access roads to the Project site will be constructed.	The ESIA will be developed in line with this legislation and will be managed by the Project Proponent via the ESMP.
Employment Code Act No. 3 of 2019	This legislation regulates the employment of persons; prohibits discrimination at an undertaking; constitutes the Skills and Labour Advisory Committees and provides for their functions; provides for the engagement of persons on contracts of employment and provides for the form and enforcement of the contracts of employment; provides for employment entitlements and other benefits; provides for the protection of wages of employees; provides for the registration of employment agencies; regulates the employment of children and young persons; provides for the welfare of employees at an undertaking; provides for employment policies, procedures and codes in an undertaking; repeals and replaces the Employment Act,1965, the Employment (Special Provisions) Act,1966, the Employment of	During construction activities, a number of individuals will be employed, and this Act is the principal piece of legislature governing employment rights in Zambia.	The Proponent and any contractor will comply with all the provisions of this Act to guarantee labour rights. Measures will be proposed in the ESMP to ensure compliance.

Title	Summary of relevant contents	Relevance	Compliance
	Young Persons and Children Act, 1933 and the Minimum Wages and Conditions of Employment Act, 1982; and provide for matters connected with, or incidental to, the foregoing.		
Employment of Young Persons and Children Act No. 10 of 2004	These regulations regulate the employment of young persons, and children; and provide for matters incidental thereto.	During construction activities, a number of individuals will be employed therefore making this Act relevant to the Project.	The Proponent and any contractor will comply with all the provisions of this Act to prevent child and forced labour.
Gender Equity and Equality Act No.22 of 2015	These regulations establish the Gender Equity and Equality Commission and provide for its functions and powers; provide for the taking of measures and making of strategic decisions in all spheres of life in order to ensure gender equity, equality and integration of both sexes in society; promote gender equity and equality as a cross cutting issue in all spheres of life and stimulate productive resources and development opportunities for both sexes; prohibit harassment, victimisation and harmful social, cultural and religious practices; provide for public awareness and training on issues of gender.	This Act will ensure that the Proponent provides equal employment opportunities to males and females during Project implementation.	The Proponent and any contractor will comply with all the provisions of this Act to ensure inclusion of Gender issues.
Anti-Gender- Based Violence Act No.46 of 2010	These regulations provide for the protection of victims of gender-based violence; constitute the Anti-Gender-Based Violence Committee; establish the Anti- Gender-Based Violence Fund; and provide for matters connected with, or incidental to, the foregoing.	During construction activities, a number of social dynamics may be impacted and conflicts may arise resulting in gender-based violence, therefore making this Act relevant to the current Project.	The Proponent and any contractor will comply with all the provisions of this Act to ensure protection of victims of gender-based violence.
Human Rights Commission Act No. 39 of 1996	These regulations provide for the functions and powers of the Human Rights Commission; to provide for its composition and to provide for matters connected with or incidental to the foregoing.	The nature of the Project is such that many individuals will be involved with or affected by the Project to different capacities and therefore this Act provides for the rights of those individuals.	The Proponent and any contractor will comply with all the provisions of this Act to ensure protection of human rights.

Title	Summary of relevant contents	Relevance	Compliance
Non- Governmental Organisations Act No. 16 of 2009	This Act provides for the co-ordination and registration of non-governmental organisations; establishes the Non-Governmental Organisations' Registration Board and the Zambia Congress of Non-Governmental Organisations; constitutes the Council of Non-Governmental Organisations; enhances the transparency, accountability and performance of non- governmental organisations; and provides for matters connected with or incidental to the foregoing.	The nature of the Project is such that many individuals will be involved with or affected by the Project to different capacities and therefore this Act provides for the rights of those individuals.	The Proponent and any contractor will comply with all the provisions of this Act to ensure collaboration with NGOs in the Project area.
Lands Act No. 29 of 1995	This legislation provides for the continuation of Leaseholds and leasehold tenure; provides for the continued vesting of land in the President and alienation of land by the President; provides for the statutory recognition and continuation of customary tenure; provides for the conversion of customary tenure into leasehold tenure; establishes a Land Development Fund and a Lands Tribunal; repeals the Land (Conversion of Titles) Act; repeals the Zambia (State Lands and Reserves) Orders, 1928 to 1964, the Zambia (Trust Land) Orders, 1947 to 1964, the Zambia (Gwembe District) Orders, 1959 to 1964, and the Western Province (Land and Miscellaneous Provisions) Act, 1970; and provides for matters connected with or incidental to the foregoing.	The Project affects land that is under Local Authority and as such due consideration will be given to the provisions of this Act in managing land issues.	The Proponent and any contractor will comply with all the regulations under this Act.
Urban & Regional Planning Act No. 3 of 2015	This legislation provides for development, planning and administration principles, standards and requirements for urban and regional planning processes and systems; provides for a framework for administering and managing urban and regional planning; provides for a planning framework, guidelines, systems and processes for urban and regional planning; establishes a democratic, accountable, transparent, participatory and inclusive process for urban and regional planning that allows for involvement of communities, private sector, interest groups and other stakeholders in the planning, implementation and operation of human settlement development; ensures functional efficiency and socio-economic integration by providing for integration of activities, uses and facilities; establishes procedures for integrated urban and regional planning in a devolved	The development cannot proceed without approval from the local authority.	The Proponent and any contractor will comply with all the provisions of this Act to guarantee labour rights. Measures will be proposed in the ESMP to ensure compliance.

Title	Summary of relevant contents	Relevance	Compliance
	system of governance so as to ensure multi-sector cooperation, coordination and involvement of different levels of ministries, provincial administration, local authorities, traditional leaders and other stakeholders in urban and regional planning; ensures sustainable urban and rural development by promoting environmental, social and economic sustainability in development initiatives and controls at all levels of urban and regional planning; ensures uniformity of law and policy with respect to urban and regional planning; repeals the Town and Country Planning Act of 1962, and the Housing (Statutory and Improvement Areas) Act of 1975; and provides for matters connected with, or incidental to, the foregoing.		
National Council for Construction Act No. 10 of 2020	This legislation provides for the establishment of the National Council for Construction (NCC) and to defines its functions; the promotion and development of the construction industry in Zambia; the registration of contractors; the affiliation to the Council of professional bodies or organisations whose members are engaged in activities related to the construction industry; the regulation of the construction industry; the establishment of the Construction School; the training of persons engaged in construction or in activities related to construction; and matters connected with or incidental to the foregoing.	The proposed Project involves the installation of a drip irrigation system	The Proponent and any contractor will comply with all the regulations under this Act.
Solid Waste Regulations and Management Act No20 of 2018	This legislation provides for the sustainable regulation and management of solid waste; general and self-service solid waste services; the incorporation of solid waste management companies and defines their statutory functions; the licensing and functions of solid waste service providers, operators and self-service solid waste providers and provides for their functions; the regulation, operation, maintenance and construction of landfills and other disposal facilities; the setting and approval of tariffs for management of solid waste and provision of solid waste services; and matters connected with, or incidental to, the foregoing.	The construction and operation of the proposed Project will result in the generation of solid waste	The Proponent and any contractor will comply with all the regulations under this Act.
Zambia Revenue Authority Act No.	The Acts provide for the taxation system in Zambia for various goods and services.	All goods and services will have to be taxed	The Proponent will comply with all the regulations under this Act.

Title	Summary of relevant contents	Relevance	Compliance
28 of 1993 and all amendments			
Investment Act CAP 322 of 1998	Provides a legal framework for investment in Zambia, the Act relates to the environment by encouraging investment that is not detrimental to the environment.	Due consideration will be given to this act to ensure the investment does not have an adverse effect on the local environment	The Proponent will comply with all the regulations under this Act.
The Public Health (Infected Areas) (Coronavirus Disease 2019) Regulations, 2020 Statutory Instrument 22 of 2020	The statutory instrument provides for the relation required for management and prevention of the Corona Virus 2019 (CORVID 19)	This statutory instrument provides for the dissemination of information on the spread, prevention and treatment of the COVID19	The Proponent will comply with all the regulations under this Act.

2.11 International and Regional Conventions

The following list summarises the international conventions to which Zambia is a signatory and that are relevant to the Project.

- African Convention on the Conservation of Nature and Natural Resources, signed in Maputo (2003)
- Kyoto Protocol Paris Climate Agreement (2015)
- Convention on Wetlands of International Importance especially as waterfowl habitat, known as Ramsar Convention (1975)
- Convention on the Conservation of Migratory Species of Wild Animals, known as the Bonn Convention (1983)
- Convention on Biological Diversity (1992)
- Convention on International Trade in Endangered Species of Wild Fauna and Flora, known as CITES (1975)
- Convention concerning the Protection of the World Cultural and National Heritage (1972)
- United Nations Framework Convention on Climate Change (1992)
- United Nations Convention to Combat Desertification, UNCCD (1994)
- The Vienna Convention for the Protection of the Ozone Layer (1985)
- The Montreal Protocol on Substances that Deplete the Ozone Layer (1987)
- The Stockholm Convention on Persistent Organic Pollutants (2001)
- The Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal (1989)
- The Universal Declaration of Human Rights (1949)
- International Covenant on Economic, Social and Cultural Rights, ICESCR (1966)
- Convention on the Elimination of All Forms of Discrimination against Women (1981)
- Convention on the Rights of the Child (1990)
- Convention on the Rights of Persons with Disabilities (2008)
- African Charter on Human and People's Rights (1987)
- Protocol to the African Charter on Human and Peoples' Rights on the Rights of Women in Africa (2003)
- African Charter on the Rights and Welfare of the Child (2001)
- ILO Declaration on Fundamental Principles and Rights at Work (1998)
-

2.12 International Framework

2.12.1 International Finance Corporation (IFC) Performance Standards on Environmental and Social Sustainability

The Performance Standards (PSs) are directed towards clients providing guidance on how to identify risks and impacts, and are designed to help avoid, mitigate, and manage risks and impacts as a way of doing business in a sustainable way, including stakeholder engagement and disclosure obligations of the client in relation to Project-level activities. The International Finance

Corporation Performance Standards (IFC PSs) on Environmental and Social Sustainability has eight performance standards which include the following:

- IFC PS1: Assessment and Management of Environmental and Social Risks and Impacts
- IFC PS2: Labour and Working Conditions.
- IFC PS3: Resource Efficiency and Pollution Prevention
- IFC PS4: Community Health, Safety and Security
- IFC PS5: Land Acquisition and Involuntary Resettlement
- IFC PS6: Biodiversity Conversion and Sustainable Management of Living Natural Resources
- IFC PS7: Indigenous Peoples
- IFC PS8: Cultural Heritage

Performance Standard 1 establishes the importance of (i) integrated assessment to identify the environmental and social impacts, risks, and opportunities of Projects; (ii) effective community engagement through disclosure of Project-related information and consultation with local communities on matters that directly affect them; and (iii) the client's management of environmental and social performance throughout the life of the Project.

Performance Standards 2 through 8 establish objectives and requirements to avoid, minimise, and where residual impacts remain, to compensate/offset for risks and impacts to workers, Affected Communities, and the environment. While all relevant environmental and social risks and potential impacts should be considered as part of the assessment, Performance Standards 2 through 8 describe potential environmental and social risks and impacts that require particular attention. Where environmental or social risks and impacts are identified, the client is required to manage them through its Environmental and Social Management System (ESMS) consistent with Performance Standard 1.

The World Bank Group Environmental, Health and Safety Guidelines (EHS Guidelines) are technical reference documents with general and industry-specific examples of good international industry practice (GIIP). The General EHS Guideline contains information on cross-cutting environmental, health, and safety issues potentially applicable to all industry sectors, including construction Projects. They provide guidance on performance levels and measurements considered to be achievable at reasonable cost by new or existing Projects with the use of existing technologies and practices. Projects are expected to comply with the levels and measures identified in the General EHS Guidelines where host country requirements are less stringent or do not exist.

World Bank Group EHS Guidelines applicable to the Project ESIA are the EHS General Guidelines (April 2007).

The General EHS Guidelines cover 4 areas of GIIP:

- Environmental
- Occupational Health & Safety (OHS)
- Community Health & Safety (CHS)

- Construction and Decommissioning

The World Bank Group EHS Guidelines with respect to emergency preparedness and response state that Projects should have an Emergency Preparedness and Response Plan (EPRP) that is commensurate with specific risks. This includes the requirement to assess the risk posed to the Project by geological hazards, natural disasters, blade throw, etc. and formulate appropriate strategies that effectively reduce any potential impact associated with these hazards on the Project.

IFC Performance Standard 2 requires compliance with specific International Labour Organization (ILO) and United Nations (UN) conventions. Zambia has ratified all of the 8 core (fundamental) ILO conventions, namely:

- ILO Conventions 29 and 105 on elimination of forced and compulsory labour
- ILO Convention 87 and 98 on collective bargaining and freedom of association
- ILO Conventions 100 and 111 on elimination of discrimination in respect of employment and occupation
- ILO Conventions 138 and 182 on abolition of child labour

Zambia has ratified all 4 of the ILO governance (priority) conventions.

2.13 Corporate Standards and Guidelines

The initial Board of Directors of KASCOL consisted of representatives of CDC, the Zambia Sugar Plc and of the two commercial banks. In addition, the Zambian government appointed a high ranking official from the Ministry of Agriculture, who had a strong inclination to serving the interest of the smallholders

Zambia Sugar Co. and KASCOL signed a renewable three years sugarcane supply and irrigation contract. Under this contract KASCOL would only supply its cane to the Zambia Sugar Co. and in turn would receive irrigation water. On the other hand, KASCOL and the smallholders signed an agreement by which the smallholders would lease land from KASCOL for a renewable 14 years period, would grow cane following the stipulated agronomic practices, and would receive agronomic services and irrigation

In 1985 the smallholders formed an association called the Kaleya Smallholder Farmers Association (KASFA). This initiative was in response to advice given by KASCOL. The initial farmer association executive was composed mostly by the first eight smallholders to join the project. The primary role of KASFA was to represent the smallholders in negotiations with KASCOL. The chairperson of the farmer association also attended the KASCOL board meetings.

*S*mallholder sugar out grower scheme is managed by Kaleya Smallholder Company Limited (KASCOL), which was set up in 1980 to incorporate smallholder farmers into production and marketing of sugar cane. The scheme was started as a community outreach by the Zambia Sugar Company who also saw the scheme as an opportunity to expand cane area for their mill. The KASCOL is essentially the management company for the out grower scheme. It is responsible for production management, service provision, training, harvesting schedules and negotiations

between the smallholder farmers and the market, Zambia Sugar Company Limited. Some 160 farmers are currently participating in the scheme. The average land area used by smallholders is between 6.2 to 7.5 hectares, which includes also land for homestead and food crop production, where they are encouraged to build a house with loan finance available from KASCOL. For food crop production, the scheme supports smallholders with land preparation and drainage water used to grow vegetables for their own consumption and for sale for extra income.

3 PROJECT OBJECTIVES

The main objectives of the project area:

- To convert the existing furrow irrigation to sub surface drip irrigation system
- To facilitate optimal use of the water resource.

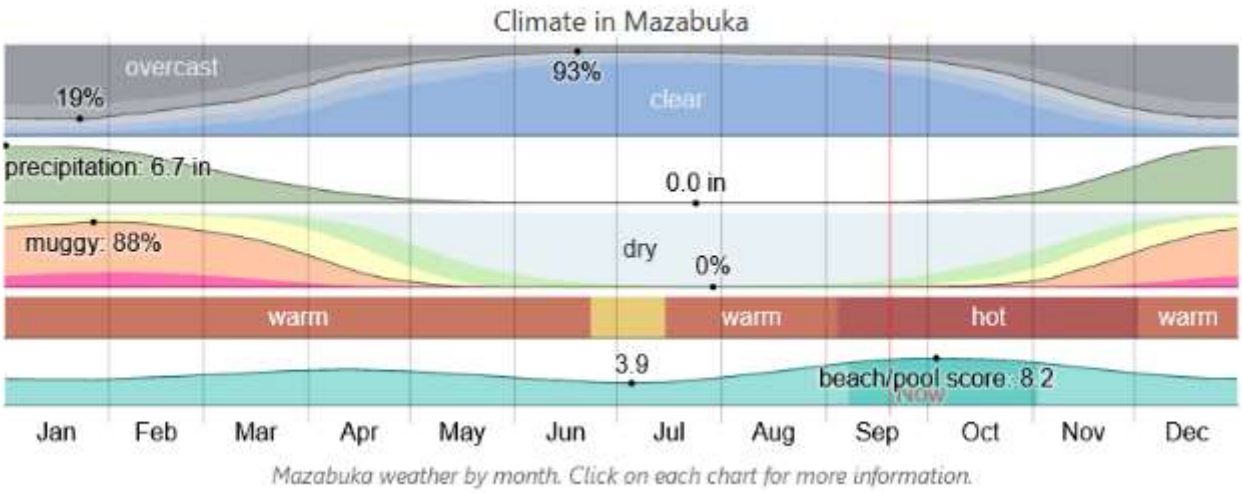
4 EXISTING ENVIRONMENTAL CONDITIONS

4.1 Bio-Physical Environment

4.1.1 Climatic conditions

The Sothern province, like any other province in Zambia has a tropical climate with three distinct seasons The *hot season* lasts for *2.1 months*, from *September 16* to *November 20*, with an average daily high temperature above *88°F*. The hottest day of the year is *October 21*, with an average high of *91°F* and low of *68°F*. The *cool season* lasts for *2.2 months*, from *May 28* to *August 3*, with an average daily high temperature below *78°F*. The coldest day of the year is *July 5*, with an average low of *49°F* and high of *75°F*.

Table 4.1: Seasons and associated temperatures



4.1.2 Rainfall

The *rainy* period of the year in Mazabuka lasts for *6.4 months*, from *October 16* to *April 29*, with a sliding 31-day rainfall of at least *0.5 inches*. The *most rain* falls during the 31 days centered around *January 1*, with an average total accumulation of *6.7 inches*.

The *rainless* period of the year lasts for *5.6 months*, from *April 29* to *October 16*. The *least rain* falls around *July 24*, with an average total accumulation of *0.0 inches*.

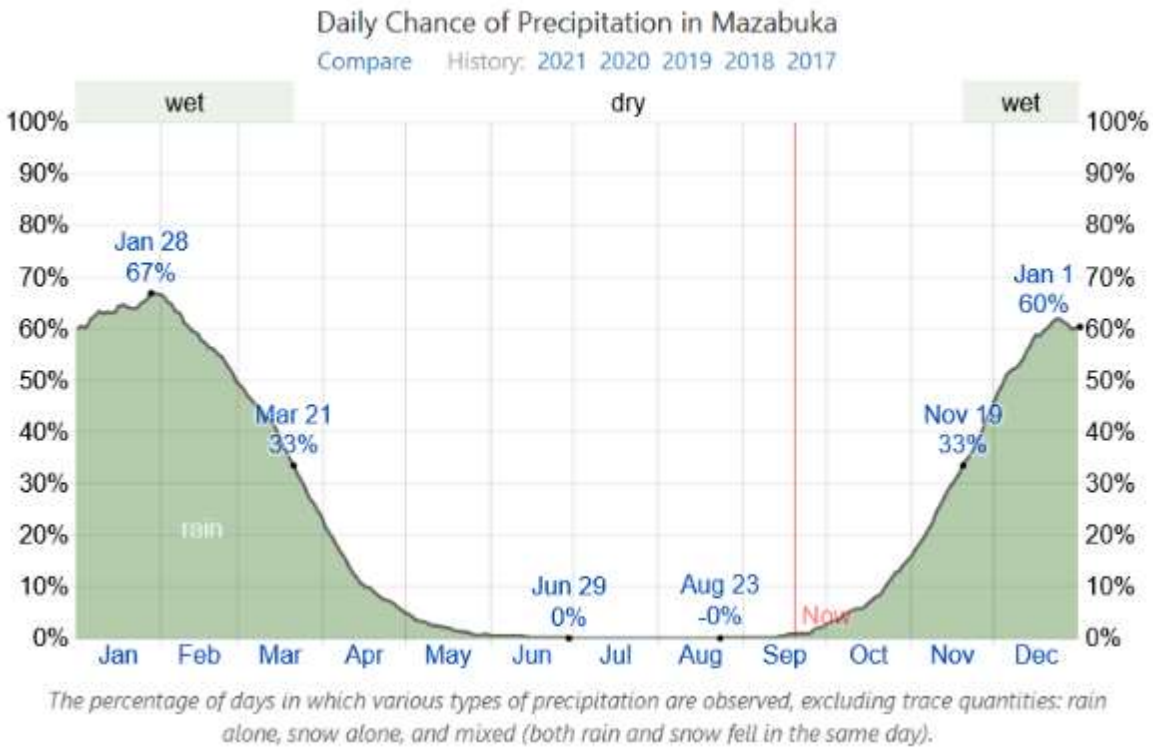


Figure 4.2: Precipitation of Mazabuka

4.1.3 Relative Humidity

Relative humidity varies throughout the year, reaching peak in the wet season. Wet season humidity levels are about 83%, dry season humidity levels are 41%, with mean relative humidity of the area recorded as an average of 65.0%. The relative humidity of the project area is typical of the Mazabuka climatic conditions. The annual relative humidity of the area is 65%, while the average monthly relative humidity ranges from 40.9% in September to 83% in February. The table below shows the summary of relative humidity of the project area.

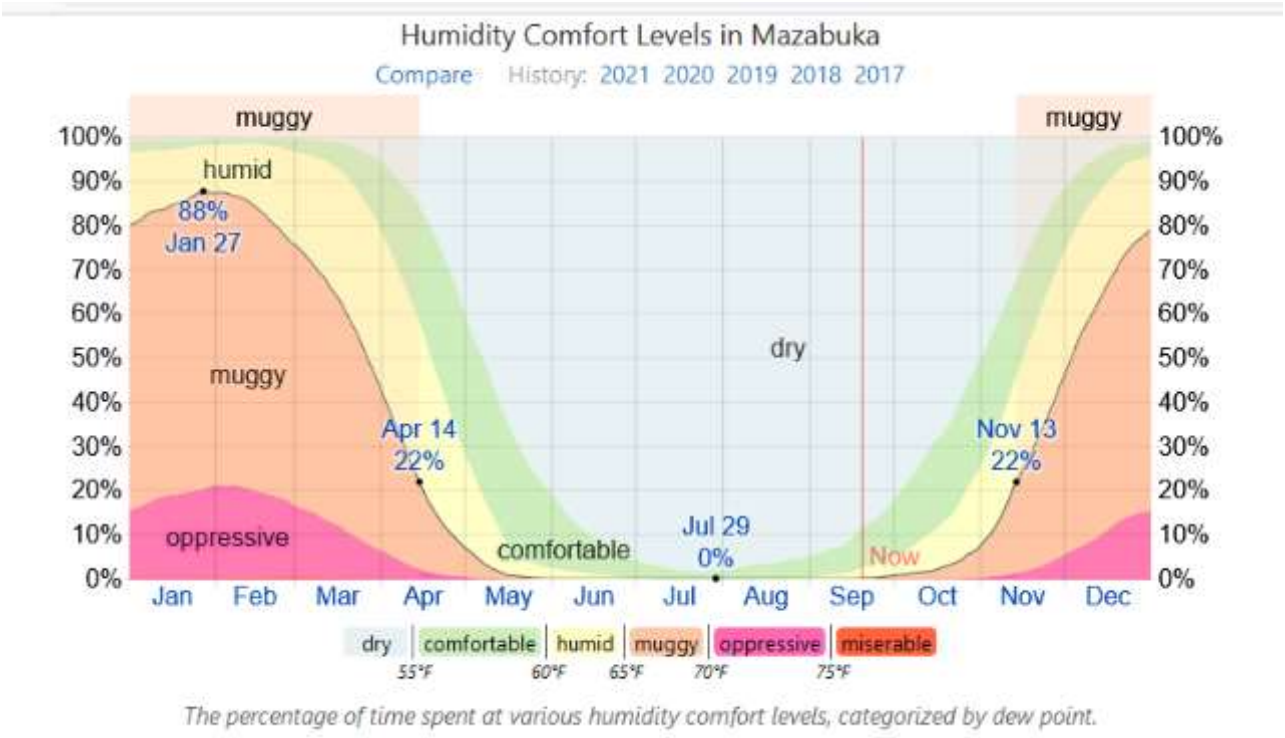


Figure 4.1: Relative humidity

4.1.4 Air Quality

The ambient air can be described as moderately clean. However, the increase in the volume of traffic on around the project area has contributed to a worsening of the air quality along the newly constructed roads especially at peak times.

The burning of sugar cane fields before harvest results in the emission of smoke and ash particles into the air with a corresponding deterioration in air quality. Dry and windy conditions, brought about by land preparation for farming, also increase the amount of dust raised which intermittently reduce air quality in the area.

4.1.5 Noise and Vibration

The source of noise in the project area is limited to vehicular movement of light vehicles using the local roads and agriculture equipment gusts. There was no baseline noise data available for the project area at the time of scoping. There were no sources of vibration observed in the project area during the site visit.

4.1.6 Hydrology and Hydrogeology

Hydrogeology

The main aquifer system for the area is defined by the Kafue flats Formation. The groundwater level closely follows the topography of the land surface, following the inclination of the lower ridge

Hydrogeology of project Area

The groundwater level is controlled by both the topography and the local geology. Borehole data from holes drilled by the Department of water Affairs in the area and its surrounding indicate that the average depths of holes range from 35-60m, with the water often struck at depths ranging from 4-25m. Average borehole yield from a 165mm casing borehole is in the range of 2.5-15 litres per second.

Hydrology and Water Resources potential

The company possesses water rights from WARMA for abstracting water from the Kafue River for use primarily as irrigation water on the estate. Water abstraction is measured continuously using a digital flow meter. The proposed project, involving the conversion of the irrigation system from furrow to sub surface irrigation. Primarily to improve the efficiency of water use. The drip is more efficient compared to canal irrigation systems. Water contained in sugar cane amounts to between 68% and 72% of total content. During the extraction process, this water is released and recycled for use within the factory, following which it is returned to the fields for irrigation.

The project site can be considered to be well drained. The site forms part of the Kafue flats catchment area. The project site has no major water body within the peripheral except for the Kaleya River which lies on the south eastern boundary of the estate.

Baseline conditions of samples for the quality of water at the estate are taken every month for physio-chemical and bacteriological analysis. Details of the parameters analysed are shown in the appendix

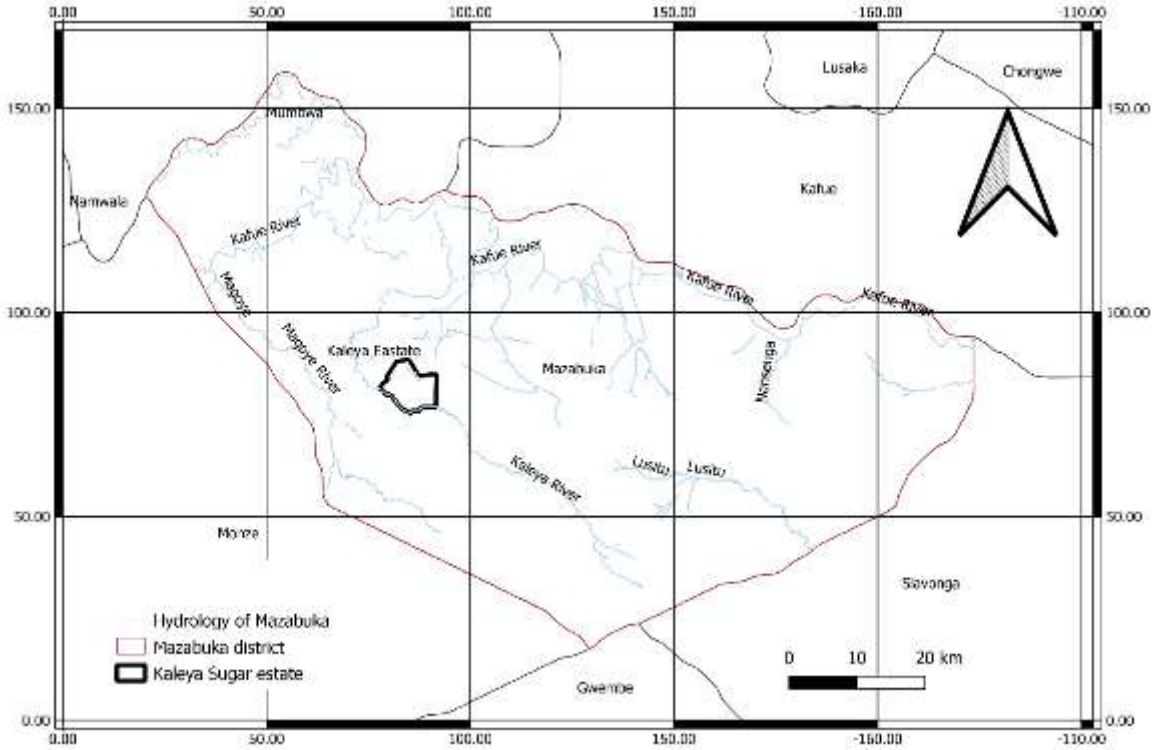


Figure 4.5: Mazabuka Hydrology

Groundwater quality

Groundwater samples from the existing boreholes are collected every month. This is aimed at establishing and ensuring that the water that is consumed by the residents meets the NWASCO and World Bank drinking water standards. The data collected by KASCOL on the water quality forms part of the baseline water quality data for the groundwater within the project area. The parameters analysed are reflected in the appendix, from the results, all physical chemical parameters including bacteriological were found to be below the maximum allowable limits for drinking water in accordance with WHO guidelines. Caution though must be taken in considering that these results are merely baseline values, Firm conclusion can only be made after long term monitoring.

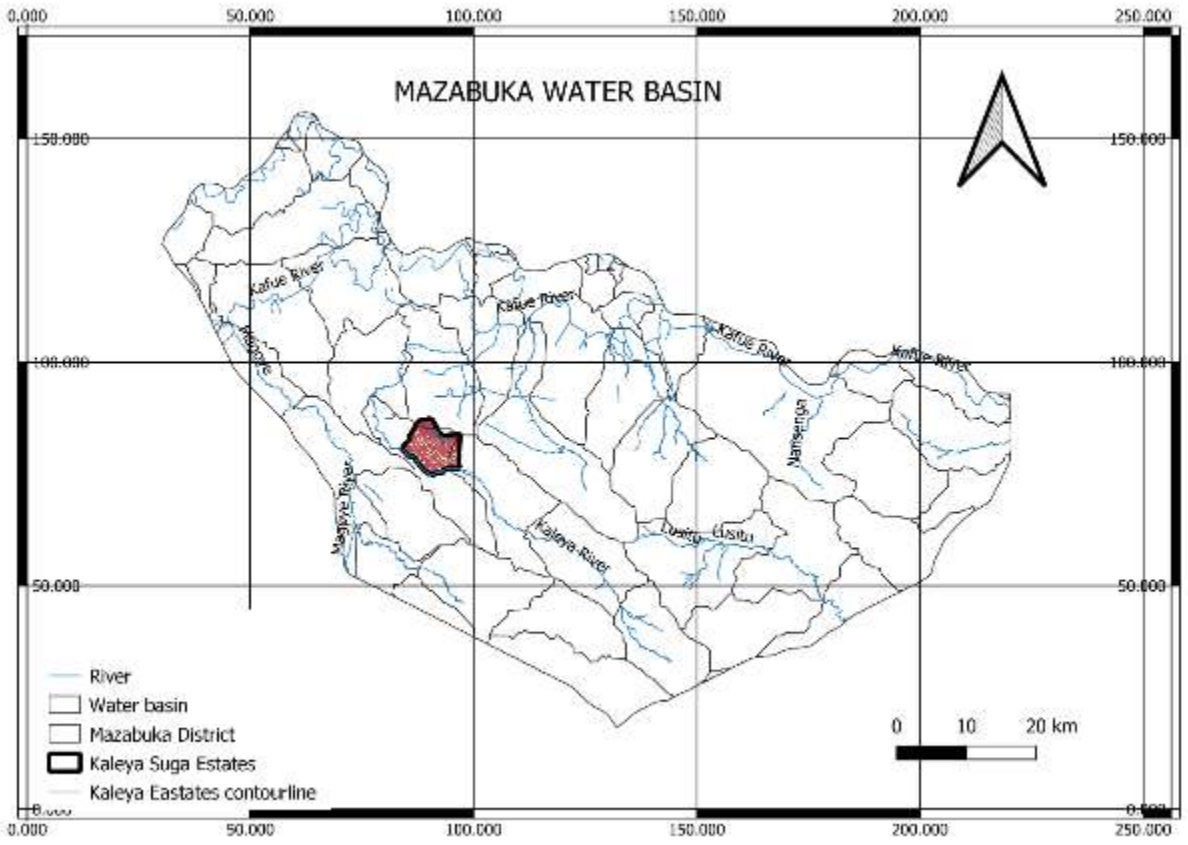


Figure 4.6: Water Catchment area of Mazabuka

4.1.7 Landscape and Topography

The project site forms part of the Kafue flats which is a vast floodplain with an altitude between 970 and 1000 m asl. The flats cover an area of up to 60 km wide and 250 km long. The average gradient is as low as 10cm per km.

The project site is generally flat and low-lying gradually sloping downwards towards the old sugar cane field to the south. The area of land between the project site and the Livingstone Road to the north is generally raised resulting in a gentle slope towards the east southern boundary of the estate. on the road network.

4.1.8 Geology and Soils

Soils

A field reconnaissance was conducted and transect walk through the project site revealed that the soils are generally sandy roams to sandy clay loams. The soil colour is brown to brown yellow where they are poorly drained while the riverine alluvial soils are pale sandy loams.

Geology

The project site lies within Mazabuka area that is underlain by strongly folded Meta-sedimentary rocks which have been assigned to the Katanga super group (1200-465Ma). These Meta-sedimentary rock unconformably overly a crystalline basement complex, comprising gneisses, schists, migmatites, granites and meta-carbonates.

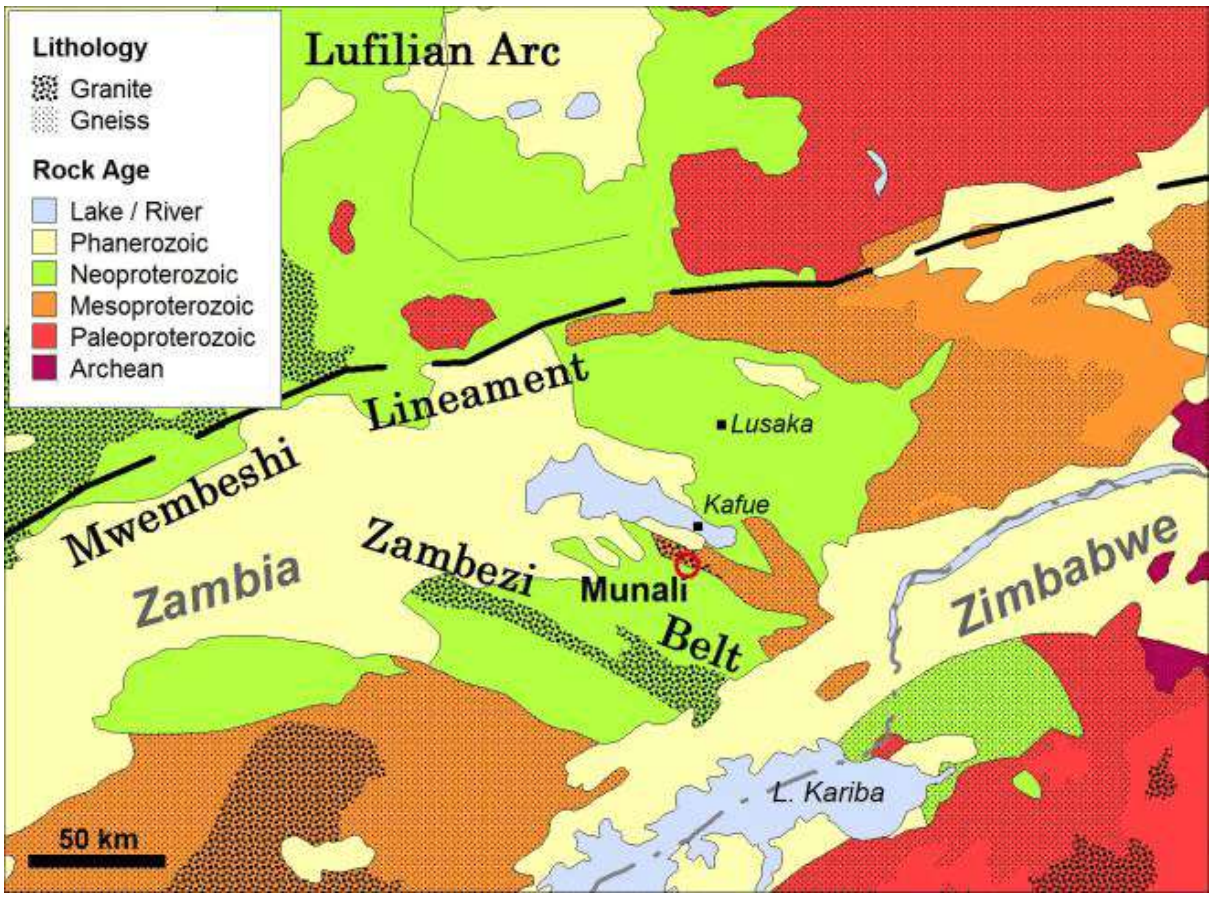


Figure 4.72: Geological layers in the Project region

4.1.9 Built Environment

No major infrastructure exists on the proposed project site. At the time of carrying out field surveys, the only identifiable infrastructure within the Expansion Project site were concrete water canals

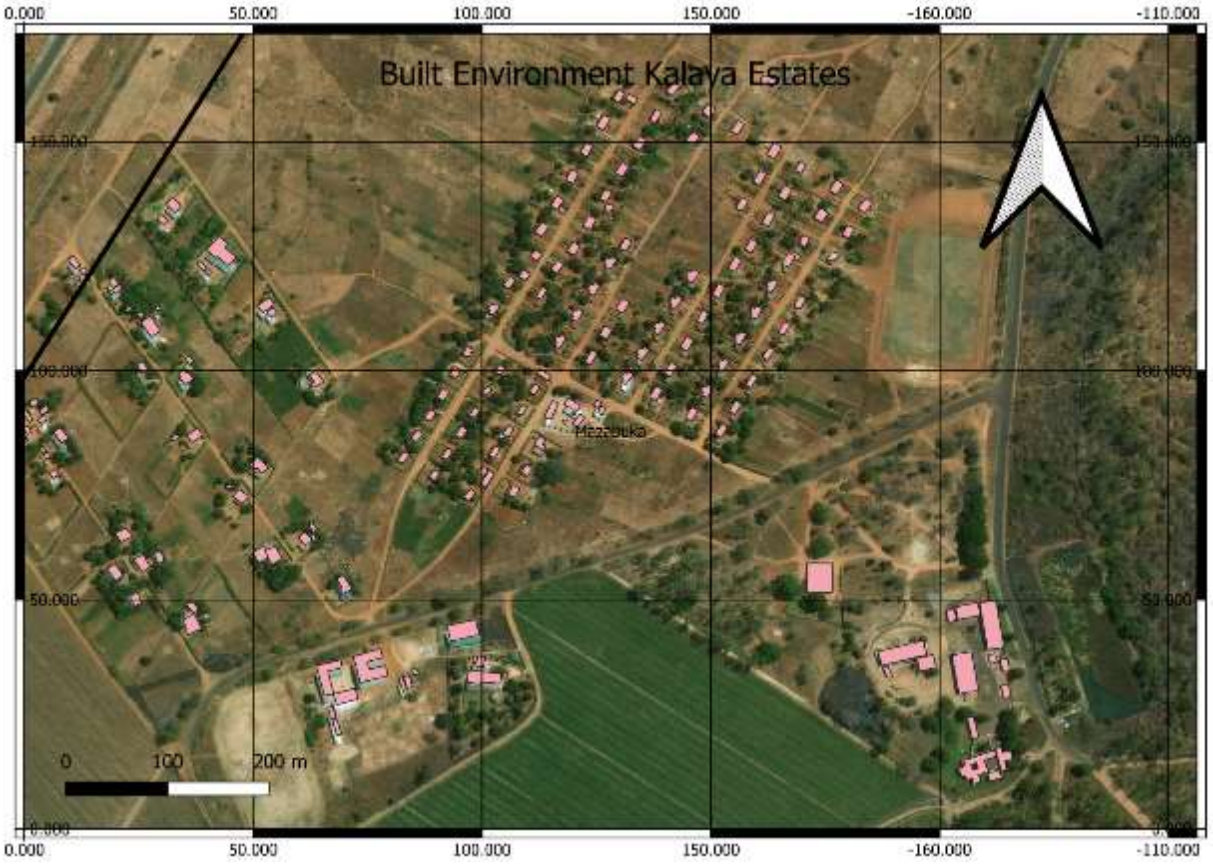


Figure 4.8: Built environment of the proposed site

4.2 Biodiversity

4.2.1 Flora

Vegetation in Mazabuka District, where the proposed project is located is typical *Miombo* Woodland with areas of dry evergreens, swamps and riparian forests known as *Mushitu*, *Chipya* woodlands and savannah scrubs. This unique woodland often grows to form a closed-canopy. However, at the proposed project site, there are no forests or significant grassland vegetation to be described except for patches of landscaped lawns, *lunkoto grass (cynodon dactylon) masau tree* and *mukuyu tree*

Figure 4.9: Vegetation on the project site

4.2.2 Fauna

Mammals

There is basically no animal life in the project area and vicinity as the area is situated on already disturbed land (residential and commercial areas). Only domesticated dogs, cats, goats, and rodents were observed in the nearby local community. Cows were also observed to occasionally graze within the property.

Reptiles

No reptiles were observed on the project site. However, through interviews with the local people, a few chameleons, lizards, and snakes were reported to be present in the project vicinity. Snakes such as Gaboon Viper, Puff Adder, Black-necked spitting cobra and brown house snakes migrate from the surrounding habitable areas such as thickets and maintained gardens in residential areas.

Birds

Although there was no possible bird habitation or nesting observed on the project site, a few bird species were observed in the project vicinity. These include *Passer domesticus* (*house sparrows)*, robins, craws and finches. There was no endangered or threatened bird life near the proposed site.

Insects such as *termites, grasshoppers,* and *butterflies* were observed in the project area during the site assessments.

Habitat

There was no significant habitat to be assessed for potential shelter and support to any wildlife as the site is on already disturbed land.

4.3 Socio-economic Environment

4.3.1 Administrative and political organisation and governance

Land Ownership, Tenure and Zoning

In general, all land in Zambia is vested in the hands of the President, who holds it on behalf of the citizens. The Commissioner of Lands administers land and the natural resources there in, on behalf of the President of the Republic of Zambia. The land for the proposed development is vested in the interest of Kascol by statutory tenure.

Land Zoning Surrounding the Site

The land around the site has a mix of commercial, residential, industrial, small holdings and Institutional use. The site however, is already zoned agriculture.

Population and Settlement

According to the 2010 Census of Population and Housing, Mazabuka has a population of 71.700 inhabitants. The average annual population growth rate for the district, based on the 2010 statistics, is 3.3% (3.2% for males and 3.5% for females). The population of Mazabuka, like is the general trend in Zambia, has been rising, and the last census recorded a higher growth rate. One would attribute the recent growth in population to the following factors:

- Increase in urbanisation.
- The establishment of non-traditional businesses and entrepreneurship like the new malls along the highways, which have created more employment opportunities
- The reduction in mortality from killer infections like HIV/AIDS related diseases such as tuberculosis and diarrhoea, which could have led to high mortality.

Economic Activities

Mazabuka is majorly a farming town. Most businesses thrive in the supply of farm products ready. Nonetheless, a number of economic activities have sprung up in the recent past in the following sectors

5 PROJECT DESCRIPTION

5.1 General Location

The proposed project comprises the Conversion of sugar cane irrigation system at Kaleya Smallholders sugar cane estate from farrow to sub-surface drip irrigation in Mazabuka Districts of Southern Province. The Project site is located to the south-east of Mazabuka on the Mazabuka to Livingston road approximately 7km from the Central Business District (CBD) and can be accessed via the T1 road. The proposed site covers a total area 2500. Table 3.1 shows the corner coordinates of the Project site.

Table 5.1: Project site Corner Coordinates

A. 35L 580496.14 m E 8243616.67 m S
B. 35L 580525.47 m E 8238748.59 m S
C. 35L 572125.71 m E 8241393.59 m S
D. 35L 573370.93 m E 8242908.59 m S
E. 35L 573125.24 m E 8243102.57 m S
F. 35L 574562.27 m E 8245375.00 m S
G. 35L 576403.67 m E 8245798.69 m S
H. 35L 577896.92 m E 8243359.04 m S

The location of the proposed Project site is shown in Figure 1.1 while Figure 1.2 shows the general layout of the proposed site.

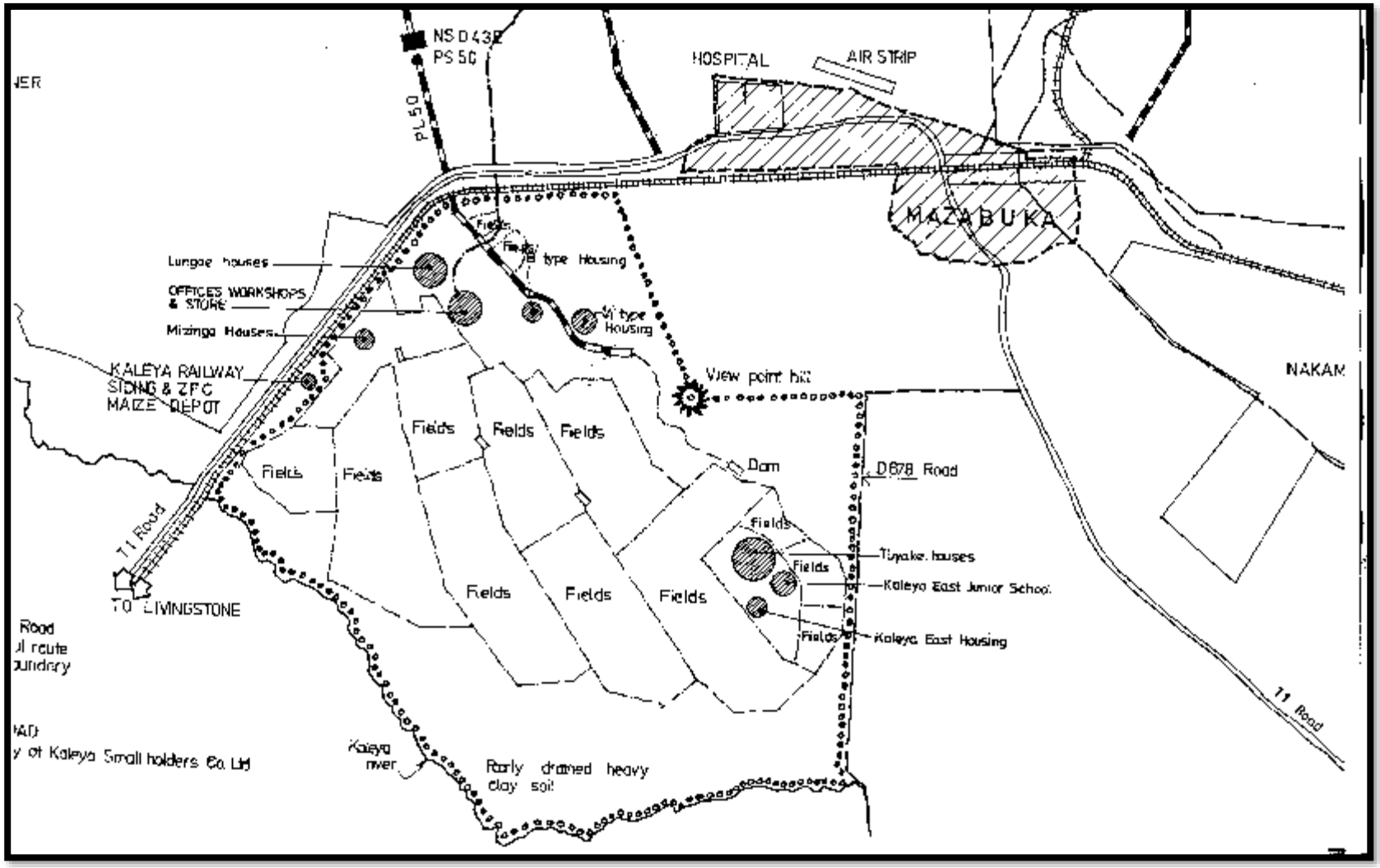


Figure 5.1: Kascol Site perimeter

5.2 Proposed Improvements

The drip irrigation Project will be on a site which measures approximately 2500Hectares, with an estimated 10% of the area allocated to road reserves. Ancillary uses will occupy a further .02% of the land. Sugar can cultivation takes up the rest of the land

5.2.1 Site Preparation Phase

This phase will involve carrying out surveys of the proposed site. Surveys in this case refer to land investigations, drilling, measurements and pre-works examination of the site. This will facilitate the development of a conceptual design of the site structures, especially the road network. The output from this phase is an environmentally friendly-engineered final design for the drip irrigation system to be implemented in the construction phase.

5.2.2 Construction Phase

The actual development of the proposed Project will take place in the construction phase.

Project activities during construction will include the following:

- Creation of service tracks to site
- Excavation, filling, levelling, compaction
- Construction of foundations involving excavations and concrete works (pump house)
- Transportation of construction materials
- Construction of Project components and supporting infrastructure

Initial Management Activities

The initial activities during this phase relating to construction management will include:

- Establishment of the construction Project Management Team (PMT);
- Establishment of a professional Site Inspection Team;
- Establishment a management, inspection, and reporting procedure.

There will be no labour camp on the Project site, although security personnel will be provided with a guard house on site. Unskilled labour will be sourced locally, and therefore will not require on site accommodation. Skilled labour will be accommodated in town to avoid the necessity for a costly site camp. Various plant and equipment to be mobilised to site for the execution of civil works and will include:

- Graders
- Bulldozers
- TLB- Tractor-Loader-Backhoe)
- Generator Set 125 KVA
- Excavators
- Water Pumps
- Mechanical Tool Boxes
- Tipper Trucks
- 10 Ton Trucks

Site Preparation, Levelling and Clearing

Initial site preparation will entail removal of the existing vegetation, scarifying of topsoil and earthworks to establish the required levels. The project will be constructed on the existing level requiring minimal basic earthworks, which will minimise the need for filling of areas with topsoil. Earthworks will for the most part involve the use of heavy machinery such as bulldozers and graders.

Materials Mobilisation, Handling and Storage

This refers to the acquisition, delivery, and storage of materials required for construction works. Gravel, laterite, and stone aggregates, if necessary, will be acquired and transported to the site from Zambia Environmental Management Agency (ZEMA) approved quarry sites within the district. Provision will be made for bulk storage of materials such as sand, aggregate and laterite. Petroleum products, such as fuels (petrol/diesel), lubricating oils, and hydraulic fluids will also be sourced. Only limited amounts of these materials will be stored on site as reliable supply sources will be in close proximity within the district. Other materials that will be transported and stored on site include sand, cement and blocks.

Movement of Construction Traffic and Heavy Machinery

Transportation of construction materials and waste to and from the site will involve the movement of heavy vehicles on access roads to the Project site as well as within the site. Construction activities such as clearing, excavation, earth moving and mixing of concrete will involve the movement and operation of heavy machinery and equipment on and around the site.

Construction Workers Activities

Although no labour camp is planned on the Project site, social interaction activities will undoubtedly result between Project workers and local communities. The Project will as much as is possible hire labour from within local communities. The presence of construction workers will require the provision of water for food preparation and domestic purposes as well as the provision of sanitation and health services on site or easily accessible.

Waste Management

Waste management during the construction phase will include:

- Provision of workers sanitation.
- Collection and disposal of domestic waste at ZEMA approved disposal sites.

5.2.3 Operation Phase

The completion of each development phase of the Project will result into the commencement of the respective operation of the particular facilities. Thus the main activities that will exist during the operation stage will be those that will relate to the residential operation.

Commuter Traffic

The volume of traffic to and from the Project area is expected to increase appreciably once the Project is operational. This will especially apply at peak times during the day with commuter traffic and during peak periods.

Solid Waste Management

Solid waste management from the facility will be the responsibility of the developer who will need to ensure that they have adequate garbage collection facilities as part of their area development plan. Waste will be collected regularly by an approved contractor for disposal in accordance with section 10 of SI No. 112 of 2013.

6 IDENTIFICATION OF ENVIRONMENTAL IMPACTS

Taking into consideration the Project components and phases and the preliminary baseline information obtained to date, the following potential impact areas will be addressed during the ESIA process:

- Status of furrows drains post drip irrigation
- Air quality
- Noise
- Water quality and use
- Soils
- Biodiversity
- Landscape and visual impacts
- Cultural and archaeological heritage
- Land use and livelihood
- Socio-Economic Impacts
- Community Health and Safety
- Occupational Health and Safety
- Resources and waste
- Cumulative Impacts

With regards to the Area of Influence the following criteria have been adopted:

- *Local*: - impacts that affect local environmental, socioeconomic or cultural heritage resources or are restricted to a single habitat/biotope, a single (local) administrative area or a single community. Although considered local, the geographical extent of each impact within this category can be variable, depending on the impact type and location.
- *Regional/Provincial*: - impacts that affect regional environmental, socioeconomic or cultural heritage resources or are felt at a regional scale as determined by habitat type, administrative boundaries or community. Tentatively, the geographical extent of regional impacts will be up to tens of kilometres.
- *National*: - impacts that affect national environmental, socioeconomic or cultural heritage resources or affect an area that is nationally protected/ important. Tentatively, the geographical extent of national impacts will be up to hundreds of kilometres.
- *Trans-boundary/International/Global* – impacts that are experienced in one country (or several countries) as a result of activities in another, which could reach to planetary level in some occasions (e.g. global warming).

The list of anticipated impacts provided here is indicative and will be further elaborated during the ESIA. The classifications are preliminary, based on previous experience and similar projects and will be further analysed and detailed in the ESIA following the methodology described in the TORs. The magnitude and significance of the impacts will be ascertained during the detailed impact assessment.

Table 6.1: Preliminary impact description and classification

Impact	Summary Description	Preliminary Classification
Air Quality	Construction activities such as excavation, creation of access roads, mixing of materials and vehicle movement will result in temporary impacts to air quality due to the increase in dust generation in the Project area. This in addition to combustion emissions from the machinery and vehicles may negatively impact sensitive receptors near the Project site. Other impacts to air quality may result from the vehicular emissions due to increase in vehicle movement during operation of the Project.	Negative Direct Long term Irreversible Can be mitigated
Noise and Vibrations	Construction activities such as blasting and construction of the Project infrastructure will result in increase in noise levels in the Project area. Operation of the Project will result in noise due to human activities and movement of vehicles to and from the Project site. Sensitive areas near the Project site including fauna breeding areas and households may be negatively affected by the noise.	Negative Direct Temporary and long-term Unavoidable Irreversible
Water quality and use	Generation of waste water and solid waste from construction activities and installation of other ancillary infrastructure and from the camp sites may result in contamination of surface and ground water during the construction phase. Accidental spills of fuels or other hazardous substances during construction and operation may affect surface water and ground water quality. Local surface and ground water resources will be used during construction, operation and maintenance activities which may compete with other existing uses of water in the area.	Negative Direct and indirect Temporary and long-term Avoidable, Irreversible
Soils	Removal of vegetation during site preparation and other construction activities may result in soil erosion and loss of top soil. Accidental spills of fuels or other hazardous substances may contaminate the soils.	Negative Direct Temporary and long-term Avoidable Irreversible
Biodiversity	Removal of vegetation during construction activities may result in habitat loss, habitat fragmentation, and loss of endemic species if any.	Negative Direct and indirect Temporary and long-term Unavoidable, Irreversible
Landscape and visual	The construction of the proposed Project will result in a change in the landscape of the Project area which may affect the visuals of the people living in the surrounding areas.	Negative Direct Long-term Unavoidable Can be mitigated
Cultural and Archaeology heritage	Ground disturbing construction activities may potentially affect below-ground archaeological remains as well as heritage sites, which might have a cultural or natural significance. The influx of workers hired by the Project as well as residents during operation of the Project may result in changes in the culture of the locals.	Negative Direct Long-term Avoidable, Reversible

Impact	Summary Description	Preliminary Classification
Land use and livelihood	Restrictions to land use due to the construction of the Project components will impact the surrounding communities' use of land for farming. These changes will in turn affect the livelihoods and the way of life of the communities.	Negative Direct and indirect Long-term Can be mitigated
Socio-economic	The proposed Project will offer skilled and unskilled employment to the locals (male and female) and others from surrounding areas. The influx of Project employees as a result of the Project will create more circulation of revenue due to increased demand for local goods and services. It will also bring economic development followed by demographic and urban growth.	Positive Direct and indirect Temporary and long-term
Community health and safety	Impacts to community health will arise from the influx of workers hired by the Project that may increase the spread of HIV/AIDS during construction of the Project. Other health impacts due to noise, water and air pollution may occur during the construction phase. Impacts to safety may arise from construction works if work areas are left unguarded with easy access especially for children. During operation, community health and safety impacts related to the spread of HIV/AIDS, improper waste handling and other impacts resulting from human activities.	Negative Direct and indirect Temporary and long-term Avoidable, Irreversible
Occupational health and safety	Occupational health and safety impacts occur during the construction, operation and decommissioning phases of the Project due to the activities inherent to the Project. Hazards include working at height, lifting operations and inadequate Personal Protective Equipment (PPE), among others.	Negative Direct and indirect Temporary and long-term Avoidable, Irreversible
Waste generation	Generation of solid waste and waste water during construction activities from the worksite and the workers camp will result in a negative impact to the environment. Solid waste from the housing complex will be generated throughout the Project lifecycle.	Negative Direct Long term Avoidable Irreversible
Cumulative impacts	The combined effects of development Projects in the area of influence of the Project may be insignificant on an individual basis, but may have a significant effect on a cumulative basis.	Positive and/or negative Direct and indirect Temporary and long-term

7 PROPOSED MITIGATION MEASURES

The proposed mitigation measures listed here are associated with each type of impact identified as a potential impact in the Environmental Impacts section above. This is a preliminary list of measures identified based on previous experience and similar projects and will be further detailed and elaborated on in the ESIA, with potential modifications made depending on the final results of the ESIA. During the ESIA, these measures will be consolidated into an ESMP where all of the mitigation, management, monitoring and enhancement measures will be organised in a structured way that can be implemented throughout the Project lifecycle.

Table 7.1: Proposed mitigation measures

Impact	Proposed mitigation measures
Air Quality	▪ Periodic monitoring of air quality. ▪ Provision of dust masks to the workforce at points of high dust generation. ▪ Dust suppression using a water bowser. ▪ Regular maintenance of construction vehicles to reduce exhaust emissions.
Noise and Vibrations	▪ Limit construction activities to during daytime hours. ▪ Regular maintenance of construction vehicles and equipment. ▪ Periodic noise monitoring. ▪ Provision of ear plugs to the workforce at points of elevated sound levels. ▪ Locate noise generating equipment away from sensitive receptors.
Water quality and use	▪ Minimise impacts to surface and groundwater. ▪ Treatment of wastewater prior to disposal by a certified wastewater treatment company or at the on-site wastewater management facilities to be constructed. ▪ Bunded or contained oil/fuel storages. ▪ Ensure that construction debris is disposed of in a sensible manner and not thrown into wells or boreholes. ▪ Management of working sites, access roads, yards and camps to minimise sediment runoff into water courses. ▪ Periodic water monitoring. ▪ Prioritise construction activities during the dry season. ▪ Ensure adequate drainage design. ▪ Prioritise efficient use of water resources.
Soils	▪ Remove and remediate any soils contaminated by accidental spills. ▪ Re-vegetation around borrow pits after construction works are completed. ▪ Stockpile the topsoil and replace it after construction works are completed. ▪ Conduct training on proper handling of fuels and other hazardous substances.
Biodiversity	▪ Minimise Project footprint wherever possible. ▪ Minimise impacts on flora and fauna through management of dust, waste and noise generation. ▪ Design of a Biodiversity Action Plan (BAP) for the Project lifecycle. ▪ Preparation and implementation of the ESMP. ▪ Identification and, if necessary, relocation of endangered flora species. ▪ Limit vegetation clearing to only what is absolutely necessary. ▪ Re-vegetation of disturbed areas after construction work is completed. ▪ If necessary, develop and implement a reforestation plan to compensate for trees cut and impacts to habitats.
Landscape and visual	▪ Limit vegetation clearing to only what is absolutely necessary.

Impact	Proposed mitigation measures
	▪ Re-vegetation of disturbed areas after construction works are completed. ▪ Ensure selected location of workers camp and borrow areas are away from sensitive landscape locations.
Cultural and Archaeology heritage	▪ Conduct a Heritage Impact Assessment to survey known monuments and archaeological sites. ▪ Preparation and implementation of a Project – specific Chance Find Procedure. ▪ ESMP to outline the Cultural Heritage Management Plan
Land use and livelihood	▪ Ensure on-going stakeholder engagement with the locals from the surrounding areas. ▪ Preparation and implementation of a Grievance Redress Procedure.
Socio-economic	▪ Prioritise the employment of locals (male and female) for unskilled labour during construction. ▪ To the extent possible, ensure purchase of goods from local suppliers through sub-contracts to local firms (subject to availability, quality and cost) and purchasing of goods from local retailers. ▪ Ensure on-going stakeholder engagement with the locals. ▪ Preparation and implementation of a Grievance Redress Procedure.
Community health and safety	▪ Preparation and implementation of a community Health and Safety Management Plan to address health and safety risks for communities. ▪ Preparation and implementation of a Grievance Redress Procedure. ▪ Conduct HIV/AIDS awareness meetings and distribution of condoms to the locals. ▪ Ensure adequate management of all construction waste. ▪ Ensure proper storage of waste and placing of barricades and warnings around all sensitive and dangerous areas. ▪ Avoid idling of equipment when not in use. ▪ Communicate all hazardous activities to the surrounding communities at the start of each new phase of the Project and whenever needed during each phase. ▪ Regular maintenance of all construction equipment. ▪ Train all workers on appropriate interactions with communities and include workers code of conduct in contracts.
Occupational health and safety	▪ Preparation and implementation of a Health and Safety Plan (HSP) and an Emergency Response Plan (ERP). ▪ Conduct regular safety meetings and induction on HSP and ERP. ▪ Conduct HIV/AIDS awareness meetings and distribution of condoms to the workforce. ▪ Ensure adequate management of all construction waste. ▪ Ensure proper storage of waste and placing of barricades and warnings around all sensitive and dangerous areas. ▪ Ensure good site management practice is implemented at the work sites to reduce health and safety risks. ▪ Provision of appropriate Personal Protective Equipment (PPE) to all workers. ▪ Regular maintenance of all construction equipment. ▪ Monitoring of all work activities and implementation of a near miss, incident and accident reporting and follow-up system.
Waste generation	▪ Ensure adequate storage, management and disposal of all construction, operation and maintenance waste. ▪ Preparation and implementation of the ESMP. ▪ Materials to be sourced with sustainable procurement principles and from as close as possible to the Project site so as to minimise impacts of production and transport.

Impact	Proposed mitigation measures
	▪ Identify beneficial uses or opportunities for recycling construction spoil and other wastes wherever possible. ▪ Develop and implement a Waste management plan and system.
Cumulative impacts	▪ Preparation and implementation of the ESMP. ▪ Ensure on-going stakeholder engagement with the locals from the surrounding communities. ▪ Preparation and implementation of a Grievance Redress Procedure.

8 ANALYSIS OF THE PROJECT ALTERNATIVES

8.1 No Project scenario

The option of not undertaking the Project was considered and not given priority as the investment in the Project would result in more benefits and improve the company's efficiency in the utilisation of the water resource.

8.2 Site Alternative

The Kalaya sugar plantation site is owned by the developer and the proposed Project was identified as being a suitable developmental opportunity for the land given its size, situation and nature, as such, no alternative sites were considered for the Project.

The following factors were also considered:

- The District Council has a master plan for the area, and has zoned and allocated this land to Kascol as part of its district development plan, therefore this would be the most suitable location as identified by the local and district stakeholders.
- The total extent of the site is large enough to provide enough space for the proposed Project
- The site is ideally located for structured planning and the type of development intended.
- The facilities that the development intends to provide are essential around the proposed development site area. This is according to stakeholder consultation.
- The site is within reasonable distance of the power lines, making it possible for the construction of permanent connections to these services without difficulty.
- The site has good ground water potential.
-

8.3 Design Alternatives

Although recent advancements in sugar can irrigation has being, Pivots and Sprinkler the developer settled for sub surface drip irrigation for the plantation. The proposed design was selected as the most cost effective in terms of construction raw materials demand, compatibility to surrounding structures, and market demand.

8.4 Power Alternatives

The principal source of electricity both during construction and operational phase of the Project is expected to be hydro-power energy to be sourced from a nearby ZESCO main substation which is found within Project site. The ZESCO main substation was picked as a major source of power as it provides the clean and less costly power alternative which is also environmentally friendly. Thermal or solar generated electricity may also be required for back-up during periods of supply disruption. This will be in the form of on-site generator sets or solar panels.

.

8.5 Water Supply and Sewer Disposal Alternatives

The Project site is located in an area that is serviced by on site water and sewerage system the developer will need to use onsite sewage reticulation and waste water treatment plants.

.

8.6 Raw Material Alternatives

The developer will acquire raw materials such as laterite and building/river sand locally from licensed suppliers within the Project location. However, if the raw materials will not be available within the area, they will be sourced from other towns as well as other parts of the country.

8.7 Technology alternative

The following irrigation system / technology alternatives are available for this Project in order of preference:

- Furrow irrigation
- Sub surface irrigation system.

It should be noted that concrete for some works like the foundation for the pump house and walls will have no alternative.

8.8 Analysis of Alternatives

The alternatives considered for the implementation of the Project are limited and have been analysed to determine how feasible they are in terms of helping to achieve the Project objectives.

The best alternatives will be adopted for implementation.

- *Site alternative*- Kalaya sugar plantation is the only feasible site in the area, as it is integral to the Councils Development Plan.
- *Design alternative*- The adopted design for the proposed Project is a standard sub surface irrigation system. An appropriate design is vital to the effectiveness of the Project in terms of cost, material and market suitability.
- *Power alternative*- The proposed energy source for the Project site is hydro-power connected through the ZESCO mains. The alternative power source considered was the use of on-site generators or solar panels but this was not adopted due to the continuous supply of power required at the facility, and the cost of implementation for a Medium Cost facility.
- *Water supply and sewer disposal*- The adopted water supply alternative is the connection to the on sxisting on site water and sewerage system the other alternatives considered for water supply was the use of boreholes which will be used as back up water source.
- *Raw material alternative*- The raw material for the construction of the proposed Project will be laterite, building/river sand, steel and aluminium which will be acquired locally, and only when they are not available locally will they be acquired outside the district area.
- The No-Project alternative in respect to the proposed sub surface drip irrigation Project implies that the status quo is maintained. Under the no-Project alternative, the existing furrow irrigation system use will not change; the plantation owner will continue to make an efficient furrow irrigation system. The proposed irrigation system would not be implemented and the

expectations attached to the Project would not be met. The no-project construction alternative is the least preferred from the socio-economic perspective due to the following factors:

- The existing irrigation system is not efficient and most profitable;
- Little or no additional employment opportunities will be created if the project does not go ahead

From the analysis above, it becomes apparent that the "no Project alternative" is not a viable alternative to the Project Proponent.

9 CONSULTATION AND PUBLIC PARTICIPATION

Public consultation in the framework of the proposed Project is organised in three main stages:

- Pre-Scoping phase consultation;
- Scoping phase consultation; and
- ESIA phase consultation

9.1 Pre-Scoping phase consultation

The pre-scoping phase consultation activities were undertaken as part of understanding the objectives of the Project Proponent and eventual recipients. The main objectives of this consultation were to:

- Advise the Project Proponent on the legal framework for Project development;
- Gather information from the project proponent about the Project;
- Inform people about the upcoming public consultation (i.e. Scoping and ESIA consultations);
- Strengthen relationships between stakeholders and the Project Proponent; and
- Understand the best approach and methodology of engaging the communities in the area.

During this stage, stakeholders were identified, including the District and Council representatives. Appointments were then made to meet these stakeholders and set future appointments for the scoping phase meetings.

9.2 Scoping phase consultation

The purpose of the consultation process during the Scoping phase was to:

- Inform stakeholders about the ESIA and details of the proposed Project;
- Raise information about the Project;
- Gather comments and concerns regarding the Project; and
- Further strengthen relationships with the stakeholders.

For the scoping phase, stakeholders were identified at District level in Mazabuka district including district department heads within the town council and at community level.

Notification for the district scoping meeting was through print media and email communication for various stakeholders within the district to attend. For the community meeting, notification was through word of mouth to farms and houses in the vicinity of the Project site. Additionally all interested parties were asked to air their concerns through the Kascol office by writing them down in any appropriate language and placing them in at the Project managers office

Scoping meetings took place on between the month of September and

The table below summarises the stakeholder consultation undertaken during the scoping phase.

Table 9.1: Scoping phase public consultation

Stakeholder	Method
District stakeholders	Consultation meeting with • Zambia Sugar, MOA, Planner council, Water Affairs, Small holders (KASCO) • KASCO employees - Project Manager, Field officers , Senior Manager , • Farmers - up stream Kafue basin, With Kaleya and on the edge of kaleya
Communities	Consultation meeting with the Project affected persons in at the project site • Surrounding residents – Neighbours • Transact walk/Drive in the community

9.3 ESIA phase consultation

The aim of the ESIA phase consultation will be to:

- Inform stakeholders about the findings of the specialist reports and the results of the impact assessment;
- Gather feedback on impact assessment and likely concerns on the process or the results;
- Gather feedback on the proposed mitigation measures as well as the environmental management and monitoring plan; and
- Further strengthen relationships with the stakeholders.

Formal stakeholder meetings will be held as necessary. Stakeholders will be notified using the most appropriate methods including public announcements in the local language on radio for community level meetings, as well as by written invitation for district level meetings.

Stakeholder concerns or feedback provided during the meetings will be taken into consideration and will be worked into the relevant sections of the ESIA as applicable.

10 SOCIAL ANALYSIS

The Project area has a peri urban setting and the implementation of the proposed will bring about community development to the Project area in addition to enhanced standard of living for the locals.

The Project Proponent will ensure that the communities' capacity to withstand environmental and social impacts is not exceeded. The Project Proponent will commit to stakeholder engagement throughout the project cycle in order to effectively manage environmental and social concerns that may arise as a result of the Project activities. Information gathered during the baseline studies will be used to evaluate Project impacts and analyse the social dynamics and needs of the communities.

An Environmental and Social Management Plan (ESMP) will be developed to address the Project's environmental and social impacts, mitigation and enhancement measures as well as performance indicators. The positive and negative impacts that may arise from the implementation of the Project will be evaluated in the full ESIA. The impacts to be evaluated will include all the impacts throughout the Project cycle including construction, operation and decommissioning phases. Special attention will be given to the inevitable deforestation due to an increased demand for charcoal, traffic on the road, and increased runoff to the road necessitating the design of appropriate drainage structures. Of particular importance will be the management of solid and liquid waste generation. The project proponent will engage local authorities to ensure mechanisms are in place for the collection and appropriate disposal of solid waste by the Council, and the provision and maintenance of utility services by the appropriate authorities. Monitoring of impacts will be carried out over the Project lifecycle.

All costs associated with the implementation of the ESMP and any other required environmental and social mitigation measures will be fully borne by the Project Proponent to prevent unwarranted financial burden on the communities.

At this stage, the Project budget has not yet been finalised. A detailed budget estimate for environmental and social issues and concerns will be developed based on the ESIA and the ESMP.

11 ANALYSIS OF POSSIBLE INFORMATION GAPS

Full descriptions of the ESIA methodologies to be employed along with supporting studies that will be conducted are included in the Terms of Reference submitted to ZEMA for this ESIA. Any limitations or absence of data that may lead to uncertainties during impact prediction and evaluation will be considered and articulated in the ESIA. Monitoring measures will be put in place to address any uncertainties where applicable.

This Scoping Report has been developed based on the expert opinion of the Project team, desktop studies of the information available for the Project area, data collected during the initial site visit and information from the stakeholders during the scoping meetings. The ESIA team will make commitments to carry out adequate baseline surveys to fill some of the information gaps.

12 CONCLUSIONS AND RECOMMENDATIONS

The Scoping Report for the Drip irrigation Development at Kaleya Smallholders plantation has studied available technical information on the biophysical, socio-economic and cultural heritage baseline of the Project area. It has also included the information gathered during the scoping site visit. This was done in order to identify sensitive receptors in the Project area and assess the potential positive and negative impacts that may arise from the implementation of the proposed Project.

The proposed Project will comprise the conversion of a furrow irrigation system to sub surface drip irrigation. A preliminary assessment of the Project's interaction with its environment has revealed that the Project is likely to cause impacts to air quality, water quality and use, biodiversity (flora and fauna), community and occupational health and safety, soils, landscape and visuals, cultural and archaeological heritage and the socio-economy of the environment. Other impacts may include noise generation and waste generation and other cumulative impacts.

Implementation of the proposed Project will facilitate optimal use of the water resource and will help reduce on the incidence of disorganised water usage. The proposed Project will result in a number of benefits to the people in its area of influence, as well as improving the efficient used of water.

The Terms of Reference for the ESIA are being submitted with this Scoping Report to the Zambia Environmental Management Agency (ZEMA) for approval. Upon ZEMA approval of the Scoping Report and TORs, the next stage of the Project will be preparation of the ESIA Report. The ESIA studies will involve a more thorough identification and assessment of potential impacts (and associated mitigation or enhancement measures) to the bio-physical, socio-economic and cultural environment.

Reference

Lusaka city state of the environment report 2008

CSO. (2010). *Census of Population and Housing: Population Summary Report.* Central Statistical Office. Lusaka, Zambia

CSO. (2010). *Census of Population and Housing: Population Summary Report.* Central Statistical Office. Lusaka, Zambia: GRZ

LCMS. (2016). *2015 Living Conditions Monitoring Survey (LCMS) Report.* Central Statistical Office. CSO

meteoblue weather. (2020). *meteoblue weather.* Retrieved January 16, 2020, from https://www.meteoblue.com/en/weather/historyclimate/climatemodelled/Lusaka_zambia_91890

Thieme, J. G., & Johnson, I. R. (1975). *Geological Map of the Republic of Zambia.* Geological Survey Department. GRZ

Appendix A –Minutes of scoping Meetings

MINUTES OF THE SCOPING MEETING FOR THE PROPOSED CONVERSION OF 2,164HA OF SUGAR CANE IRRIGATION SYSTEM FROM FARROW TO SUB-SURFACE DRIP AT KALEYA SUGAR PLANTATION IN MAZABUKA DISTRICT OF SOUTHERN PROVINCE ON 7 TH OCTOBER 2021 AT KASCOL LODGE IN MAZABUKA DISTRICT

Time: 15:10hrs

Attendance List: As attached in Appendix --

The Agenda of the meeting was as follows:

- Opening Remarks
- Introduction – purpose of meeting
- Discussions/questions
- Closing Remarks

Opening Remarks – Muimui Mufana (Kascol)
The meeting was officially opened by Mr Mufana Muimui the Estate Manager at Kascol, and chairman for the meeting, participants introduced themselves, after the opening remarks by the Manager. The floor was then given to Mr. Mwinga the Risk Manager at KASCO

Mr. Mwiinga (Risk Manager KASCO)
The meeting started at 15:10 with Mr. Mwiinga welcoming all invited stakeholders and staff members from KASCOL present and apologizing on behalf of the Company for starting the meeting late due to some logistical challenges that were being worked on during the preparation of the meetings. The opening prayer was given by Mr. Mwiinga.
He explained that the meetings have been divided into two days being 7th and 8th October 2021 for the purpose of adhering to the Covid-19 guidelines on public gatherings. The invited guest comprised of Key stakeholders, small holder farmers, neighboring famers and staff members of KASCOL.

Mr. Mwiinga went ahead and gave a brief back ground to the current system of furrow irrigation that has been used from inception. Mr Mwinga further informed the gathering that the Manager was happy to see key stakeholders from district level and also the farmers including neighbors who found time to come and attend such an important meeting to discuss on the intention of KASCOL to change irrigation system to subsurface drip type so as to increase on good management of resources. The project change will be in phases to allow learning and financial fundraising on the role out for the rest of the farm. The participants were encouraged to be more proactive to ask questions, clarifications and contribution on the discussion in this process.

Mr. Mwiinga – further Explained in summary that the current drip irrigation is just a pilot project hence the purpose of this process of Scoping and this disclosure meeting is to inform ZEMA of KASCOL plans of expanding the hectares to 2,164HA of subsurface drip irrigation. This has been possible with financial support from WWF/DFCD.

The Consultants lead by Mr Lovemore Muma were introduced and invited to give highlights on the purpose of the meeting and importance of scoping process as part of the EIA/ESIA process.

The Principal Consultant highlighted some of the purposes for assessment as follows:-

- Contamination of the environment.
- Drinking water contamination
- Degradation of soil
- Noise and vibration creating concern or nuisance to the society.
- Losing creatures inhabitants.
- Clearing and degrading.
- The culture may also have an impact.
- Local infrastructure development
- Employment creation
- Increase in sugar stock
- Water generation
- Mosquito bleeding etc.

He further said that after this meeting a draft of terms of reference will be generated and will be submitted together with scoping report to Zambia Environmental Management Agency for approval and further process.

The Consultant went on to say that the proposed expansion area is about 2164ha, with water drawn from Kafue River to Kaleya region. The subsurface drip irrigation system will be used instead of the usual furrow irrigation. He further said that the expansion program will be done in phases with support from WWF as funders for the project the estate looked for funders in order to expand the area in that way.

The Consultant told the meeting that there can be positive and negative impacts on the expansion to the community especially with the new technology therefore the need to have a discussion and engage with the communities and key stakeholders to categorically look at possible solutions and improvements that can be put across.

The Consultant Mr Muma further informed the gathering that a brief technical detail on the benefits of this change of irrigation system can be explained by Mr Nansai who is an Agriculture small holder Agronomy officer in charge of field works for KASCOL.

Mr Nansai: (Agriculture small holder agronomy officer). Started to explain to the meaning of the change from furrow to drip irrigation in a basic way with an assurance that the estate will organize a more detailed session in form of a field day for learning purpose and appreciate the already available prototype. The basic drip irrigation introduction for the purpose of showing the knowledge and enhance the interest even for domestic use.

He highlighted the different number types of irrigation being; 1, Flood irrigation. 2, Surface irrigation 3, subsurface irrigation 4, Overhead (Pivot/Sprinklers). He explained the advantages

and disadvantages of all the above.Drip was explained in detail for purpose of farmer and stakeholder to appreciate.

Mr Nansai – Explained the meaning of changes from Furrow to Drip irrigation. He explained in depth the difference between surface irrigation and surfaces. But KASCOL will embark on surface irrigation.

The advantage of Drip was explained versus the less usage of water.
Mr Muma - Explained that the government standard on the regulations. The regulation indicated that all hectares above 50 will be subjected to the process of an ESIA The consultant went on to clarify that the first action will be to have this meeting called scoping meeting were a baseline information will be obtained to verify the prevailing conditions of water pollution, usage of water and soil status etc.

Mr. Muma further explained the process of ZEMA from submission of the scoping and ToR for approval to commence of the project.
The discussion was opened to the public so that the stakeholders can ask question, contributions and suggestions.

Ms. Precious Mubitelela raised her hand to give a word of encouragements to the rest of the participants on the positive side of such a technology. She said that the importance of Drip surface irrigation is associated with less human labor.
Mr. Mweene Kisito seconded the above point and went ahead and mentioned that the positive side of drip irrigation system in terms of fertilizer application and usage of pesticides will be faster because it will be feed directly into the system. Mr. Mweene Kisito went on to ask two questions?

Q1. Are handouts of this meeting going to be shared for reference purpose?
Consultant; Copy of this presentation will be shared with KASCOL so that they can print copies and share

Q2. What should be done to ensure there's no blockage in the system?
Mr. Nansai; Explained the need to flash the system weekly and also feed the drip lines with harmless cleaning chemicals to dissolve any debris that may have entered.
Michael Hachilala asked a question?

Q1. What will be the difference of water billing compared to furrow system?
Mr. Mufana (Estate Manager) - The water billing will be more accurate because the water usage will be audited well with specifics.

Mr. Mwiinga – Explained in detail on the advantage of savings on bulk water purchase from Zambia Sugar. He said this will give KASCOL more leverage to implement most of the banked activities in line with diversification for the purpose of spreading the developmental risk rather than depending on one crop. Most of these savings will be routed to other priorities such as fish farming, diversification of crops like Macadamia and Soya Beans. .

Kelvin Chigama – (Nzelu weka farmer)

Q1. I expect Loss of employment to the communities who have been working on the furrow control of irrigation since the new technology will require less labor.
Similar question was asked by:

Lwiinde (Small holder) – Water expenses may reduce due to the project. Reasons being that water usage will be used efficiently hence more profit due to savings and increase on harvest; The other disadvantage is most labor positions will be removed hence loss of work.
Mr. Nansai – Less labor will increase saving now. But will require even more cane cutters, More side business on social economic and will have to diversify as Mr Mwiinga alluded to on the savings from bulk water purchase.

Timothy Mulenga (District Administration Officer -Mazabuka).
Q. There was need to have more information on the extent of the identified impacts and he insisted that more information would have been elaborated in detail in relation to identified risks and impacts

Mr. Mwiinga - explained that the presentation is a summery however more information has been inputted in the ToR and scoping report in details
Consultant - Explained all expected impacts shall be assessed, and put into the report and will be verified when report is shared

Michael Hachilala – wanted to know? Since the pipe will be put in the soil (subsurface irrigation) what mechanism will be used to see the leakages to the fields with pipes?
Mr. Nansai – Periodic checks on the pipes and water pressure will be important to determine need to maintain the system. However the subsurface system is sustainable for a long time before such problems occur

Bernard Machenje (neighbor) – Contributed by adding more information during the meeting. He explained the irrigation benefits and disadvantages in general terms and went ahead to mention benefits in terms of reduction on labor needs. He further mentioned one disadvantage being – Fertilizer intake is too slow for it to dissolve.

Mr. Nansai – Thanked Mr Bernard Machenje for his contributions and assured that Fertilizer usage will be precise and the injection into the system with precision minimum loses.
Bernard Machenje (neighbor) - If KASCOL go fulltime in drip irrigation the water spillage will not be there hence disadvantages the downstream farmers on domestic usage like gardening and animal drinking water

Mr. Mwiinga - All experiments has to be done within KASCOL and in a phased way hence picking up learning along the way for possible improvements. The downstream farmers will be encouraged over time to sink boreholes through local government (SWASCO) engagements and improve water reticulation system
Consultant - In the report will include mitigation plans on such situation.

Raphael Silwala (Nzelu weka) – wanted to find out on the reduction of labor for irrigations what is the solution?

Mr Nansai – As mentioned earlier the employees will be deployed to more need areas for other diversification initiatives like increase in HA hence more cane cutters.
Consultant - More HA can be increased by the fact that savings will be more hence increase in HA and other diversification as explained in details early in this meeting before you arrived

Mr. Hachilala - Does it mean the quantities of fertilizer will be put in the same tank or what will happen.

Mr Nansai - Fertilizer intake will be done constantly at the same time with irrigation.
Moonga Clifford (Farmer) – Q1 Wanted to know why the current pilot project has taken too long to be completed and yet sugar is not planted. What could be the reasons?

Q2 - Since the drip requires power to facilitate pumps to run now what will happen during Zesco load sheading?

Nansai – The Pilot took too long due to delay in materials from abroad caused by the pandemic which reduced way of doing business that has been affected by covid-19
That is the more reason why we want to embark on efficiency usage of water to reduce pressure on water usage the other future option is to go green using clean energy solar will be the option

Enias Mayoba (Nzelu weka) – Employment opportunities has been reduced and noticeably that same people are being employed why.

Mr. Nansai - It's due to global changes in relation to covid-19 on gathering limitations hence using the same database to avoid overcrowding during employment processes however as the pandemic is slowing down will be able to revert back to the same old employment schedule .

Mr. Emmanuel Kasekwa (MOA) – The representative from the DACO's office contributed to say: The subsurface irrigation has advantages on minimum usage of water to avoid spoiling of water hence MOA has been advocating for more conservation way of water usage. They have been emphasis on the water conservation through drip irrigation models.

Mr James Walumba (SWASCO) summarizes the need to have more information on drip irrigation; There is need to have leaflets and pictorial messages to make the farmers appreciate the technology in simple terms. This will reduce the unknown fears or doubts that may arise due to technological transfers over time. The SWASCO regional manager said such projects as this one is progressive on sustainable development and water conservation in order to reduce the already stressed Kafue River.

REV Bernard Machenje – Requested through a question regarding sugarcane burning: The request is that is it possible to burn the in the night or maybe something can be done to burning timing to avoid smoke and ash that mostly affects neighbors.

Danny Muyunda (group 4) – Like a business person what is the difference in yields when compared to the new technology from those areas who have experienced?

Danny Muyunda – Further went on to contribute and appreciate that weeds on drip irrigated fields are less compared to flooding type of irrigation because of controlled spillage.

Mr. Nansai KASCOL will work on the plan to lessen or resort to old burning timings of early morning. The role out of this project will start with the fields that are located at the far end of the farm away from residential areas.

Nkumbula Ordines – Wanted to know if the project expansion will affect neighbors and other surrounding people settled within Kaleya.

Mr. Nansai – Explained that expansion is in phases and will be done within the old fields therefore we don't expect displacements if there any fears it should not be there.

REV Bernard Machenje – Usage of water by farmers is high and water table is low now. What will be the extent of water reduction on water table if furrow is reduced?

Mr. Nansai - There is no reduction to water table due to drip irrigation. The solutions are not short term; they are long term to be benefited by future population.

Mr James Walumba (SWACO) – The Kafue river is under stress, the users have increased domestic and commercials such as Kafue sugar, KASCOL, Zambia Sugar, ZESCO and Lusaka Water who has laid new pipes to increase water supply to over growing Lusaka population, therefore more liters of water will be required to meet the ever increasing demand. So this project has come at a time when it's important to look for more alternative ways of less water usage at commercial level hence subsurface drip uses less water. Climate change has a huge impact on water if you want to use more water you pay for it therefore usage must be managed well.

Mr. Nansai – Mentioned that all contributors are welcome to submit any concerns. Will have all inclusive in depth on technical issues if there are any issues.

Closing Remarks

Mr. Timothy Mulenga (**DOA)** – Gave positive remarks on the process of involving key stake holders, neighbor, farmers and all affected and concerned groups he went on to say that such initiatives will put the district in a right direction as the main source of water for domestic and commercial comes from the same source Kafue River hence there is need for concerted efforts to find solutions or alternatives such as this project

Nzelu weka - representative; thanked the chairperson (KASCOL) for such a good gesture to invite them as good neighbors especially the information was very important.

Group 1 – Well articulated information emphasizes the need to collaborate more as the project progresses
Group 1 – Vincent Muleya praised KASCOL for the invitation he said his group will benefit on drip irrigation technology alongside other smallholders within Kaleya he said such tech was being done by the commercial workers now will have it done in the neighborhood.

MOA - The line Ministry will be on standby to engage in the project since it's within its mandate of Agriculture advisory and advocating for climate resilience initiatives and water conservation such as drip irrigation project

There being no any other issue to discuss the meeting was closed at 15:40 hours. The chairperson Mr. Mwiinga (KASCOL) – Closed the meeting by thanking all participants for coming and for participating positively.

MR MUFANA MUIMUI – ESTATE MANAGER
CHAIRPERSON

DATE: 07th to 08th October 2021

SIGNATURE: 

Appendix B – Photos of scoping Meetings

Appendix C – Attendance Lists for scoping Meeting

KASCOL / DFCD / WWF - DRIP PROJECT DEVELOMENTAL EVALUATIONProject Name

Date

SCOPING FOR KASCOL / DFCD / WWF - DRIP PROJECT DEVELOMENTAL EVALUATION (MAZABUKA District)

PUBLIC CONSULTATION MEETING - ATTENDANCE SHEET

Venue: KASCOL GUEST HOUSE

Date: 07/10/2021 Time: 14HRS — 17HRS

	Name	Organisation and Position (If applicable)	Village	Contact Details (e-mail, telephone or other)	Signature
1.	JAMES WALUMBA	SOUTHERN WATER AND SANITATION CO LTD		jwalumba@gmail.com 0977829669	
2.	EMMANUEL KASEKWA	MINISTRY OF AGRIC		Sekwas@gmail.com 0977715108	
3.	LAWRENCE KAYOMBO	KALEYA SMALL HOLDERS CO. LTD		LKayombo@kascol.co.zm / LKayombo88@gmail.co 0958481532	
4.	KELVIN. H. MWIINGA	KASCOL		Kmwiinga@kascol.co.zm 0977876239	
5.	RAPHAEL SILWAMBA	PZCU		0962656452	
6.	KELVIN CHIGAMA	NZEU WEKA		0973-819527	
7.	ENIAS MWIOBA	NZEU WEKA		0972-623438	

7/10/21 — 1

1

KASCOL / DFCD / WWF - DRIP PROJECT DEVELOMENTAL EVALUATIONProject Name

Date

	Name	Organisation and Position (If applicable)	Village	Contact Details (e-mail, telephone or other)	Signature
8.	LILIAN MWEELA	SZLW WEKA		0977498810	L. Mweela
9.	DINA HALONGA	SZLW WEKA		—	
10.	MWINGA KESHA	Chiboya		0976787971	
11.	MWEETWA MALVIN	Chiboya		0777697174	
12.	MUMBA KENNETH	farmer	9. one	0977-116561	
13.	CHIYUMBA G.	Chairman		0971816881	
14.	REVEREND MACHENTE	Vice chairman	CH Kaleya	0977621194	
15.	FRANK MAPEPWA	chairman	Kaleya	0973989376	
16.	Vincent Mulaya	farmer	9. Two	0977-604864	
17.	HAACHILALA MICHAEL	FARMER	9. Two	0977298388	
18.	PRECIOUS Mubitalela	member	Chibuluya	0971786261	

7/10/21 – 2

(4)

KASCOL / DFCD / WWF - DRIP PROJECT DEVELOMENTAL EVALUATIONProject Name

Date

SCOPING FOR KASCOL / DFCD / WWF - DRIP PROJECT DEVELOMENTAL EVALUATION (MAZABUKA District)

PUBLIC CONSULTATION MEETING - ATTENDANCE SHEET

Venue: KASCOL GUEST HOUSE

Date: 07/10/2021 Time: 14HRS — 17HRS

		Name	Organisation and Position (If applicable)	Village	Contact Details (e-mail, telephone or other)	Signature
19	1.	MONICA MUKINDA	FARMER		0978549445	
20	2.	IVEN SIKAJAYA	FARMER	G 2	0979968933	
21	3.	MAVIS BWEMBA	FARMER	G 2	0965717198	
22	4.	Montgomery Mwanza	Consultant.		0977608188	
23	5.	Lovemore Muma.	Consultant		0966904567	
24	6.	GELSON MWALE	ICT ADMIN		0961678342	
25	7.	TIMOTHY MULENGA	DAO		0977870168	

3/10/21—3

(1)

KASCOL / DFCD / WWF - DRIP PROJECT DEVELOMENTAL EVALUATIONProject Name

Date

		Name	Organisation and Position (If applicable)	Village	Contact Details (e-mail, telephone or other)	Signature
26	8.	MAYBEEN NANSAYI	KASCOL (S.O.O)	KASCOL	Mnansayi@kascol.co.zm 0977364787	
27	9.	MOSSES.M.SIYOYO	KASCOL (Z.L)	KASCOL	MSiyoyo@kascol.co.zm 0977412855	
28	10.	KIZITO MWEEMBA	GROUP 2	GROUP 2	0979639158	
29	11.					
	12.					
	13.					
	14.					
	15.					
	16.					
	17.					
	18.					

7/10/21 - 4

2

KASCOL / DFCD / WWF - DRIP PROJECT DEVELOMENTAL EVALUATIONProject Name *Date*

SCOPING FOR KASCOL / DFCD / WWF - DRIP PROJECT DEVELOMENTAL EVALUATION (MAZABUKA District)

PUBLIC CONSULTATION MEETING - ATTENDANCE SHEET

Venue: KASCOL GUEST HOUSE.

Date: 08/10/2021 Time: 09HRS — 11HRS

	Name	Organisation and Position (If applicable)	Village	Contact Details (e-mail, telephone or other)	Signature
1.	HAROLD SHANTEBE	Manager	SQUARE'S RANCH	0976-312553	
2.	Livet Lwiindi	KAFFA vice chairman	group 3	0972161319	
3.	DICKSON Habombe	Vice Chairma G3	group 3		
4.	ZEST MWEEMBA	Treasurer G4	Group 4	324562/74/1	
5.	TARRY HANTUBA	EMPLOYEE ADMIN ASSISTANT	LUNGAE	0977-496334	
6.	[illegible] MUYUNDA	Treasurer G3	GROUP3	096586362 2	
7.	Mumba Ordinez	Secretary 4	Group 4	0977 602269	

9/10/21 - 1

1

KASCOL / DFCD / WWF - DRIP PROJECT DEVELOMENTAL EVALUATIONProject Name

Date

	Name	Organisation and Position (If applicable)	Village	Contact Details (e-mail, telephone or other)	Signature
8.	MODERN LUBOMBO	FARMER	G 4	077751522 1	
9.	V. CHELO	FARMER	G 4	0965 316165	
10.	perfect ng'andu	FARMER	G. 4	0971997142	P. ng'andu
11.	Laine Kyande	farmer	G 4	0966 86 3117	
12.	Mweemba J. PRECIOUS	Project Ass.	Kascol	0972648875	
13.	Mwinga Kelvin	Project Coordinator	Kasco		
14.	MATIMBA MUCEMBA	LIBRARIAN	KASCO	0975963604	m.mweemba
15.	CHIDO	MAMO	KASCO	0979775295	
16.	IVEN SIKAJAYA	FARMER	G 3	0979968933	
17.	MAVIS BULUMBA	FARMER	G. 3	0965717198	
18.	ALICE .N. MWANAMBWA	famer	G. 3	0961659524	

8/16/21 – 2

KASCOL / DFCD / WWF - DRIP PROJECT DEVELOMENTAL EVALUATIONProject Name

Date

SCOPING FOR KASCOL / DFCD / WWF - DRIP PROJECT DEVELOMENTAL EVALUATION (MAZABUKA District)

PUBLIC CONSULTATION MEETING - ATTENDANCE SHEET

Venue: GUEST HOUSE

Date: 08/10/2021 **Time:** 09:00 - 11:00

		Name	Organisation and Position (If applicable)	Village	Contact Details (e-mail, telephone or other)	Signature
19	1.	NKONGA OFFORD	KASFA		0977750998 Offord.nkonga17@gmail.com	
20	2.	Montgomery Mwiinga	EARTH ENVIRONMENT CONSULTANCY		0977608188	
21	3.	Lovemore Mumba.	Earth Environment Consulting		0966904567	
22	4.					
23	5.					
24	6.					
25	7.					

8/10/21 - 3

Project Name **SCOPING FOR KASCOL / DFCD / WWF - DRIP PROJECT DEVELOMENTAL EVALUATION**

Date

SCOPING FOR KASCOL / DFCD / WWF - DRIP PROJECT DEVELOMENTAL EVALUATION (Mazabuka District)

STAKEHOLDER CONSULTATION MEETING - ATTENDANCE SHEET

Venue: MAZABUKA DISTRICT

Date: 17/09/2021

Time: 08 — 11HRS.

	Name	Organisation and Position	Contact Details (e-mail, telephone or other)	Signature
1.	DUNCAN TEMBO	ZAMBIA SUGAR	DETembo@ZAmsugar.zm	[signature] 0977 107985
2.	BARNABAS SIMWAKALE	PHYSICAL PLANNER (MAZABUKA M. COUNCIL	bsimwakale@gmail.com	[signature]
3.	JAMES WALUMBA	SOUTHERN WATER & SEWERAGE	JWalumba@gmail.com	JW, 0970 855387
4.	MARTIN SILAINGA	DACO (MOA) MZ	0977577796	[signature]
5.				
6.				
7.				

17/9/2021 - 1

1

KASCO GUEST HOUSE

Project Name **SCOPING FOR KASCOL / DFCD / WWF - DRIP PROJECT DEVELOMENTAL EVALUATION**

Date 17/09/2021

	Name	Organisation and Position	Contact Details (e-mail, telephone or other)	Signature
8.	KENNETH MUMBA	FARMER, G.1 TREASURER	0977-116561	[illegible]
9.	WINNIE HAMUCHEMBE	FARMER G.1 C/MEMBER	0978591620	[illegible]
10.	IREEN NAMUKONDA	FARMER G1	0973058044	[illegible]
11.	Lydia Manyika	FARMER G1	0976391153	l.manyika
12.	MARTIN LUBANDO	G1. FARMER.	0971813282	[illegible]
13.	MUBITA MUYENGA	G. I (KASCOL)	0977699601	[illegible]
14.	Suyoyo Mushe	S.Z.L	0977412855	[illegible]
15.	KELVIN.H. MWANZA	Risk/OPS (KASCOL)	0977876239	[illegible]
16.				
17.				
18.				

17/09/2021

17/9/2021 - 2

2

Project Name **SCOPING FOR KASCOL / DFCD / WWF - DRIP PROJECT DEVELOMENTAL EVALUATION**

Date

SCOPING FOR KASCOL / DFCD / WWF - DRIP PROJECT DEVELOMENTAL EVALUATION (Mazabuka District)

STAKEHOLDER CONSULTATION MEETING - ATTENDANCE SHEET

Venue: KASCO

Date: 16 SEPT 2021 Time: 14HRS — 16:30HRS

	Name	Organisation and Position	Contact Details (e-mail, telephone or other)	Signature
1.	LAWRENCE KAYOMBO	KASCOL / SUPERVISOR IRRIGATION	Lkayombo@kascol.co.zm	
2.	MAYBRON NANSAYI	KASCOL / SMALLHOLDER & OPERATIONS OFFICER	mnansayi@kascol.co.zm	
3.	ANANIANGA LUBASI	KASCOL / FARMER	0971494848	
4.	FATIMA MOOLO	KASCOL / FARMER	0955181423	
5.	CHRISTOPHER KANOMA	KASCOL/FARMER G.1	0978847582	
6.	Fridah Mauli	KASCOL / FARMER G.1	0977625485	
7.	NAOMI MWIINGA	KASCOL / FARMER G.		

17/09/2021

(1)

Appendix G – Advertisements for Meetings

Date published	28th September 2021	27th September 2021

PUBLIC NOTICE

SCOPING MEETINGS: EIA DEVELOPMENTAL EVALUATION FOR DRIP IRRIGATION SYSTEM - MAZABUKA DISTRICT

his Serves to inform the General Public that KALEYA SMALLHOLDERS COMPANY MITED located on Plot No. 235a / 235A along Livingstone Road in Mazabuka District of e Southern Province of Zambia, will be conducting Scoping Meetings on the above-med Project in accordance with the Environmental Management Act No.12 of 2011.

refore, ALL Interested and Affected Stakeholders are Invited to Express their Views and ectations on the Proposed Project during the Period indicated below and at Times to be mmunicated in due course;

E: from 4th October, 2021 to 8th October, 2021
UE: KALEYA SMALLHOLDERS GUESTHOUSE.

rther information, please contact the Following Work Days 08:00 - 16:00hrs;
ECT COORDINATOR
40240, email: kmwiinga@kascol.co.zm

ECT ADMINISTRATOR
40240, email: psimunika@kascol.co.zm
Address;
YA SMALLHOLDERS COMPANY LIMITED
ZABUKA, ZAMBIA

PUBLIC NOTICE

SCOPING MEETINGS: EIA DEVELOPMENTAL EVALUATION FOR DRIP IRRIGATION SYSTEM - MAZABUKA DISTRICT

This Serves to Inform the General Public that KALEYA SMALLHOLDERS COMPANY LIMITED located on Plot No. 235a / 235A along Livingstone Road in Mazabuka District of the Southern Province of Zambia, will be conducting Scoping Meetings on the above-named Project in accordance with the Environmental Management Act No.12 of 2011.

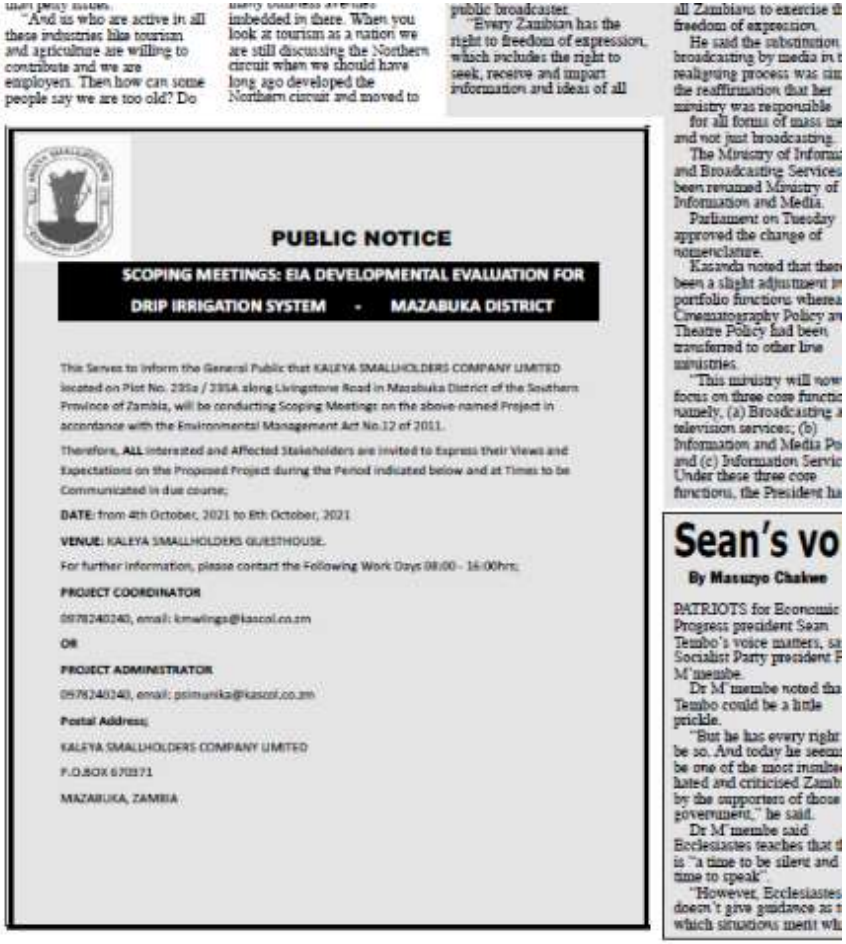
Therefore, ALL Interested and Affected Stakeholders are Invited to Express their Views and Expectations on the Proposed Project during the Period indicated below and at Times to be Communicated in due course;

DATE: from 4th October, 2021 to 8th October, 2021
VENUE: KALEYA SMALLHOLDERS GUESTHOUSE.

For further information, please contact the Following Work Days 08:00 - 16:00hrs;
PROJECT COORDINATOR
0978240240, email: kmwiinga@kascol.co.zm
OR
PROJECT ADMINISTRATOR
0978240240, email: psimunika@kascol.co.zm
Postal Address;
KALEYA SMALLHOLDERS COMPANY LIMITED
P.O.BOX 670371
MAZABUKA, ZAMBIA

RSO264719/21.09

Date published	16th September 2021	21 th September 2021



PUBLIC NOTICE

SCOPING MEETINGS: EIA DEVELOPMENTAL EVALUATION FOR DRIP IRRIGATION SYSTEM - MAZABUKA DISTRICT

This Serves to Inform the General Public that KALEYA SMALLHOLDERS COMPANY LIMITED located on Plot No. 235a / 235A along Livingstone Road in Mazabuka District of the Southern Province of Zambia, will be conducting Scoping Meetings on the above-named Project in accordance with the Environmental Management Act No.12 of 2011.

Therefore, **ALL** Interested and Affected Stakeholders are invited to Express their Views and Expectations on the Proposed Project during the Period indicated below and at Times to be Communicated in due course;

DATE: from 4th October, 2021 to 8th October, 2021

VENUE: KALEYA SMALLHOLDERS GUESTHOUSE.

For further information, please contact the Following Work Days 08:00 - 16:00hrs;

PROJECT COORDINATOR

0978240240, email: kmwinga@kascol.co.zm

OR

PROJECT ADMINISTRATOR

0978240240, email: psimunika@kascol.co.zm

Postal Address;

KALEYA SMALLHOLDERS COMPANY LIMITED

P.O.BOX 670371

MAZABUKA, ZAMBIA

PUBLIC NOTICE

SCOPING MEETINGS: EIA DEVELOPMENTAL EVALUATION FOR DRIP IRRIGATION SYSTEM - MAZABUKA DISTRICT

This Serves to Inform the General Public that KALEYA SMALLHOLDERS COMPANY LIMITED located on Plot No. 235a / 235A along Livingstone Road in Mazabuka District of the Southern Province of Zambia, will be conducting Scoping Meetings on the above-named Project in accordance with the Environmental Management Act No.12 of 2011.

Therefore, **ALL** Interested and Affected Stakeholders are invited to Express their Views and Expectations on the Proposed Project during the Period indicated below and at Times to be Communicated in due course;

DATE: from 4th October, 2021 to 8th October, 2021

VENUE: KALEYA SMALLHOLDERS GUESTHOUSE.

For further information, please contact the Following Work Days 08:00 - 16:00hrs;

PROJECT COORDINATOR

0978240240, email: kmwinga@kascol.co.zm

OR

PROJECT ADMINISTRATOR

0978240240, email: psimunika@kascol.co.zm

Postal Address;

KALEYA SMALLHOLDERS COMPANY LIMITED

P.O.BOX 670371

MAZABUKA, ZAMBIA

Appendix H – Certificate of title

5m HBB9 6/76

DR 10b

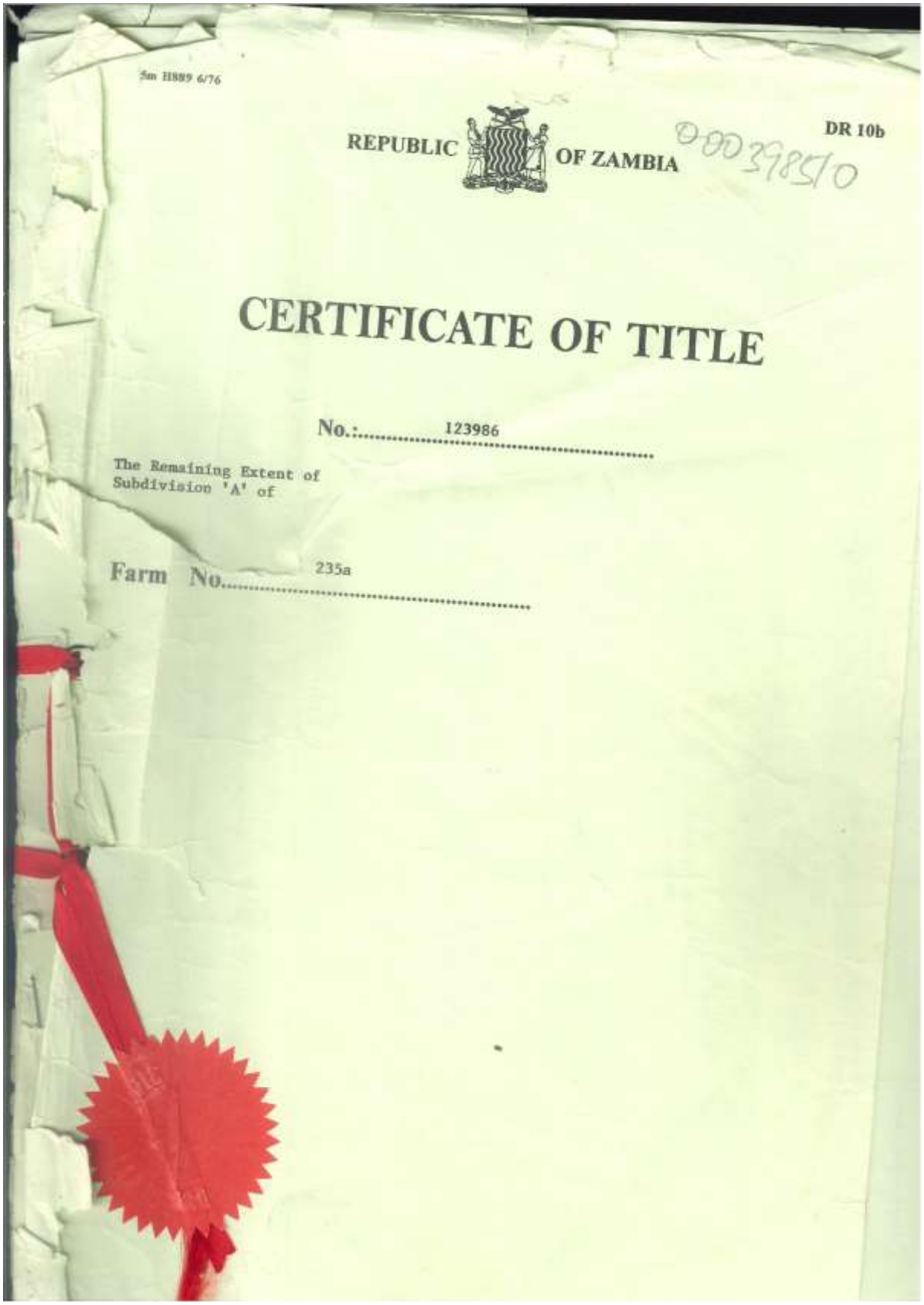
REPUBLIC OF ZAMBIA

CERTIFICATE OF TITLE

No.: 123984.

Subdivision No.4 of
Subdivision No.4 of

Farm No. 235a



5m 11889 6/76

REPUBLIC OF ZAMBIA

DR 10b

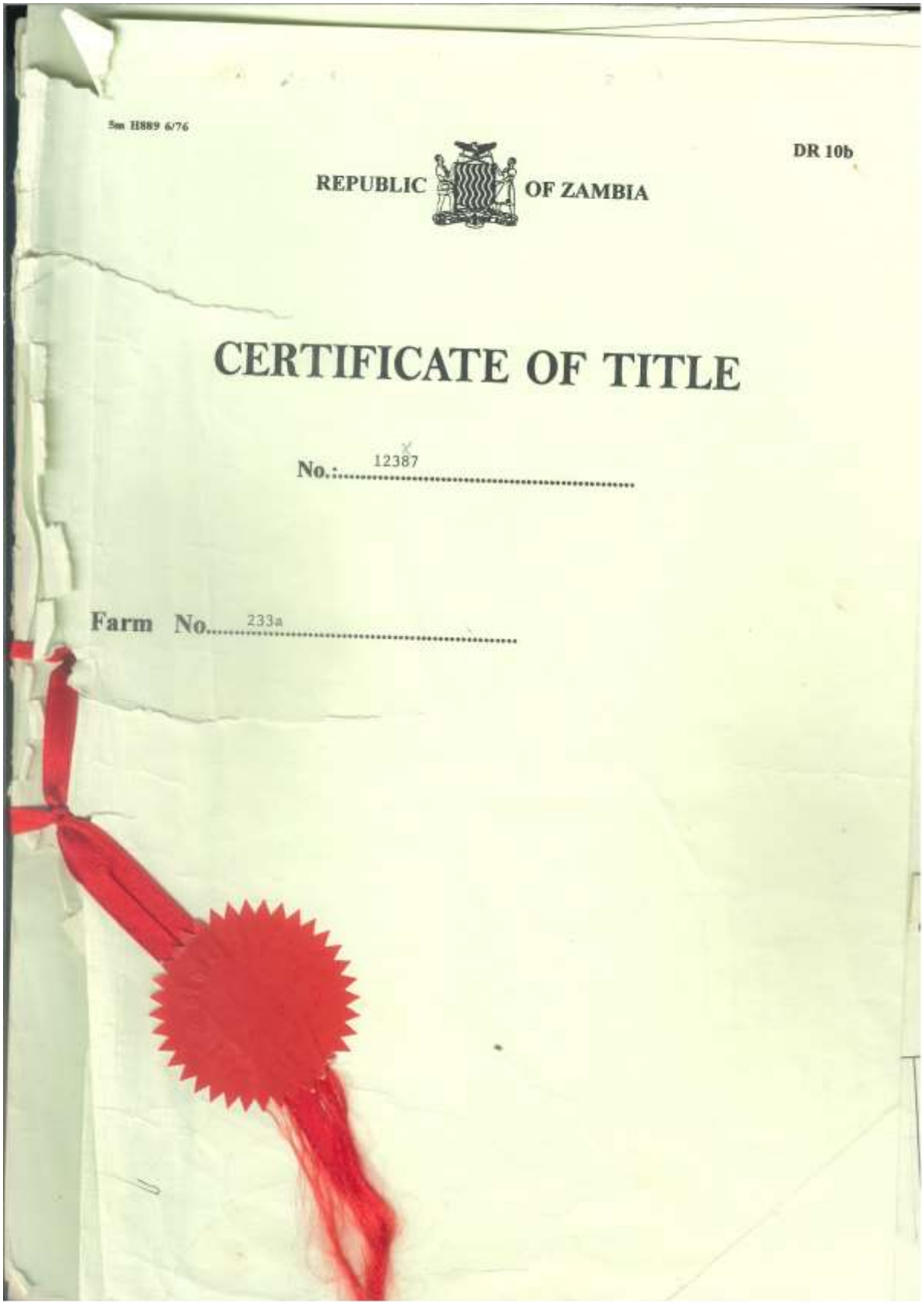
0003985/0

CERTIFICATE OF TITLE

No.: 123986

The Remaining Extent of
Subdivision 'A' of

Farm No. 235a



5m 11889 6/76

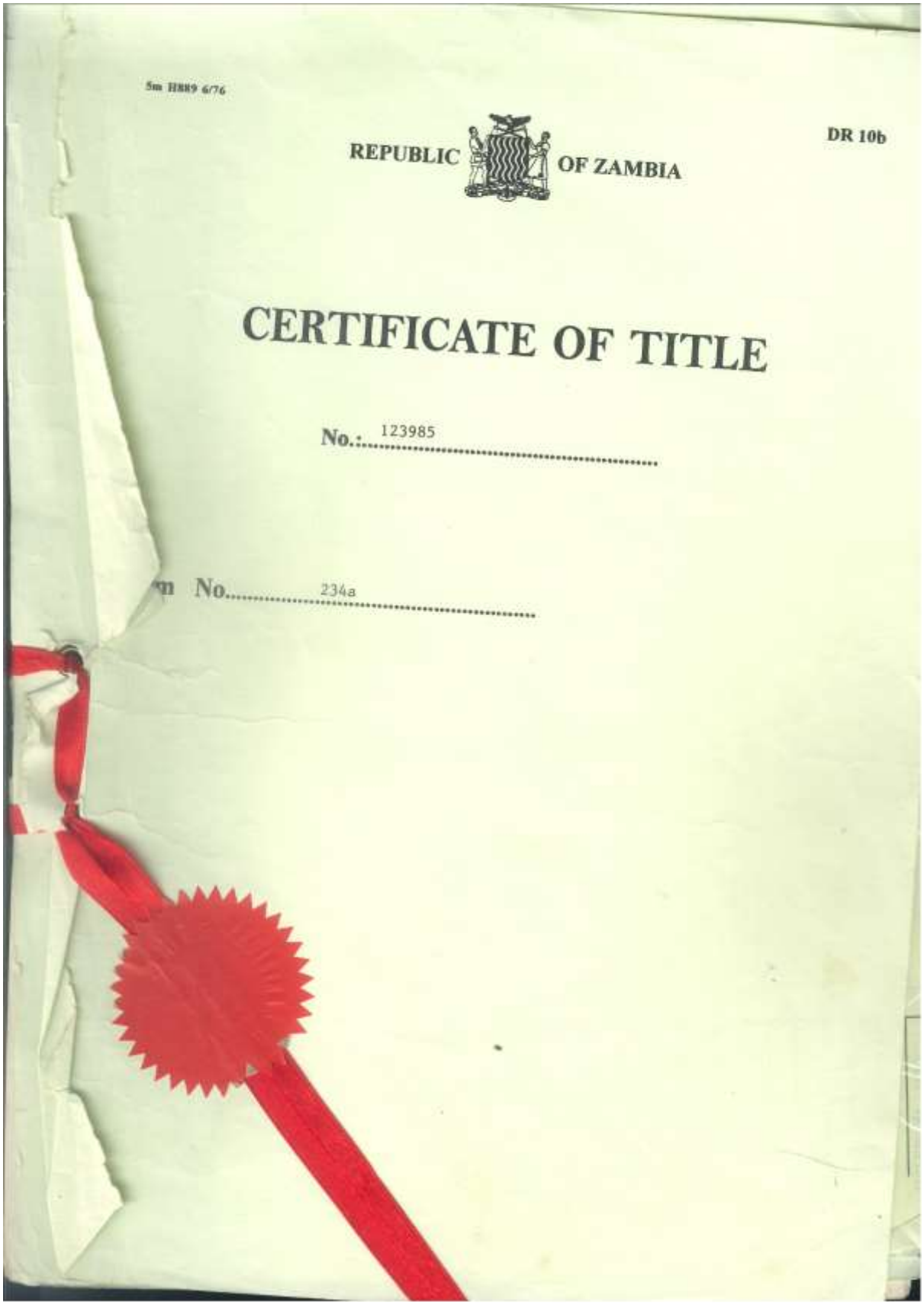
DR 10b

REPUBLIC OF ZAMBIA

CERTIFICATE OF TITLE

No.: 12387

Farm No. 233a



5m H889 6/76

REPUBLIC OF ZAMBIA

DR 10b

CERTIFICATE OF TITLE

No.: 123985

m No. 234a

Appendix I – General Site Layout