ENVIRONMENTAL & SOCIAL IMPACT ASSESSMENT (ESIA) REPORT (RESUB)

PROJECT:	**HWANGE ZPC - KAMATIVI 88kV POWER TRANSMISSION LINE**
PROJECT NUMBER:	**16327**
DISTRICT & PROVINCE:	**HWANGE, MATABELELAND NORTH PROVINCE**
PROPONENT:	KMC KAMATIVI MINING COMPANY
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	PROJECT COST	USD 2,815,000	***QUOTATION No.***	
	AMOUNT QUOTED		***INVOICE No.***	
	DATE INVOISED		***DATE OF PAYMENT***	
	AMOUNT PAID		***RECEIPT No.***	
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	PROJECT TYPE	ENERGY		
	PROJECT NUMBER		*TELEPHONE ON SITE*	+263 772881834
	PHYSICAL ADDRESS OF THE PROJECT	FROM ZPC HWANGE POWER STATION TO KAMATIVI MINE		
	DISTRICT	HWANGE		
	PROVINCE	MATEBELELAND NORTH		

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KEY	
SE	Special Expert (those registered under our name with the EMA).
AE	Associate Expert (those co-opted in our team when special experts are committed elsewhere).

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PREFACE TO THE ADDENDUM

This ESIA addendum report is a resubmission of an Environmental & Social Impact Assessment (ESIA) report for Kamativi 88kV Power Transmission ESIA report (EMA project number: 16327) that was compiled and submitted to the Environmental Management Agency (EMA) for review on the 14rd of September 2023. Underneath the box, is a list of responses.with respect to the comments raised.

A ENVIRONMENTAL & SOCIAL IMPACT ASSESSMENT REVIEW COMMENTS

Following are the commets which were raised by the Envionmental Management Agency (EMA);

RE: EIA REVIEW FOR HWANGE ZPC- KAMATIVI 88KV POWER TRANSMISSION LINE (PROJECT NUMBER 16327)

The above matter refers.
The Agency has completed reviewing the Environmental Impact Assessment report for Kamativi 88KV Power Transmission Line. However, the application has not been approved because of the following issues:

1. Conduct consultation with the Zimbabwe Electricity Transmission and Distribution Company.
2. Proof of stakeholder consultations should be clear and on an official letter head.
3. Address issues to do with compensation and relocation of the affected community.

Should you wish to pursue the project, you are required to resubmit a comprehensive document with the required information. The resubmission shall be considered as a new application and is subject to the prescribed 60 day consideration period in terms of section 100 (1) of the **Environmental Management Act Chapter 20:27**.

Please be advised not to implement the project until an Environmental Impact Assessment certificate is granted.

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Thank you

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TOGETHER - PROTECTING THE ENVIRONMENT

Amb. Z.Nsimbi (Chairperson); Mr C Chitindi (Vice Chairperson); Ms B Madamombe (Member); Mr T K Hove (Member);Prof E Gandiwa (Member); Mrs T Chimanikire (Member); Mrs A Dhlamini (Member); Dr S Sibanda (Member); Mr.A Chigona (Member)

B RESOLUTIONS TO THE RAISED ESIA REVIEW COMMENTS

The issues raised were addressed as highlighted in the following ponits. The points are given in the order in which the commnets were (from number 1 to 4).

1. Appendix E first two (2) pages premise the response from ZETDC.
2. The entire Appendix E premises stakeholders input including questionnaires and minutes of three (3) community meetings along the transmission line.
3. Appendix C habitats an Abreviated Resettlement Action Plan (ARAP) that elaborates on compensation of stakeholders.

EXECUTIVE SUMMARY

This Environmental & Social Impact Assessment premises Kamativi Mining Company's proposal to transmit electrical power to Kamativi Mine from Hwange ZPC Power Station through cutting-in and cutting-out of 88kV line from Zimbabwe Zhingxin Electrical Energy (ZZEE) to Hwange ZPC Power Station. The line shall mainly follow 33kV lines from Hwange to Kamativi; via St Mary's, Mpongola, Dete and other villages in Ward 14 (Hwange Local Board), Ward 7, Ward 20, Ward 13, Ward 14, Ward 16 and Ward 11 of Lukosi Rural District. The project is expected to cost **USD 2,815,000**. It is envisaged that once the transmission line has been commissioned, the proponent will hand over the operations and maintenance of the transmission line to the Zimbabwe Electricity Transmission and Distribution and Company.

During the ESIA study, the consultant visited the project site and conducted detailed field surveys in topography, hydrology, geology, socio - economics and other aspects. As a requirement by EMA and World Bank guidelines, a stakeholder consultation process was conducted through meetings, interviews, focus group discussions, and administration of a questionnaire to various stakeholders, starting from local villagers to provincial government offices. During the meetings which were conducted, the consultant investigated the potential socio-economic and ecological impacts likely to arise from the implementation of the project and the actions required to avoid or mitigate the identified negative impacts while enhancing the predicted positive impacts. Criteria used for assessing the different positive and negative impacts, their magnitude or significance, spatial and temporal extent, potential for mitigation, degree of acceptability of the impact, and the degree of certainty of the occurrence of the impact were determined using criteria which comply with World Bank (International Finance Corporations) Standards and Equator Principle Funding Institutions (EPFIs).

Most stakeholders welcomed the project and only raised a concern against possibility of them being relocated from their ancestral land paving way for the transmission line. However, the consultant emphasized that no one will be moved but the line shall affect fields during construction. Apart from the immense economic benefits which the country is set to derive from the implementation of the project, local people will also benefit thorough employment opportunities particularly during the construction phase of the power transmission line. The study recommended that all non-technical jobs should be reserved for the local people within the project areas. The potential negative impacts investigated include; vegetation removal, ecosystem disturbance, health risks from diseases such as HIVs and AIDs and sexually related infections (STIs), increased pressure for service provisions and noise effects. It was also noted that most of the negative impacts are not regarded as adverse and that they can be avoided or mitigated at a low cost; therefore, it is recommended that the project be allowed to proceed on condition that the measures and recommendations contained in this report are fully and religiously adopted and implemented by the proponent.

Despite undeniable contribution to the mining sector and more so fulfilling the economic development mantra, the proposed powerline project fits into the existing Zimbabwe Electricity Transmission and Distributions Company's (ZETDC) project power grid network plans as is read with the Zimbabwe Power Grid Map. Thus, the envisaged project will cover a significant proportion of the projected high voltage power transmission line network as can be seen on a power grid map of Zimbabwe. As such, the project is a welcome development fostering augmentation and reinforcement of power transmission nationwide. Moreover, the powerline construction will capacitate Zimbabwe to substantially contribute to the regional Southern African Power Pool (SAPP), a significant

contributor to the country's revenue, as it is already strategically located in the region to facilitate power trade across Southern Africa.

An Environmental Management and Monitoring Plan (EMP) which ensures the implementation of the actions required to ensure that negative impacts are prevented and positive impacts are maximized, is included in this report. The EMP ensures continuous monitoring of critical environmental parameters. It is highly recommended that the EMP be fully implemented in order to ensure that all mitigation measures are enforced, while positive impacts are enhanced. On the basis of the environmental impacts identified, an environmental management plan was devised and most of the elements of the EMP are of housing keeping nature such as:

- Use of strong durable construction material to ensure safety for the locals, such as use of metal poles as compared to wood.
- Maximizing the use of the existing 33kV wayleave.
- Avoiding all structures so as to ensure no local people will be relocated
- When the line does not go along the 33kV wayleave, need to maximize road servitude with less vegetation impacts.
- Promoting health and safety issues through worker education
- Backfilling and re-vegetating of the excavated areas
- Minimum disruption of wildlife corridors and other ecologically sensitive zones
- Controlling dust emission on all project activities
- Good and standard waste disposal practices
- Supervision and monitoring of workers
- Adherence to existing legislation framework that govern implementation of the project

In conclusion, it was found that the power transmission line project is associated with a number of positive and negative environmental and social impacts. However, practically most of the negative impacts can be mitigated through the appropriate management protocols and adherence to dictates set in this ESIA document. An environmental management plan was crafted and is presented in this report. It is suggested that periodic monitoring from the different monitoring agents will also assist in the sustainable environmentally friendly running of the transmission line project.

ACRONYMS

ACRONYM	MEANING
CEC	Cation Exchange Capacity
CFBC	Circulating Fluidised Bed Combustion
CSR	Corporate Social Responsibility
DDC	District Development Coordinator
DEM	Digital Elevation Model
DTM	Digital Terain Model
EIA	Environment Impact Assessment
EP	Equitor Principles
ESIA	Environment & Social Impact Assessment
EMA	Environment Management Agency
EMF	Electromagnetic Frequency
ESMP	Environmental & Social Management Plan
FPIC	Free, Prior, and Informed Consent
GDP	Gross Domestic Product
HRA	Hazard Risk Assessment
ICP	Informed Consultation and Participation
ICSP	Institutional Capacities And Strengthening Plan
IFC	International Financing Corporation
KMC	Kamativi Mining Company
kV	Kilo Volts
kW	Kilo Watt
LRDC	Lukosi Rural District Council
NSSA	National Social Security Authority
NRZ	National Railway Authority
MW	Mega Watt
OHS	Occupational Health and Safety
PRA	Participatory Rural Appraisal
PVC	Polyvinyl Chloride (pipes)
RDC	Rural District Council
RAP	Resettlement Action Plan
RRA	Rapid Rural Appraisal
SAPP	Southern Africa Power Pool
SADC	Southern African Development Community
SDG	Sustainable Development Goals
SI	Statutory Instrument
SWL	Safe Working Load
TOR	Terms of Reference
TPS	Thermal Power Station
UNFCCC	United Nations Framework Convention on Climate Change
US$	United States Dollar
WGS84	World Geodetic System 1984
ZERA	Zimbabwe Energy Regulatory Authority
ZESA	Zimbabwe Electricity Supply Authority
ZETDC	Zimbabwe Electricity Transmission & Distribution Company
ZINARA	Zimbabwe National Roads Authority
ZINWA	Zimbabwe National Water Authority
ZRP	Zimbabwe Republic Police

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CHAPTER 1: INTRODUCTION

1.1 PROJECT BACKGROUND & ESIA PROCESS

This report is a presentation of an Environmental & Social Impact Assessment (ESIA) that was undertaken by Kamativi Mining Company (KMC) which is located in Hwange District of the Matabeleland North Province. Kamativi Mining Company is a mining company that intends to mine lithium at the old Kamativi Mine where tin used to be mined. The mining company proposes to provide power at its mine in, through an envisaged ±80km, 88kV power transmission line that connects the mine to Hwange Local Substation near VID Hwange. The line mainly follows 33kV lines from Hwange to Kamativi; via St Mary's, Mpongola, Dete, Ikabula and other villages along the way. The line has a way-leave of 30m; 15m either side of the power line.

The report identifies and evaluates the impacts of the components and sub-components of the power transmission line to be constructed with the detail required according to their categorization, namely: a description of the natural and human environments of the project zone, a description of the components and sub-components and of their alternatives, an identification of the impacts of the different alternatives, the selection of alternatives according to technical, economic, environmental and social criteria, the evaluation of negative, positive and cumulative impacts and the identification of probable synergies. The proposed high voltage power transmission line project has showed as one of the projects that was ear-marked by the Zimbabwe Electricity Transmission and Distribution Company (ZETDC), which is seen to have a positive impact on the regional grid and it is expected to power the proponent's mine and other potential industry within the district. The project scope covers: creation of access routes, 30m wide way-leave clearing, excavation & installation of steel H-poles, construction of a substation at the lithium mine and periodic maintenance of the power line by ZETDC. The project scope components are as follows;

1. Line route setting,
2. Land clearing,
3. Way-leave acquisition,
4. Excavations,
5. Construction of tower structures,
6. Construction of a substation,
7. Collection of residual rubble and,
8. Commissioning of the transmission line

In line with the World Bank guidelines an Environmental Impact Assessment (EIA/ESIA) is an instrument to identify and assess the potential environmental impacts of a proposed project, evaluate alternatives, and design appropriate mitigation, management, and monitoring measures. Projects and sub-projects need EIA to address important issues not covered by any applicable regional or sectoral. Zimbabwean environmental legislation requires Environmental and Social Impact Assessments (ESIA) to be carried out for projects such as the waste management processing, mining, quarrying and processing before they are implemented. The ESIA process has to take into account the impacts as a result of the project and the mitigation measures that may be put in place.

1.2 SCREENING

1.2.1 THE EQUATOR PRINCIPLE

According to Equator Principle screening guidelines, the proposed project falls in **Category B**, with projects with quite few potential limited environmental and social risks and/or impacts that are few in number, generally site-specific, largely reversible and readily addressed through mitigation measures. The categories are as follows;

1. **Category A** – Projects with potential significant adverse environmental and social risks and/or impacts that are diverse, irreversible or unprecedented;
2. **Category B** – Projects with potential limited adverse environmental and social risks and/or impacts that are few in number, generally site-specific, largely reversible and readily addressed through mitigation measures; and
3. **Category C** – Projects with minimal or no adverse environmental and social risks and/or impacts.

1.2.2 WORLD BANK GUIDELINES

The Bank undertakes environmental screening of each proposed project to determine the appropriate extent and type of Environmental Assessment (EA). The Bank classifies a proposed project into one of four categories, depending on the type, location, sensitivity, and scale of the project and the nature and magnitude of its potential environmental impacts.

1. **Category A:** These are projects with significant adverse environmental impacts that are sensitive, diverse, or unprecedented. These impacts may affect an area broader than the sites or facilities subject to physical works. Environmental Assessments (EA) for a Category A project examines the project's potential negative and positive environmental impacts, compares them with those of feasible alternatives (including the "without project" situation), and recommends any measures needed to prevent, minimize, mitigate, or compensate for adverse impacts and improve environmental performance. For a Category A project, the borrower of World Bank funds is responsible for preparing a report, normally an Environmental Impact Assessment (EIA) (or a suitably comprehensive regional or sectoral EA) that includes, as necessary, elements of the other instruments referred to in paragraph 7 of Operational Policy 4.01.
2. **Category B:** A proposed project is classified as Category B if its potential adverse environmental impacts on human populations or environmentally important areas—including wetlands, forests, grasslands, and other natural habitats—are less adverse than those of Category A projects. These impacts are site-specific; few if any of them are irreversible; and in most cases mitigatory measures can be designed more readily than for Category A projects. The scope of EA for a Category B project may vary from project to project, but it is narrower than that of Category A EA. Like Category A EA, it examines the project's potential negative and positive environmental impacts and recommends any measures needed to prevent, minimize, mitigate, or compensate for adverse impacts and improve environmental performance.
3. **Category C:** A proposed project is classified as Category C if it is likely to have minimal or no adverse environmental impacts. Beyond screening, no further EA action is required for a Category C project.

4. **Category FI:** A proposed project is classified as Category FI if it involves investment of Bank funds through a financial intermediary, in subprojects that may result in adverse environmental impacts.

In line with the guidelines given earlier, the proposed project falls in Category B. Therefore an ESIA is recommended for the proposed project.

1.2.3 ENVIRONMENTAL MANAGEMENT REGULATIONS

The Environmental Management (Environmental Impact Assessment and Ecosystems Protection) Regulations deal with the regulation of the EIA process and the protection of ecosystems. Part 11 of the Act stipulates that no industrial project shall be implemented without an EIA having been done. These Regulations provide the method of doing the EIA. The developer has submitted this prospectus to the Agency, which has to contain details of the environmental impacts of the project and the measures to be taken to contain or mitigate such impacts. With reference to the regulation as highlighted earlier, projects can be divided into prescribed projects those which require full Environmental and Social Impact Assessment (ESIA) and those which require an Environmental & Social Management Plan (ESMP) or license application.

1. **Category 1 - Prescribed Projects:** In Zimbabwe, the Environmental Management Act (Chapter 20:27) have specific requirements with respect to Environmental Impact Assessments. Zimbabwean environmental legislation requires a total of 97 projects to have a full Environmental and Social Impact Assessments (ESIA) being carried out, these projects are called prescribed projects listed in the First Schedule such as; Dams, Drainage & Irrigation, Infrastructure, Housing, Mining, Power generation, Industry among others, before they are implemented.
2. **Category 2 - Environmental Management Plans (EMP):** The agency acknowledges other projects which do not require a full ESIA to be done, while they are said to require an EMP. These projects include; sand and gravel abstraction, brick moulding, among other small-scale projects with minimal or no adverse environmental and social risks and/or impacts. Another class of projects that fall in this category is expansions of existing projects.
3. **Category 3 - Low/ No-Impact Projects: –** Projects that are exempted from both the ESMP and ESIA requirements. These are projects considered to have a no or minimum impact on the environment.

Therefore, in fulfilment of the Environmental Management Act (CAP 20:27 of 2003) and its Regulation; Statutory Instrument 7 of 2007 (Environmental Impact Assessment and Ecosystem Protection), the Consultant recommends that an Environmental & Social Impact Assessment (ESIA) be carried out.

1.2 THE PROPONENT: KAMATIVI MINING COMPANY P/L

Kamativi Mining Company P/L, a company jointly owned by China's PD Group and Kamativi Tin Mines Limited. The mining process of is in two (2) phases. The first being to restore and refurbish all dilapidated infrastructure, construction, water supply, power supply infrastructure, road and transportation system, communication systems and administrative office facilities among others. The proponent is embarking on the construction of the ±80km power transmission line to provide adequate electricity at its mine site from Hwange Power Station by cutting-in and cutting-out of the Zimbabwe Zhongxin Electrical Energy (ZZEE) to Hwange Power Station 88kV line.

Compilation of this ESIA report is a proof that the proponent wishes to conduct its business in a sustainable manner, i.e. ensuring that the environment is adequately protected and the local community has maximum benefit through equitable employment conditions and sound corporate

social responsibility (CSR) plans. In line with section 13(2) of the SI 7 of 2007; "the developer shall submit a quarterly environmental monitoring report on all issues that shall be raised in the Environmental & Social Impact Assessment report or any other issues that may arise as a result of the implementation of the project. This shall be religiously followed to avoid fines and or imprisonments as put forth in this subsection after an ESIA is conducted.

1.3 THE CONSULTANT: SUSTIGLOBAL (PRIVATE) LIMITED

SustiGlobal (Pvt) Ltd is a global sustainability consultancy company that is a full member of the Environmental Professionals Council of Zimbabwe (EPCOZ). The firm is also registered with the Environmental Management Agency (EMA) as an Environmental & Social Impact Assessment (ESIA) consultant. Sustiglobal P/L is a multi-disciplinary consultancy firm that is pillared on the following;

1. Environmental Scientist (Mr. O. Mutasa - MSc)
2. Ecologist (Mr. R. Mufambi– BSc)
3. Pedologist/ Soil Scientist (Mr. A. Shumba – Mphil)
4. Social Scientist (Mr. M. Marambire – MSc)
5. Hydrologist/ GIS Expert (Mr. K. P. Nyarugwe - MSc)

We have vast expertise and a hands-on experience in offering a wide range of services in environmental management, earth sciences, mining, infrastructure development, telecommunications and mineral exploration, occupational health and safety, geology, surveying, and GIS services which cater for both local and international companies. Since our inception we have maintained quality in all similar projects embarked on and in partnership with other companies; this has been necessitated by our uncompromised compliance with World Bank and other financial institutions' standards and guidelines on environmental management. We are the first consulting firm to be contracted by African Development Bank (AfDB) to develop an Environmental & Social Management System for Zimbabwe Electricity Transmission & Distribution (ZETDC) that harmonizes AfDB's Integrated Safeguards System (ISS); Operational Safeguards (OSs) and World Bank's IFC performance standards to present a framework to guide on formulation of all ESIAs for ZETDC. In addition to environmental impact assessments (EIAs) the consultant also offers the following products;

- Stack emission (flue gas) surveys for generators, kilns, incinerators, boilers,
- Geotechnical (soil) surveys for roads and foundations (where applicable)
- Supply and fixing of Low-Density Poly-ethene (LDPE) lining for fish & sewer ponds and landfills.
- Implementation of Integrated Management Systems (IMS) [ISO 9001, 14001 and 45001] among other services.

1.4 TERMS OF REFERENCE

The ESIA was expected to cover the following areas in detail:

- Verify compliance with the legal and regulatory framework governing the project;
- Provide descriptions of the proposed project;
- Carry out a biophysical assessment of the project impacts including analysis of such factors as water and soil quality, flora and fauna and propose ways to enhance the positive impacts and minimise the negative ones;
- Provide descriptions of baseline environmental conditions before the built and laying out of the transmission lines including biophysical, socio-economic and cultural, archaeological sites; and ecologically sensitive environments such as wetlands;

- Conduct a stakeholder engagement process with all affected and interested stakeholders through the holding of public hearings, focus group discussions, key informant interviews and household interviews to establish the acceptability of the proposed projects, perceived benefits thereof and negative impacts and how they can be mitigated;
- Propose an environmental management and mitigation plan for the predicted impacts the project may unleash to the environment;
- The consultant also deployed a team of experts whose details are outlined on page (iii) to complete the ESIA study on behalf of the proponent. This is also in line with Environment Management (Environmental Impact Assessment and Ecosystems Protection Regulations S.I 7 OF 2007) sections that emphasises on EIA team composition requirements.

1.5 ESIA METHODOLOGY

1.5.1 ENVIRONMENTAL SCREENING

Screening was done to assess the expected impacts of the proposal on the environment are likely to be significant or not on the prospectus that was submitted. This took into consideration the requirements of the Environmental Management Act (CAP 20:27), it was understood that this project will cause significant impacts on the environment.

1.5.2 ENVIRONMENTAL SCOPING

The scoping process was undertaken to conduct the following:

- Appropriate boundaries of and ESIA scope
- Identify community and scientific concerns about the proposal of the project
- Evaluate these concerns to determine the key issues for the purpose of the environmental impact assessment (and eliminate these issues which are not significant)
- Organize and communicate these to assist in the analysis of issues and the ultimate making of decisions
- Inform potentially people of the project and the alternatives of the project processes and designs
- Understand how the quality of the environment is valued by individuals and groups that might be affected by the project
- Determine the nature of any necessary, additional assessments in terms of analytical methods and consultation procedures
- Identify the possible effects on the environment of the project

1.5.3 DESKTOP STUDY

This involved documentary review of the project documents, old associated ESIA reports and drawings, legal and institutional frameworks. Documents containing climatic, demographic and hydrological data of the host area were also relied upon.

1.5.4 SITE VISITS AND PUBLIC PARTICIPATION

Site visits were conducted for physical inspections of the project site in order to gather information on the state of the host environment. Several photos of the project site were taken and are included in this study report. A comprehensive and wide-ranging public consultation exercise was conducted in accordance with requirements of the Environmental Management Act (CAP 20:27) to ensure that the ESIA study accurately addresses the concerns of the communities in that area and other major stakeholders such as relevant authorities. Questionnaires were prepared and administered to the

communities, business people, relevant authorities, councilors and chiefs. Letters were sent to all the relevant authorizes seeking comments and input this proposed project.

1.5.5 IMPACT ASSESSMENT

Following identification of the various potential social, health and environmental impacts through public consultation and literature review an impact analysis and evaluation framework is established. The framework looks at the impacts under the following aspects;

a) **Nature of the impact:** This dimension reveals if the impact is direct or indirect, cumulative or instantaneous and whether the impact is positive or negative.
b) **Magnitude:** This parameter discusses the intensity of the impact, whether it is low, moderate or high intensity.
c) **Extent / Scale:** The extent gives the quantitative aspects of the impact and the spatial distribution of the impact.
d) **Timing:** This shows when the impact would occur in terms of the project life cycle.
e) **Duration:** The parameter reveals whether the impact is short term or long term, intermittent or continuous.
f) **Permanence:** This shows whether the impact is reversible or irreversible. In the table below means permanent, means semi-permanent while means temporal.
g) **Likelihood:** This tells us the probability of the impact occurring.
h) **Significance:** This quantifies the overall value of the impact after Extent **(E)**, Duration **(D)**, Probability **(P)**, Severity **(S)**, Acceptability **(A)** and Mitigatory potential **(M)** of the impact is considered. There is a numerical value calculated by the equation below
i) **Residual Impact:** This is a general measure of effectiveness of mitigation exercise. Residual impacts are those that remain after the mitigation process has been administered to the impact.

The analysis of the environmental impacts is focusing on the entire project life; from planning to decommissioning phase.

1.5.6 REPORTING

This Environmental & Social Impact Assessment (ESIA) was prepared as an integration of all specialist studies (legal framework, Ecological and Archaeological studies). The report was submitted to the proponent for internal review before final submission to EMA for review and subsequent certification of the project. Combination of desk studies and fieldwork methods of data collection were used in compiling this report. The site was visited several times to enable the compilation of the baseline data on whose basis project sustainability will be judged. Desk studies covered review of relevant literature especially concerning applicable pieces of legislation. Standard scientific methods formed basic framework for all surveys that were conducted for the purpose of this report. Secondary data that was used in the survey was obtained from MeteoBlue Climate Website, Zimbabwe National Water Authority (ZINWA) and other reputable organizations.

1.6 ESIA REPORT STRUCTURE

The ESIA report has been categorised into the following sections arranged chronologically.

- Chapter 1- Introduction.
- Chapter 2- Policy, Legal and Administrative Framework.
- Chapter 3- Project Description and Justification.
- Chapter 4- Environmental and Socio-economic Setting.
- Chapter 5- Stakeholders Consultation.
- Chapter 6- Environmental and Social Impacts Assessment.

- Chapter 7- Environmental and Social Management Plan.
- Chapter 8- Conclusion and Recommendations.

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CHAPTER 2: LEGAL & ADMINISTRATIVE FRAMEWORK

This section looks at the legislative framework within which the project has to work. It focuses on compliance with the legislation during the implementation. The section reviews various applicable Zimbabwean legislations that govern the facets of the project, social safeguards, ISO standards and international protocol ratified by Zimbabwe. The ultimate objective of the section is to ensure that the proposed land development project is in consistent with the legal requirements, international standards, organizational performance standards, and environmental best practices. ***The proponent will have to abide by the provisions of all the relevant statutory provisions with assistance of a legal register which should be developed from this chapter.***

2.1 ZIMBABWEAN ESIA ADMINISTRATION PROCESS

2.1.1 THE ESIA PROCESS

The Environmental Management Agency (EMA) administers the ESIA process in Zimbabwe. EMA is a parastatal under the Ministry of Environment Tourism and Hospitality Industry. The agency registers consultancy firms to undertake ESIA studies for what are termed “prescribed activities”. These developmental activities cannot be implemented unless an ESIA study has been undertaken and approved by the Agency. The Agency receives ESIA studies from registered Consultancy firms, reviews the studies and if convinced that potential impacts have been identified and appropriate mitigation measures put in place, an ESIA approval certificate is granted for the project. Implementation of the project on the ground will only begin on or after issuance of the approval certificate. The project life (from project inception) will go through four of the standard phases of a project life cycle (planning, construction, operation and decommissioning). Figure 2.1 shows the steps that were taken to fulfil the ESIA requirements as set down by Environmental Management Agency.

In line with the requirements of the process as shown in figure 2.1, a prospectus report was prepared and approved by the Environmental Management Agency. Then this ESIA study becomes a second phase in which the project impacts and mitigation measures are identified and analysed in detail compared to the prospectus stage. Once the ESIA study is completed, it should be submitted to the Environmental Management Agency for the review process. That process will culminate in the issuance of an ESIA approval certificate. The ESIA certificate is valid for two (2) which if the proponent fails to implement the project an renewal is applied for resulting in issuance the second ESIA certificate that is valid for one year.

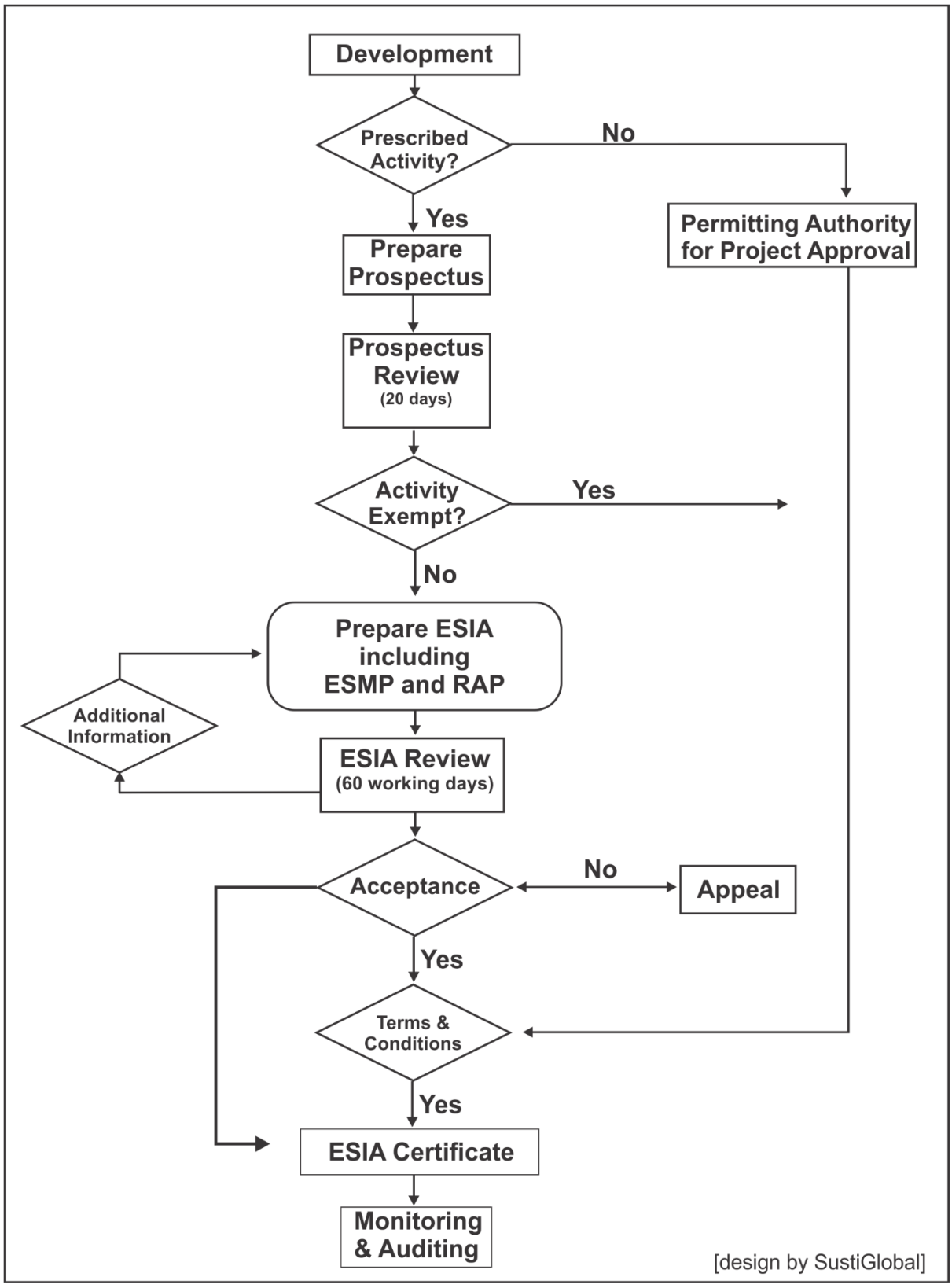


Figure 2.1: The ESIA process *and the project life cycle in Zimbabwe.*

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2.2 APPLICABLE LEGAL FRAMEWORK

2.2.1 THE CONSTITUTION OF ZIMBABWE AMENDMENT (NO. 20) ACT, 2013

The Constitution of Zimbabwe Amendment (No. 20) Act, 2013, which entered into force on May 22, 2013, is the supreme law in Zimbabwe. CHAPTER 4 of Constitution of Zimbabwe Amendment (No. 20) Act, 2013 declares fundamental human rights and freedom to citizens.

Guaranteed under these fundamental rights are the right to life, right to dignity in private and public life, the right to have that dignity respected and protected, freedom from slavery or servitude, freedom from forced or compulsory labour, equality and non-discrimination. In this regard, women and men have the right to equal treatment, including the right to equal opportunities in political, economic, cultural and social spheres.

Every person has the right not to be treated in an unfairly discriminatory manner on such grounds as their nationality, race, colour, tribe, place of birth, ethnic and social origin, language, class, religious belief, political affiliation, opinion, custom, culture, sex, gender, marital status, age, pregnancy, disability or economic or social status. Chapter 4 (63) guarantees citizen to use the language of their choice and participate with cultural life of their choice. In terms of labour rights, every person is entitled to fair and safe labour practices and standards and to be paid a fair and reasonable wage.

In terms of property rights, the Constitution confers the right to acquire, hold, occupy, use, transfer, hypothecate, lease or dispose of all forms of property, individually or association with others. The law provides for payment of fair and adequate compensation for the acquisition of the property and within a reasonable time. The Constitution confers the following environmental rights:

- Right to an environment that is not harmful to their health or wellbeing.
- Environment protected for the benefit of present and future generations.
- Prevent pollution and ecological degradation.
- Promote conservation and
- Secure ecologically sustainable development and use of natural resources while promoting economic and social development.

Other rights conferred in the constitution include among others, right to food and water, right of movement, rights of children, rights of the elderly and right to persons with disabilities.

In executing the project, the proponent will need to observe fully the bill of rights for the communities in the project area as enshrined in the Constitution. It has to ensure, non-discrimination, ensure fair and safe labour practices and standards and to pay fair and reasonable wages. The proponent will need to ensure that there is no discrimination on such grounds as their nationality, race, colour, tribe, place of birth, ethnic and social origin, language, class, religious belief, political affiliation, opinion, custom, culture, sex, gender, marital status, age, pregnancy, disability or economic or social status.

2.2.2 NATIONAL ENVIRONMENTAL POLICY OF ZIMBABWE & STRATEGIES

The Environmental Impact Assessment Policy was published in July 1994. This Policy has been amended after taking into account submissions from stakeholders and the experience of the Ministry of Environment and Tourism in implementing the policy. The final policy was published in August 1997, and the goals of this policy are:

- To encourage environmentally-responsible investments and development in Zimbabwe
- To maintain the long term ability of natural resources to support human, plant and animal life

- To conserve a broad diversity of plants, animals and ecosystems and the natural processes that they depend upon
- To conserve the social historical and cultural values of people and their communities

The EIA Policy has 9 principles which include:

- Sustainability for future generations is the cornerstone of the environment management systems
- Our dependency on a complex and diverse ecosystem requires management approaches which integrates economic, social, cultural, and natural environments
- EIA must enhance development and contributing to its environmental sustainability, not to inhibit it
- EIA is a means of project planning, not just evaluation
- Project impacts must be monitored throughout the life of the development
- The EIA policy depends on the normal regulatory functions of permitting authorities to implement EIA results
- The EIA policy involves participation of all government agencies with a mandated interest in the project
- Particular attention must be given to the distribution of project costs and benefits
- Many developments concerning the environment are dependent upon meaningful public consultation

The above principles are embedded in the EIA policy to serve as guidelines when judgments need to be made on how the policy is implemented in general or on specific projects. ***The proponent has complied with the requirements of this policy by undertaking the ESIA process and committing itself to sustainable development in its project.***

2.2.3 THE ENVIRONMENTAL MANAGEMENT ACT (CAP 20:27)

The Environmental Management Act was enacted to provide for, among other things, the sustainable management of natural resources and protection of the environment, the prevention of pollution and environmental degradation, the preparation of National Environmental Plan and other plans for the management and protection of the environment, the establishment of the Environmental Management Agency and an Environmental Fund. In the application of this Act in relation to other laws, it shall be used in addition to and not in substitution for any other law that is not in conflict or inconsistent with this Act. If any other law is in conflict or inconsistent with this Act, the Act shall prevail on all environment management issues. The Act emphasises on the following four principles;

- That the project requires an EIA to be carried out and the information is to be given by the EIA report.
- It also regulates environmental aspects such as water, air and noise pollution. Other aspects included are invasive Alien Species and hazardous substances.
- This Act provides for protection of soil, minerals, animals vegetation and natural features such as springs, vleis and reed beds. The underlying principle of the Act is conservation and improvement of natural resources.
- It also provides for the formulation of an Environmental Plan for all the prescribed projects. These should however conform to the National Plan (if it's there) and the Local Authority Environmental Plan (or District Action Environmental Plan)

Section 4 of the EMA establishes environmental rights, where every person shall have a right to (among others):-

a) A clean environment that is not harmful to health;
b) Protect the environment for the benefit of present and future generations and to participate in the implementation of the promulgation of reasonable legislative, policy and other measures that prevent pollution and environmental degradation; and
c) Secure ecologically sustainable management and use of natural resources while promoting justifiable economic and social development.

Any person who causes pollution or environmental degradation shall meet the cost of remedying such pollution or environmental degradation and any resultant adverse health effects, as well as the cost of preventing, controlling, or minimizing further pollution, environmental damage, or adverse health effects.

Section 83 compels every authority to ensure that all litter is disposed of in a specifically designated place such as waste receptacles and dumpsites. We hope that the local council shall do well to assist the proponent's waste to reach its destination so that illegal dumping of waste is avoided according to this section of the mother Act.

The foundation for the implementation of the EIA process in Zimbabwe is laid from Sections 97 to 108 of this act. The Act lists projects that require compulsory EIA. The proposed project is listed for EIA. In this section, the Act spells out the details expected in an EIA report and the general process for the review of the EIA report. In compliance with the provisions of the Act, proponent has submitted this report and will implement the proposed project within the confines of the provisions of the ESIA certificate.

2.2.3.1 ENVIRONMENTAL IMPACT ASSESSMENT GUIDELINES 1997

These guidelines, prepared by the then Ministry of Mines, Environment, and Tourism (MMET), cover mining, forestry, agriculture, transport, energy etc. They highlight issues that need to be considered when preparing Environmental Impact Assessments. These are mainly principles of environmental impact assessment as interpreted in the Zimbabwean context. These principles set the importance of impact assessments for any developmental project. It is through these guidelines that the necessary steps followed in an environmental impact assessment were set before it was enacted in the mother Environment Management Act (CAP 20:27) of 2002. The two however now are being used in conjunction with each other. To give effect to the provisions of the aforementioned mother Act, the following statutory instruments have been prescribed and gazetted:

2.2.3.2 ENVIRONMENTAL MANAGEMENT (EFFLUENT AND SOLID WASTE DISPOSAL) REGULATIONS, (SI 6:2007).

The SI states that; (1) No person shall discharge or dispose of any wastes, whether generated within or outside Zimbabwe, in such a manner as to cause pollution to the environment or ill health to any person.

(2) No person shall transport any waste other than—

(*a*) In accordance with a valid licence to transport wastes issued by the Board; and

(*b*) To a wastes disposal site established in accordance with a licence issued by the Board.

(3) Every person whose activities generate waste shall employ measures essential to minimise wastes through treatment, reclamation, and recycling.

This statutory instrument illuminates' sections (60-62, 69-70) of the Environment Management Act (CAP 20:27). It gives minimum requirements for the granting of an effluent and solid waste disposal licence as well as the special conditions for the validity of the permit. No local authority operating a sewerage system or owner or operator of any trade or industrial undertaking operating within the jurisdiction of two or more contiguous local authorities shall discharge any effluents or other pollutants into the environment without an effluent discharge licence issued by the Board. It also provides for the categorisation of waste into four classes depending on quality and outlines requirements for licensing of disposal. Part V, section 17, subsection (1)-(3) states that every authority operating or proposing to operate a waste collection, relocate or alter any premises for the purpose of a waste management should apply for a waste management licence from EMA. EMA shall verify to see if the enterprise has capability to handle the waste adequately and safely.

In section 18 the operator of every waste management enterprise shall appoint a waste manager whose duties shall include the monitoring and compliance of the waste management enterprise with the regulations. Provisions of Statutory Instrument 6 of 2007, the Environmental Management Act (Effluents and Solid Waste Disposal) Regulations, 2007 as read with the Environmental Management Act (Chapter 20:27) is quoted below. ***The proponent should comply with all these regulations so as to achieve sustainable development on corporate and national level.***

2.2.3.3 ENVIRONMENTAL MANAGEMENT (ENVIRONMENTAL IMPACT ASSESSMENT AND ECOSYSTEMS PROTECTION) REGULATIONS (SI 7: 2007).

These regulations are premised on Sections (97 to 104) of the EMA. This S.I outlines the process of conducting Environmental Impacts Assessments for prescribed project. It also makes it mandatory for the developer to submit a prospectus before engaging registered consultants to conduct the EIA. It also postulate the registration of persons engaged in EIA consultation and the conditions for the awarding, amendment, suspension, or cancellation of an EIA certificate. Under these regulations, the proponent complied by engaging SustiGlobal Consultancy (Pvt) Ltd; a registered EIA consultant in the formulation of this EIA. The organization needs to comply with the quarterly environmental reports required under these regulations. Section 13(2) makes it mandatory for developers to submit quarterly reports on issues raised in the EIA report or issues that may arise as a result of the implementation of the project. Failure to submit will make the developer liable to a fine not exceeding level 14 or imprisonment for twelve months or both- such fine and imprisonment.

2.2.3.4 ENVIRONMENTAL MANAGEMENT (HAZARDOUS SUBSTANCES, PESTICIDES AND OTHER TOXIC SUBSTANCES) REGULATIONS, (SI 12: 2007)

The regulations provide for the classification of hazardous substances and the procedure for licensing of the storage: use and/or transportation of hazardous substances, pesticides and other toxic substances. ***The proponent requires a licence for his onsite storage of chemicals and fuel.***

2.2.3.5 ENVIRONMENTAL MANAGEMENT (ATMOSPHERIC POLLUTION CONTROL) REGULATIONS (S.I 72 OF 2009).

This piece of regulation pertains to air pollution management and calls for the registration of all stake emissions and industrial generators. It sets the minimum standards for such emissions. Under these regulations, the proponent needs to facilitate registration of generators by its members. ***The proponent also needs to make sure that vehicle fleet undergoes emission testing and regular servicing so as to minimize air pollution from exhaust emissions.***

2.2.3.6 ENVIRONMENTAL AND NATURAL RESOURCES MANAGEMENT (EIA & ECOLOGY PROTECTION) (AMENDMENT) REGULATIONS. (SI 3 OF 2011).

This amendment of S.I 7 of 2007 has section 3 (1) advocates for abstraction licence. It illustrates that no person shall excavate, remove, possess, transport or licence the removal of clay or sand deposits in excess of one tonne or for commercial purposes without a licence issued by Environment Management Agency (EMA). Also, sand removal from undesignated site or point is not allowed without the licence. ***Since this is a construction project sand abstraction issues may also be triggered so much care must be exercised by the developer.***

2.2.4 WATER ACT (CAP 20:24)

The purpose of the Water Act (Chapter 20:24) as stated in the act is to" provide for the development and utilization of the water resource of Zimbabwe;" to "provide for the protection of the environment and the prevention and control of water pollution;" and to regulate the use of water among many things;

Section 32 under Part IV provides for the use of water giving the right to any person who is a holder of a permit to abstract water not exceeding 5000 cubic metres unless the Catchment Council is notified. The permit issued in terms of this act is valid for 20 years. The Catchment Council which can cancel the permit if the holder fails to make use of it for a continuous period of three years fixes period of validity for renewals. Section 42 specifies the control of use of water whereby the Catchment Manager must be notified of the existence of storage works, boreholes, and wells on site. Control of use of water is also done through the installation of meters for measuring and recording the amount of water abstracted as spelt out in Section 43.

2.2.5 NATIONAL SOCIAL SECURITY AUTHORITY (S.I 68 OF 1990) (ACCIDENT PREVENTION AND WORKER'S COMPENSATION SCHEME)

This Statutory instrument established the accident prevention and workers compensation scheme for the provision to workers of compensation in respect of injuries arising from their employment and for the promotion of occupational health safety. The Statutory Instrument outlines the duties of the employer in relation to accident prevention .Employers are expected to ensure that;

- Equipment, materials and protective device provided by him for the purpose of protecting workers, health and safety are maintained in good condition.
- Health and safety measures and procedures at his work place are carried out.
- Equipment, materials, and protective device provided by him are established.
- Accurate records of handling, storage, use, and disposal of biological chemical or physical agents are kept on the site.
- Compliance with such standard limiting the exposure to biological, chemical or physical agents.
- Only a worker who has undergone such medical examination test, X-rays as may be prescribed and who is found to be physically fit to do the work in that workplace be permitted to do that work.
- The worker is provided with instructions on measures and procedures to be taken for the protection against risks to health or safety, and such instruction shall be given in writing or in the manner or language understood by the majority of workers in the workplace.
- Occupational health and safety training program at the workplace are carried out or that workers be released to attend such training programs during the work times.

- He or she prepares and regularly update a written policy that addresses the health and safety problems at the workplace and develops and maintains a program for the implementation of that policy.
- The establishment of a safety committee is effected and necessary assistance and cooperation afforded to the committee in carrying out its functions.
- A supervisor or health and safety representative who shall take all necessary measures to ensure the health and safety of workers is appointed.

The proponent should be aware of the dangers likely to be faced during development and construction process and therefore work out a management plan to combat such anticipated dangers.

2.2.6 FACTORIES AND WORKS ACT (CAP 14:08) OF 1996

The ACT provides for the registration and control of factories, the regulation of conditions of working factories, supervision of the use of machinery, precautions against accident to persons employed on structural work and for matters incidental to the foregoing.

2.2.6.1 SAFETY WEAR OR PERSONAL PROTECTIVE CLOTHING

Part V section 17 regulates the use of proper gear to be worn during construction respectively. Section 17 (2) stipulates that no building employee shall perform structural work except on scaffolding erected in terms of the regulations if such work cannot be performed in safety otherwise than on scaffolding. Section 18 (2) stipulates that no building employee employed on structural work shall use any gear which is not of adequate strength, free from patent defect and in good working order. Part 1V Section 13 and 14 regulates the inspection of machinery by inspectors and maintenance of accident register and notification of accidents respectively. The proponent must then make sure that all employees working at the project site must have proper personal protective clothing to avoid incidences, injuries and fatalities at work.

2.2.6.2 DRINKING WATER

Part II section 9 stipulates that every occupier or builder shall provide a supply of wholesome drinking water sufficient for the use of, and reasonably accessible to, every person employed in the factory or on structural work, as the case may be. In this case all the workers that will be employed for the project must be provided with safe drinking water by the proponent. Since the job needs much of physical work people also need a lot of drinking water to avoid or reduce dehydration.

2.2.6.3 FIRST AID KIT

Part II section 10 subsection 1 says that in all factories and on premises where persons are employed on structural work , the occupier or builder, as the case may be, shall provide and maintain in good and clean condition, properly equipped first-aid box. It goes on to say on (i) where the number of persons employed exceeds 100, an additional first-aid box for every additional 100 persons or fraction thereof, shall be provided and maintained. This regulation calls for the proponent to have a first aid box at the project site where it close to the workers so that it is easily accessible in case if injuries.

2.2.6.4 NOISE

Section 6 (1) states that, no person shall be exposed to sound -levels exceeding the limits prescribed in sections (2), (3) and (4) of this section unless such person has been supplied with, and is using, ear protectors of a type approved by an inspector which reduce the sound levels reaching the user's ear to elbow the limits allowed for an unprotected ear. (3) Under no circumstances should the

unprotected ear be exposed to a sound-pressure-level measured with an instrument set to the ''fast'' response exceeding 135 Db(A) or in the case of impulse noise ,an instantaneous sound-pressure exceeding 150dB(A). Ear protectors such as earplugs must be provided by the proponent as part of personal protective clothing.

2.2.6.5 RHODESIA GOVERNMENT NOTICE NO. 303 OF 1976 (PRESSURE VESSELS)

The Factories and works act (CAP 14:08) of 1996 Rhodesia Government Notice No. 303 of 1976 talks of the handling of pressure vessels at a work place. Part I sections 5 to 8 talks of maintenance of these pressure vessels, record books, installation, access, inspection of ports and openings. On maintenance of the pressure vessels this Rhodesia Government Notice stipulates that No user shall use of cause or permit a pressure vessel to be used unless it is kept clean and free from carbonised oil or other flammable matter which may ignite under working conditions or any matter foreign to the intended use of the vessel or matter which is liable to chemical reaction which may cause an uncontrollable rise in pressure and it should at all times be maintained in safe working conditions. The notice goes on to say on section 6 Every user of a pressure-vessel shall keep on the premises a record book which shall be open to inspection by an inspector and in which shall be entered a written record of all tests, internal and external examinations, cleaning and repairs, and which shall be signed by the person carrying out tests, examinations, cleaning and repairs. Section 7 talks of installation and it says that, a user shall cause every pressure vessel to be so installed as to be readily accessible for inspection and test. On access and inspection of ports and opening the notice regulates that, a user shall cause every pressure vessel to be fitted with suitable inspection openings, so situated that all internal surfaces, longitudinal seams and circumferential seams may be conveniently cleaned and inspected; and at least 1 manhole, where the dimensions of the pressure vessel are such as to permit of entry into the vessel which shall not be less than 380 mm by 280 mm in the case of elliptical manholes, and at least 380 mm in diameter in the case of circular openings. ***In this case the proponent will use pressure vessels such as gas bottles and hence there is need to adhere to this notice for the safety of the workers.***

2.2.6.6 RHODESIA GOVERNMENT NOTICE NO.304 OF 1976 (ELECTRICALS)

According to **Chapter 14.08: Factories and Works (Electrical) Regulations of 1976, Rhodesian notice no 304 of 1976** ***It is by rule that the proponent has to fence all electrical machinery in the plant which includes the transformers, switching apparatus, linking apparatus and all apparatus with the use of electricity and also put notices on these electrical machineries*** so as for the employees, employers, visitors and everyone who got access to the plant is clearly directed to where he or she is supposed to go. This marks protection to the employees against all the dangers that might happen either intentionally or unintentionally. Notices have to be exhibited at suitable places within electric generation stations and all premises were electrical and dangerous apparatus are installed. The proponent shall cause all the electrical machinery ,apparatus and conductors to be installed, worked, maintained and identified as to prevent danger to persons and to be protected in such a manner that no injuries can be caused to any person by in advertent contact with any portion as stated in **Chapter 14.08:Factores and Works (Electricals) Regulations of 1976.**The switch boards must have a maximum clear space of least 1,2 meters at the back which shall be kept closed all time and locked expect for the purpose of inspection or repair or any activity of importance. On installation , the proponent have to make sure that the transformers, switch rooms and houses are of a sufficient size to provide clear working space for operating or maintenance personnel and to be sufficiently ventilated so as to maintain the equipment at a safe temperature and it should be known that no person other than a competent person shall enter or be required or permitted by the user to enter a transformer or switch

house unless all live conductors which are not adequately insulated against inadvertent contact are screened off. If so the competent person may be assisted by any other person acting under his immediate supervision. ***The proponent has to adhere to the laws in this legislation so as to protect both the employees, occupancy of the complex and visitors.***

2.2.7 ELECTRICITY ACT (CHAPTER 13:19)

Important aspects of this Act are contained in Section 54 (1) (Second Schedule) which deals with acquisition of rights in or interest over land for transmission or distribution purposes. Correct procedures have to be taken to ensure that the acquisition of the 15m (7.5 m either side of the center line) way leave is in accordance with the provisions of this section.

Section 54 (9) (Second Schedule) deals with issues of compensation in the event that property is affected as a result of the construction of the line. Wayleave acquisition and compensation of affected parties are important pre-construction activities which the proponent has to deal with. It is important to avoid a route that would entail relocating homesteads or infrastructure as such actions can cause lengthy delays as compensation is negotiated and new structures constructed for affected parties. In coming up with the recommended line route, special attention was placed on location of homesteads. An Abbreviated Resettlement Action Plan has to be prepared in line with the AfDB requirements.

Section 61(1) (e) of the Act provides for the prosecution of people who damage, destroy or interfere with distribution lines. Vandalism of electricity transmission and distribution infrastructure is a major problem that is stifling expansion of the electricity network in both the urban and rural areas. During stakeholders' consultation meetings, stakeholders were reminded that it is an offence under the Electricity Act to vandalize transmission and distribution infrastructure.

2.2.7.1 ELECTRICITY (GRID CODE) REGULATIONS (S.I. 91 OF 2017)

In Zimbabwe transmission and distribution lines have prescribed way-leaves (refer to section 4.2.8.2) and clearances above road and railway line in tables 2.1 and 2.2. Way-leave is a distance calculated either side from the centre line.

Table 2.1: Transmission lines network

CLASS	SUB CLASSIFICATION	VOLTAGE (kV)	WAY LEAVE WIDTH (m)
High Voltage	Transmission	400 (max 420)	30
		330	30
		220	25
	Sub-transmission	132	15
		110	15
		88	**15**
		66	10
Distribution	Distribution lines	33	7.5
		11	5
MV lines (Including under-ground cables)	-	-	-

It's worth to note that all future transmission line shall be developed for 132kV.

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Table 2.2: line clearances above roads and rail way lines

Normal operating voltage between line conductors (kV)	Over Roads (meters)	Minimum clearance between conductors and rail top (metres)
Up to and including 33kV	5.8	10.5
66	6.0	10.9
88	**6.1**	**11.1**
132	6.7	113
220	7.0	124
330 & 400	73	13.4

The proponent and sub-contractor shall undertake all designs with these specifications in mind and all constructions should comply with these guidelines.

2.2.8 LAND COMMISSION ACT (CAP 20:29)

AN Act to provide for the Zimbabwe Land Commission established by section 296 of the Constitution; to provide for the acquisition of State land and the disposal of State land; to provide for the settlement of persons on, and the alienation of, agricultural land; to provide for the control of the subdivision and lease of land for farming or other purposes; to provide for limiting of the number of pieces of land that may be owned by any person and the sizes of such land; to repeal the Agricultural Land Settlement Act [Chapter 20:01] and the Rural Land Act [Chapter 20:18] to amend the Land Acquisition Act [Chapter 20:10]. This is not triggered since no one will be relocated.

2.2.9 RURAL LAND ACT (CAP 20:18)

An Act to provide for the acquisition of State land and the disposal of State land; to provide for the control of the subdivision and lease of land for farming or other purposes; to provide for limiting of the number of pieces of land that may be owned by any person and the sizes of such land, and for prohibiting or restricting the rights of non-residents to own, lease or occupy land in Zimbabwe, and to provide for other matters incidental to and connected with the foregoing.

2.2.10 PUBLIC HEALTH ACT (CAP 15:09 – REVISED 1996)

The relevant sections of this Act are those dealing with sanitation and housing which will be applicable when accommodating workers. The Act prohibits the creation of nuisance, and the relevant definitions of nuisance given are:

- Any dwelling or premises which is or are of such construction or in such a state or so dirty or so venomous as to be injurious or dangerous to health, or which are liable to favour the spread of any infectious disease ;
- Any sanity so foul or in such a state or situated or constructed as to be offensive or to be injurious or dangerous to health; or any collection of water which may serve as a breeding pool for mosquitoes.
- Any well or other source of water supply ,whether public or private the water of which is used or likely to be used by man which is polluted or otherwise liable to render such water injurious or dangerous to health;
- Any accumulation or deposit of refuse or other matter whatsoever which is offensive or which is injurious or dangerous to health;
- Any dwelling which is so overcrowded as to be injurious to the health of the inmates.

The act also establishes powers of health officials, local authorities and has several regulations made subservient to it, including the following statutory instruments (regulation) below.

2.2.10.1 PUBLIC HEALTH (EFFLUENT) REGULATIONS 1972 (SI.639 OF 1972)

The regulations serve to control the disposal of effluent into the environment. Subsection (1) of section 13 states that no person shall discharge any effluent or use it for irrigation of land without first applying for and receiving the approval of the appropriate health authority.

Any person requiring the approval shall give full details of the use, or discharge of the effluent and any other information required by the authority. Approval of the discharge is done when all or any of the conditions given in paragraphs (a) to (e) of subsection (3) of section 68. These include that all pipe connections are below the ground and reticulation system is provided for the effluent entirely separate from any system for the reticulation of potable water. To adequately satisfy the requirements of these regulations, the proponent will ensure that the sanitation issues be addressed to the fullest for the benefit of its members.

2.2.10.2 SANITATION AND HOUSING

The section say no person shall cause a nuisance, or shall suffer to exist on any land or premises owned or occupied by him, or of which he is in charge, any nuisance or other condition liable to be injurious or dangerous to health and it shall be the duty of local authorities to take all lawful, necessary and reasonably practical measures to maintain cleanliness and prevent nuisance. If satisfied of the existence of a nuisance the local authority shall serve a notice on the author of the nuisance to remove it within the time specified. If the author of a nuisance fails to comply with any of the requirements thereof within the specified time the court may by such order impose a fine on the person as per the provisions of subsection (3) of section 87.***The proponent should do well in doing its level best to avoid waste build-up at the offices and enforcement of waste characterization at each source (shop, office and etc.).***

2.2.11 PNEUMOCONIOSIS ACT (CHAPTER15:08)

This act prohibits employment of workers suffering from pneumoconiosis from employment in a dusty occupation. According to this act, employment of workers in dusty occupations should be holders of valid certificate. The certificates are in two types namely:

1) Initial certificate issued to persons who would have complied with prescribed standards of fitness and have not previously held an initial or periodic certificate.
2) Periodic certificate are issued to persons who would have complied with prescribed standards of fitness and are holders of or have previously held an initial certificate.

The proponent should comply with the Act by making sure that contractors are tested for pneumoconiosis among other respiratory diseases.

2.2.12 EXPLOSIVES ACT (CAP 10:08)

The Act provides for the manufacture, transportation, handling, and storage of explosives. Section 3 prohibits any person to purchase, acquire, or have in his possession any explosive unless he holds a permit. Section 7 of the Act prohibits the storage of explosives except in licensed premises. No person is allowed to store explosives in any premises unless he/she is a holder of a blasting license. As per section 9, no person shall prepare, press home or fire an explosive charge or conduct any blasting operations unless he is a holder or is under the direct supervision of the holder of a blasting license. ***Given that the proponent will be using explosives in its trenching operations; compliance with this regulation is advisable.***

2.2.12.1 EXPLOSIVES REGULATIONS (SI 72 OF 1989)

This legislation is divided into 5 main sections, which detail sections 3, 7, and 9 of the mother Act. Section 27(2) of the SI prohibits any person from storing or carrying or allowing any person to store or carry explosives without holding a blasting license. Section 27 (3) says that no person shall carry or allow any other person under his control or supervision to carry explosives from storage place to working place unless they are carried in stout canvas sacks or unopened box of origin or other containers of a type approved by an inspector. If the boxes are open, it should be under the direct supervision of a holder of a blasting licence.

Section 73 provides for the application of a license to keep or store explosives. The application shall be made in writing and shall be lodged with the inspector of the mining district where the explosives are to be kept or stored. Explosives should be stored in a magazine as provided by the regulations. Section 80 specifies that any person who wishes to construct a magazine shall submit plans of the design and specifications of the magazine to the Chief Inspector. The magazine in which explosives are stored shall be kept securely locked at all times other than when explosives are being received or issued out, as given in the S.I. Blasting constitutes one of the major environmental concerns so ***the proponent/contractor needs to ensure that the charging rate and all precautions are taken into consideration to protect the nearby community, structures and animals. He also should hire a registered blaster.***

2.2.13 ROADS ACT (CAP 13:12)

The Roads Act, Chapter 13:12, provides the overall framework for the development of roads. The Act provides for the conservation of natural resources in road development through the prohibition of the construction of roads, access roads, extraction of materials and disposal of spoil in demarcated forests without consultation with the authority responsible for the forest. Amendments to the Roads Act (2000) effected the following changes and additions to the Act:

Establishment of a road fund whose primary purpose will be financing road works especially road maintenance works. Money collected for this fund is through levies on e.g. fuel and vehicle licensing; Provides for road authorities in respect to urban and rural roads. State highway authorities will be in charge of Regional, primary and secondary roads. Urban local authorities will be responsible for urban roads and rural district councils concerned with all tertiary feed roads

Conservation of the environment and the involvement of the public during road construction and other matters relation to roads.

2.2.13.1 ROAD TRAFFIC CONSTRUCTION, EQUIPMENT AND USE, AXLE REGULATION

The road traffic construction, equipment and use, axle regulations stipulate the Gross Vehicle Mass (GVM) for heavy vehicles. It is important that proponent and contractor vehicles transporting materials and equipment meet these Axle limits as required by the Vehicle Inspection Department. The project also traverses major highway at the Substation and road safety should be maximally maintained.

2.2.14 ZIMBABWE ENERGY REGULATORY ACT CHAPTER 13:23 (ACT 11/2011)

The Zimbabwe Energy Regulatory Authority (ZERA) has a key function of regulating the energy in Zimbabwe. Its key functions, amongst others are:

a) to regulate the procurement, production, transportation, transmission, distribution, importation and exportation of energy derived from any energy source;

b) to ensure the maximization of access to energy by all consumers that is affordable and environmentally sustainable;
c) to establish appropriate consumer rights and obligations regarding the provision of energy services;
d) to establish or approve operating codes for safety, security, reliability, quality standards and any other sector related codes and standards;
e) to arbitrate and mediate disputes among and between licensees and consumers;
f) to promote the procurement, production, transportation, transmission and distribution of energy in accordance with public demand and recognized international standards;
g) to exercise licensing and regulatory functions in respect of the energy industry.

2.2.15 NATIONAL MUSEUMS & MONUMENTS ACT (CHAPTER 25:11)

The National Museums and Monuments of Zimbabwe Act was established to administer museums and monuments in Zimbabwe. The Act further makes provision for the preservation of ancient, historical and natural monuments, relics and sites of historical, scientific or palaeontological value. Section 24 of the Act stipulates that no excavations or removal of artifacts may be done without the consent of the Executive Director in the Ministry of Rural Development, Promotion and Preservation of National Culture and Heritage.

The National Museums and Monuments of Zimbabwe Act stipulates the procedure to be undertaken when an individual or organisation intends to remove or destroy an artifact that has been declared by the minister as a monument. The Act interprets monuments as building structures, graves, certain rocks or statues that were erected or constructed prior to January 1890. An individual that wishes to remove, destroy or relocate a monument is required to notify the Executive Director in the Ministry of Rural Development, Promotion and Preservation of National Culture and Heritage in writing. The Ministry can request to visit the affected site and give recommendations on the action (s) to be undertaken.

A Cultural and Heritage Assessment has be undertaken as part of the ESIA process and the outcome will be submitted to the Executive Director in the Ministry of Home Affairs and Culture and Heritage. Part IV of the Act, Section 21 provides for the notification of discovery of ancient monuments and relics to the National Museum and Monuments. In terms of Section 24, no person shall excavate any ancient monument, and in terms of Section 25, alter, damage or remove from its original site any national monument or relic without the consent of the Executive Director of National Museum and Monuments. ***In the event of discovery of artefacts, the proponent shall have to engage the Museums Department to ensure that they are handled by the authorities according to the dictates of the law.***

2.2.15.1 ARCHAEOLOGICAL IMPACT ASSESSMENTS: GUIDELINES FOR PLANNING AUTHORITIES & DEVELOPERS (SI 143 OF 2011)

The Guidelines for Planning Authorities and Developers explains the law indicating additional requirements (NMMZ, 1998). Furthermore, a Statutory Instrument (SI 143 of 2011) seeks to legally enable these recommendations and sets various standard fees. The law specifies that: Only qualified Zimbabwean heritage practitioners approved by the Executive Director NMMZ may undertake this work. This should be an archaeologist in the case of cultural investigations. The name, qualifications and contact details of the consultants must appear on all reports. It is assumed that a comprehensive suitable field survey will be undertaken in preparing the final report, sampling all topographical points often associated with prehistoric habitation, land use and areas in between. On discovery all fossils or sites of prehistoric remains and activity as well as isolated traces must be documented and mapped.

Once the initial heritage report is approved mitigation or preservation may be required. Article 24 of the NMMZ Act specifies that excavation or alteration of any site of archaeological, cultural, historical, and paleontological presence cannot be undertaken without the prior written consent of the Executive Director, NMMZ.

This provision has been legally strengthened in SI 143 of 2011 in the light of failure by developers to follow up on earlier instructions. Only approved persons may undertake such work as directed by the Executive Director, NMMZ. Contravention of any of these requirements is an offence.
Mitigation procedures may include but not limited to the following:

- Avoid development through realigning project footprint.
- Preservation in situ setting strict standards for maintaining or restoring the local setting. This includes the delineation of a suitable buffer zone in which development is curtailed.
- Scientific removal, sometimes with community involvement, where it is deemed necessary to relocate remains elsewhere or to a NMMZ-specified depository.
- Community compensation.

2.2.15.2 CEMETERIES ACT (CAP 5:04)

All graves are protected by both the NMMA and the Cemeteries. The two Acts complement each other legally in the protection of these sites. Section 26 of the Cemeteries Act protects tombs or monuments as indicated comprehensively below:

Any person who wantonly or wilfully destroys or does or causes to be done any damage, defacement or disfigurement to any monument, vault, tombstone or grave whether within or without a cemetery, or to any building, erection, railing, fence, tree, shrub, plant, thing, or natural object, adjoining, connected with or relating to any such monument, vault, tombstone, or grave, shall be guilty of an offence and liable to a fine not exceeding level five or to imprisonment for a period not exceeding six months or to both such fine and imprisonment.

2.2.16 LABOUR RELATIONS ACT (CHAPTER 28:01) REVISED EDITION 1996

This Act is set to, among other things, declare and define the fundamental rights of employees; to define unfair labour practices; to regulate conditions of employment and other related matters; to provide for the control of wages and salaries; to provide for the appointment and functions of workers committees; to regulate the negotiation, scope and enforcement of collective bargaining agreements. It also provides for protection of both the employees and employers. The act provides for recruitment to be conducted without discrimination on grounds of race, tribe, and place of origin, political opinion, colour, creed, gender, pregnancy, HIV/AIDS status or any disability.

2.2.16.1 LABOUR RELATIONS (GENERAL) REGULATIONS, 1985

These regulations set the guidelines for the running of all labour related organisations. It provides for their licensing, arrangement of meetings, and the codes of practise in handling employment cases and or disputes.

2.2.17 TRADITIONAL LEADERS ACT (CAP 29:17)

The ACT to provide for the appointment of village heads, headmen and chiefs; to provide for the establishment of a Council of Chiefs and village, ward and provincial assemblies and to define their functions; to provide for the issue of village registration certificates and settlement permits. Section 5,it states the duties of the chief i.e. (*l*) ensuring that the land and its natural resources are used and exploited in terms of the law and, in particular, controlling—
(i) Over-cultivation; and

(ii) Over-grazing; and
(iii) The indiscriminate destruction of flora and fauna; and
(iv) Illegal settlements; and generally preventing the degradation, abuse or misuse of land and natural resources in his area; and
(*m*) ensuring that no public property, including roads and bridges, telephone and electricity lines, dip-tanks and animal health centres, clinics, churches, cattle-sale pens, schools and related establishments, is damaged, destroyed or misused by the inhabitants or their livestock.
The proponent is advised to work with the local leadership to ensure that its operations are in harmony with nature and conservation of community public property such as roads as stated in the act.

2.2.18 RURAL DISTRICT COUNCILS ACT (CAP 29:13)

The Act provides for the payment of land levies to the Rural District Council payable by the proponent of the project which will be in the council area as given in Section 96(1) (*b).* Under section 11 of this act, servitude may be granted to a claimant subject to the conditions set by the Minister of Local Government and National Housing, in consultation with the Rural District Council of the area concerned. This Act also recognizes the need to respect shrines and burial places within communal areas as well as compensation to anyone who suffers any right to occupy land. The requirements of the Act will therefore have to be observed. ***The proponent shall ensure that they abide by the requirement set forth in this Act and its associated by-laws***.

2.2.19 FOREST ACT (CAP 19:05 – REVISED 1996)

The Forest Act provides for the administration, control and management of state forests by the Forestry Commission. It also protects private forests and deals with the use of mine timber, control of burning and trade of forest produce. Section 41 of the Act prohibits cutting, felling, injuring or destroying any forest produce except with a written consent from the Minister of Environment and Tourism. Section 44 of the Act restricts the exercising of rights to timber under mining law. Any right to timber, which is conferred upon a miner under the mining law, or any title to land may be exercised only if such a miner obtains a mining timber permit issued by the Mining Timber Board. ***The proponent should avoid indiscriminate cutting down of trees.***

2.2.20 PARKS AND WILDLIFE ACT (CAP 20:14 OF 1996)

This Act provides for preservation, conservation, propagation or control of wildlife, fish and plants of Zimbabwe and the protection of natural landscapes and scenery. Operations would only be confined to the demarcated claims and effort would be made to rehabilitate and protect the natural landscapes as operations commence. The proponent shall advise its clients and contractors to preserve wildlife in the area.

2.3 WORLD BANK GUIDELINES

2.3.1 ENVIRONMENTAL SCREENING

Environmental screening is undertaken during project identification and pre-feasibility studies of a prescribed project. The purpose of screening is to categorize whether or not a project requires a full EIA, partial EIA or no EIA at all. This is because certain projects may have less impact than others (World Bank, 1991). For example, the World Bank has four screening categories namely:

Category A: An EIA is normally required because the project may have diverse significant impacts (projects in this category are forestry, large industrial plants, irrigation and drainage, mineral

development (including oil and gas), pipelines (oil, gas, and water), resettlement, rural roads, tourism, urban development, large transmission lines, etc.).

Category B: A limited environmental analysis is appropriate, as the project may have specific environmental impacts. Projects in this category include agro-industries (small scale), aquaculture & marine-culture, small industries, mini-hydropower station, public facilities (hospitals, schools, housing complexes, rural electrification, telecommunications, small-scale tourism, rural water supply, etc.

Category C: Environmental analysis is normally unnecessary, as the project is unlikely to have significant environmental impacts. Projects in this category include education, family planning, nutrition, institutional development, technical assistance, etc.

Category D: Environmental projects for which separate EIAs are not required, as the environment is the major focus of project preparation.

It is important to note that each country may have its own categorization procedures in the screening process but harmonizing procedures is essential where joint or trans-boundary projects are concerned. ***The proponent recognizes the World Bank projects categorization; that is why the proponent classified the proposed project as a prescribed one. All prescribed projects needs an EIA because of the level of destruction they are likely to have on the environment, health and social status of the host communities.***

2.3.2 STAKEHOLDERS INVOLVEMENT IN THE EIA

Public and stakeholder involvement in the ESIA process is widely recognized as being an essential component. It leads to better and more acceptable decision-making. This can help to identify whether all impacts have been included and whether all risk groups have been identified.

Taking stakeholders viewpoints into account improves project viability. The World Bank (1991) has found that where such views are seriously considered and incorporated in the EIA process, projects are likely to be more successful. Public and stakeholder involvement is particularly important during the scoping, impact assessment, and mitigation phases of an EIA. During scoping, public involvement is undertaken to ensure that all the significant issues are identified, local information about the project is gathered and alternative ways of achieving the project objectives are considered. Public involvement is particularly important in understanding the nature and extent of potential socio-cultural impacts

The form of participation needs to be realistic and participants need to be able to see that they can influence the direction of a project. Participation has the advantages that it can help to demonstrate that vested interests are not having an undue influence and it can play a role by promoting dialogue in consensus building. ***Proponent has done well in consulting stakeholders that includes government officers and the host community. In a move to deal with some unforeseeable impacts that may pop up, Proponent should work closely with its stakeholders to ensure smooth running of the project and remediation of the impacts.***

2.3.3 PUBLIC CONSULTATION

There should be adequate public consultation and participation in all the phases of a project. This helps in the identification of preferred project alternatives. The objective being to give the affected people a chance to influence the direction of the development project with a view to enhancing their well-being (World Bank, 1987). Different countries have different requirements for consultation but

the general format is that meetings are conducted at which the proponent explains all aspects of the project and seeks stakeholders' views. Together any likely impacts to arise out of the project implementation are identified and mitigation measures proposed.

Consultation in the EIA process is of paramount importance and should be a continuous process from scoping, during EIA Study report preparation, draft EIA report and during EIA finalization and review. After the Environmental Management plan (EMP) has been prepared, it should be disseminated as widely as possible to enable the concerned parties to comment on it. Adequate time should be allowed for review of the findings and recommendations before public hearings are held. After the EIA has been finalized, the EIA report should be made available for public consumption and review. ***Proponent's community liaison section shall see to it that these requirements are executed.***

2.4 AFDB INTEGRATED SAFEGUARDS SYSTEM

The following Operational Safeguards (OS) were examined and a reflection on how the project complied with the operational safeguards was made:

2.4.1 OS 1 – ENVIRONMENTAL AND SOCIAL ASSESSMENT

The objective of this overarching Operational Safeguard (OS), along with the OSs that support it, is to mainstream environmental and social considerations— including those related to climate change vulnerability—into Bank operations and thereby contribute to sustainable development in the region. The specific objectives are to:

- Mainstream environmental, climate change, and social considerations into Country Strategy Papers (CSPs) and Regional Integration Strategy Papers (RISPs);
- Identify and assess the environmental and social impacts and risks— including those related to gender, climate change and vulnerability—of Bank lending and grant-financed operations in their areas of influence;
- Avoid or, if avoidance is not possible, minimize, mitigate and compensate for adverse impacts on the environment and on affected communities;
- Provide for stakeholders' participation during the consultation process so that affected communities and stakeholders have timely access to information in suitable forms about Bank operations, and are consulted meaningfully about issues that may affect them;
- Ensure the effective management of environmental and social risks in projects during and after implementation.

The project has complied with this operational safeguard by conducting this ESIA. Its implementation, monitoring and evaluation with the involvement of all stakeholders will ensure compliance throughout the project life cycle.

2.4.2 OS 2 – INVOLUNTARY RESETTLEMENT: LAND ACQUISITION, POPULATION DISPLACEMENT AND COMPENSATION.

This Operational Safeguard (OS) aims to facilitate the operationalization of the Bank's 2003 Involuntary Resettlement Policy in the context of the requirements of OS1 and thereby mainstream resettlement considerations into Bank operations. Reference to the Involuntary Resettlement Policy will be made and the justification and requirements for a Full Resettlement Action Plan and an Abbreviated Resettlement Action Plan if need be. However, the proposed project does not trigger this OS.

2.4.3 OS 3 – BIODIVERSITY, RENEWABLE RESOURCES AND ECOSYSTEM SERVICES.

This Operational Safeguard (OS) outlines the requirements for borrowers or clients to identify and implement opportunities to conserve and sustainably use biodiversity and natural habitats, and observe, implement, and respond to requirements for the conservation and sustainable management of priority ecosystem services. The project complied with this operational safeguard through conducting of a detailed Biodiversity Assessment as part of the ecological baseline assessment for the project ESIA. The ecological study also confirmed that there are no protected or endangered plant species that will be lost because of the project.

2.4.4 OS 4 – POLLUTION PREVENTION AND CONTROL, HAZARDOUS MATERIALS AND RESOURCE EFFICIENCY.

This OS outlines the main pollution prevention and control requirements for borrowers or clients to achieve high quality environmental performance, and efficient and sustainable use of natural resources, over the life of a project. The specific objectives are to:

- Manage and reduce pollutants resulting from the project—including hazardous and non-hazardous waste—so that they do not pose harmful risks to human health and the environment;
- Set a framework for efficiently using all of a project's raw materials and natural resources, especially energy and water. This OS draws on and aligns Bank operations with existing international conventions and standards related to pollution, hazardous materials and waste, and related issues. It also requires compliance with internationally accepted environmental standards, particularly the World Bank Group Environmental Health and Safety (EHS) Guidelines such as the following:
    - ***Operational Safeguard 1: Environmental and social assessment***. This overarching safeguard governs the process of determining a project's environmental and social category and the resulting environmental and social assessment requirements.
    - ***Operational Safeguard 2: Involuntary resettlement: Land acquisition, population displacement and compensation*.** This safeguard consolidates the policy commitments and requirements set out in the Bank's policy on involuntary resettlement, and incorporates a number of refinements designed to improve the operational effectiveness of those requirements.
    - ***Operational Safeguard 3: Biodiversity and ecosystem services*.** This safeguard aims to conserve biological diversity and promote the sustainable use of natural resources. It also translates the commitments in the Bank's policy on integrated water resources management into operational requirements.
    - ***Operational Safeguard 4: Pollution prevention and control, hazardous materials and resource efficiency***. This safeguard covers the range of key impacts of pollution, waste, and hazardous materials for which there are agreed international conventions, as well as comprehensive industry-specific and regional standards, including greenhouse gas accounting, that other multilateral development banks follow.
    - ***Operational Safeguard 5: Labour conditions, health and safety.*** This safeguard establishes the Bank's requirements for its borrowers or clients concerning workers' conditions, rights and protection from abuse or exploitation. It also ensures greater harmonisation with most other multilateral development banks.

The major project material related to this operational safeguard is land clearing and storage of hazardous chemicals such as fuels on site during construction phase. This safeguard also ties in well with the local environmental legislation that require a hazardous substances storage license on site.

2.4.5 OS 5 – LABOUR CONDITIONS, HEALTH AND SAFETY

Labour is one aspect of a country's most important assets in the pursuit of poverty reduction and economic growth. The respect of workers' rights is one of the keystones for developing a strong and productive workforce. This OS outlines the main requirements for borrowers or clients to protect the rights of workers and provide for their basic needs. The specific objectives are to:

- Protect workers' rights;
- Establish, maintain, and improve the employee– employer relationship;
- Promote compliance with national legal requirements and provide supplementary due diligence requirements where national laws are silent or inconsistent with the OS;
- Align Bank requirements with the ILO Core Labour Standards, and the UNICEF Convention on the Rights of the Child, where national laws do not provide equivalent protection;
- Protect the workforce from inequality, social exclusion, child labour, and forced labour; and
- Establish requirements to provide safe and healthy working conditions.

Compliance to this operational safeguards is guaranteed by many local statutes including the Constitution of Zimbabwe which defines the bill of rights, the Labour Relations Act that ensures fair conduct between the employers and employees and the NSSA Act that requires establishment of safe work environment and full compensation of employees for work related injuries. The proponent is obliged to comply with these requirements.

2.5 THE EQUATOR PRINCIPLE

The Equator principles (EP) are a risk management framework, adopted by financial institutions in order to ensure that the project they finance is developed in accordance with socially responsible and reflect sound environmental management practices. The signatory banks have principally committed not to provide any loans to projects where the project proponent is unable to comply with the Equator principles. The principles that are applicable to the borrowers include:

2.5.1 PRINCIPLE 1: REVIEW AND CATEGORIZATION OF THE PROJECT

The projects are reviewed and categorized by Equator principles Financial Institution (EPFIs) in terms of their magnitude of potential impacts and risks as part of their internal social and environment review and due diligence.

Category A: the projects with potential significant adverse social and environment impacts that is diverse, irreversible and unprecedented.

Category B: The projects with potential limited adverse social and environmental impacts that are few in number, site specific, largely reversible and readily addressed through mitigation measures; or

Category C: The project with minimal or no adverse social or environmental impacts

2.5.2 PRINCIPLE 2: SOCIAL AND ENVIRONMENTAL ASSESSMENT

For a project categorized as A or B, the project should carry out a social and environmental assessment to appropriately address social and environmental impacts and risks.

2.5.3 PRINCIPLE 3: APPLICABLE SOCIAL AND ENVIRONMENTAL STANDARDS

The assessment process should address compliance with the relevant laws, regulations, permits that pertain to the country's social and environmental issues.

2.5.4 PRINCIPLE4: ACTION PLAN AND MANAGEMENT PLAN

In relation to projects from low income countries, the project Proponent has to prepare an environmental management action plan which addresses relevant findings and highlights priorities, corrective actions and monitoring measures to be undertaken. This should be in accordance with the relevant permitted and regulating requirements of Zimbabwe. The Project Proponent should maintain a Social and Environmental Management Systems.

2.5.5 PRINCIPLE 5: CONSULTATION AND DISCLOSURE

The proponent should throughout the life of the project consult extensively with the affected communities in a structured and culturally appropriate manner. The process should ensure free and informed consultation of the participants.

2.5.6 PRINCIPLE 6: GRIEVANCE MECHANISM

The consultation should ensure that disclosure and community engagement continues throughout the construction and operation phase of the project.

2.5.7 PRINCIPLE 7: INDEPENDENT REVIEW

For category A and B projects, Independent Social and Environmental Experts who are not directly associated with the Project Proponent ,should review the assessment, Action Plan ,consultation process documentation and assess compliance to the Equator principles.

2.5.8 PRINCIPLE 8: COVENANTS

The [project proponent should comply with all relevant social and environmental laws, regulations and permits of Zimbabwe in all respects.

2.5.9 PRINCIPLE 9: INDEPENDENT MONITORING AND REPORTING

To ensure ongoing monitoring and reporting over the life of the loan, EPFIs require the appointment of an Independent Environmental and/or Social Expert, or require that the Project Proponent retain qualified and experienced external experts to verify its monitoring information which should be shared EPFIs.

2.5.10 PRINCIPLE 10: EPFI REPORTING

The IFC requires that the EPFI that have adopted the EPs commits to reporting publicly at least annually about it EPSs implementation process and experience and should take into account appropriate confidentiality considerations.

2.6 APPLICABLE INTERNATIONAL ENVIRONMENTAL CONVENTIONS

2.6.1 UNITED NATIONS FRAMEWORK CONVENTION ON CLIMATE CHANGE (UNFCCC)

The United Nations Framework Convention on Climate Change (UNFCCC) is a treaty that was formed in 1992 at the earth summit in Rio de Janerio as a result of a global commitment by countries to cooperatively find solutions to limit global average temperature increased. The objective of the treaty is to stabilise the greenhouse gas emissions in the atmosphere. Zimbabwe began a party to this treaty in 1993, and participates in the Annual Conference of the Parties (COP). The ESMMP has taken principles of the UNFCC into consideration. The mitigation measures proposed, if implemented correctly, will reduce carbon footprint and greenhouse gases where possible during the Project phases.

The Convention encourages parties to promote the sustainable management and conservation of sinks and reservoirs of greenhouse gases i.e. biomass, forests as well as terrestrial ecosystems which are important in the absorption of greenhouse gases. The Convention actively promotes the use of renewable energy. The construction activities will necessarily result in the loss of biomass in the form of vegetation. This is contrary to the spirit of the convention as the vegetation lost represents a reduction in the biomass and the carbon sinks. Another contribution to climate change shall be the use of vehicles that produce carbon dioxide. ***The proponent should compensate for the loss of vegetation by planting trees since they are important carbon sinks.***

2.6.2 UNITED NATIONS CONVENTION ON DESERTIFICATION (UNCD)

This Convention aims at fostering international co-operation and national and regional initiatives towards combating desertification and mitigating the impacts of drought, particularly in Africa. The Convention's regional implementation annex for Africa emphasizes the need for African countries to focus on improving the economic environment with a view to eradicating poverty, developing measures to conserve natural resources and monitoring and assessing the effects of droughts. ***The proponent shall do will to reduce her foot-print in this.***

2.6.3 THE CONVENTION ON BIODIVERSITY (CBD)

This convention came into force on 29 December 1993 to provide a global mechanism to ensure conservation and sustainable use of biodiversity for the benefit of the present and future generations. Biodiversity (biological diversity) refers to a variety of life forms, different plants, animals and micro-organisms. Zimbabwe signed and ratified the convention to see protection of flora and fauna. The proponent should play its part to protect biodiversity.

2.6.4 BASEL CONVENTION ON THE CONTROL OF TRANSBOUNDARY MOVEMENTS OF HAZARDOUS WASTES AND THEIR DISPOSAL (1992)

The Basel Convention was ratified on May 5, 1992, to which Zimbabwe began a signatory to in 2012. The Basel Convention's key objectives are to:

- Minimize the generation of hazardous wastes;
- Ensure they are disposed in an environmentally sound manner and as close to the source of generation as possible; and
- Minimize the international movement of hazardous wastes.

The principals of the Basel Convention will guide the proponent in the transboundary movement of wastes generated during the construction, operational and rehabilitation and Decommissioning Phase of the proposed Project.

The following conditions under the transboundary movement will be prohibit the proponent to transport waste to:

- to States that are not Parties to the Convention unless they have a bilateral agreement or arrangement under Article 11;
- if appropriate disposal or recycling facilities are available in the State of origin unless the waste is needed as a raw material for recycling or recovery industries in the state of import; and
- If there is reason to believe that environmentally-sound management/disposal options are not available in the prospective State of destination.

2.6.5 THE STOCKHOLM CONVENTION ON POLYCHLORINATED BIPHENYLS

The Stockholm Convention prohibits any new production and use of Polychlorinated Biphenyls (PCBs), which is known to be highly carcinogenic (cancer causing). The parties to the Convention are required to eliminate the use of PCBs in existing equipment by 2025 and ensure environmentally sound waste management of them by 2028. Zimbabwe signed the convention on 23 May 2001 and ratified it on 13 March 2002.

With regard to the elimination of the use of PCBs in equipment (e.g., transformers, capacitors or other receptacles containing liquid stocks) by 2025, subject to review by the Conference of the Parties, action must be taken in accordance with the following priorities:

- Make determined efforts to identify, label and remove from use equipment containing greater than 0.05 and 10 per cent PCBs and volumes greater than 5 litres; and
- Endeavour to identify and remove from use equipment containing greater than 0.005 percent PCBs and volumes greater than 0.05 litres.

The proponent must ensure that materials or equipment containing PCB materials are not used during the Project.

2.6.6 THE CITES CONVENTION

The Convention on International Trade in Endangered Species (CITES) is a multilateral treaty that was drafted as a result of a resolution adopted in 1963 at a meeting of the International Union for Conservation of Nature (IUCN). The Convention recognises that wild flora and fauna in their many beautiful and varied forms are an irreplaceable part of natural systems of the earth which must be protected. Its aim was to:

- Encourage member states to be the best protectors of their wild flora and fauna;
- Ensure that international trade in a variety of wild animals and plants does not threaten the survival of the species in the wild; and
- Protect certain species of wild flora and fauna from over exploitation through international trade; it protects more than 34, 000 species of animals and plants.

Zimbabwe began a signatory to this treaty in 1981.The CITES Convention will prevent any party involved in the proposed Project from removing any wild fauna or floral found within the project area.

2.7 CONCLUSION

The National legislation, regulations, and standards afore-sited will guide the basis for the Environmental & Social Management Plan (ESMP). They form the basis for standards, procedures and other operational codes of conduct and practice that shall guide the proposed project towards sustainability. The ESMP will have clear environmental objectives that will ensure that the proponent comply with all applicable legislation and policies.

Table 2.3: Legal Licences/Permits required for the project

No	LICENCE/PERMIT	STAGE	ISSUING/ REGULATORY AUTHORITY
1	ESIA/EIA Permit	Pre-operation	Environmental Management Agency
2	Approved layout plans	Pre-Operation	Department of Physical Planning
3	Wayleave clearance	Pre-Operation	Lukosi Rural District Council (LRDC)

CHAPTER 3: PROJECT DESCRIPTION & JUSTIFICATION

3.1 PROJECT LOCATION

The Kamativi Mining Company (KMC) power line shall be located in Hwange District of the Matabeleland North Province. The proposed 88kV power line is ±80km, which connects the 88kV line from Zimbabwe Electricity Transmission & Distribution local substation in Hwange and Kamativi Mining Company. Precisely, the project site is located within the geographic coordinates that are given in table 3.1 below while figure 3.1 premises a location map of the project area.

Table 3.1: The general power transmission line route (WGS84)

Point	**Latitude (◦)**	**Longtude (◦)**	**Elevation (m)**
Hwange Local Substation	-18.344636°	26.527355°	766
Substation at Kamativi	-18.326581	27.053336	911

A comprehensive table with all bending points is shown in Appendix B, the table outline points from The Hwange local substation to Kamativi Mining Company.

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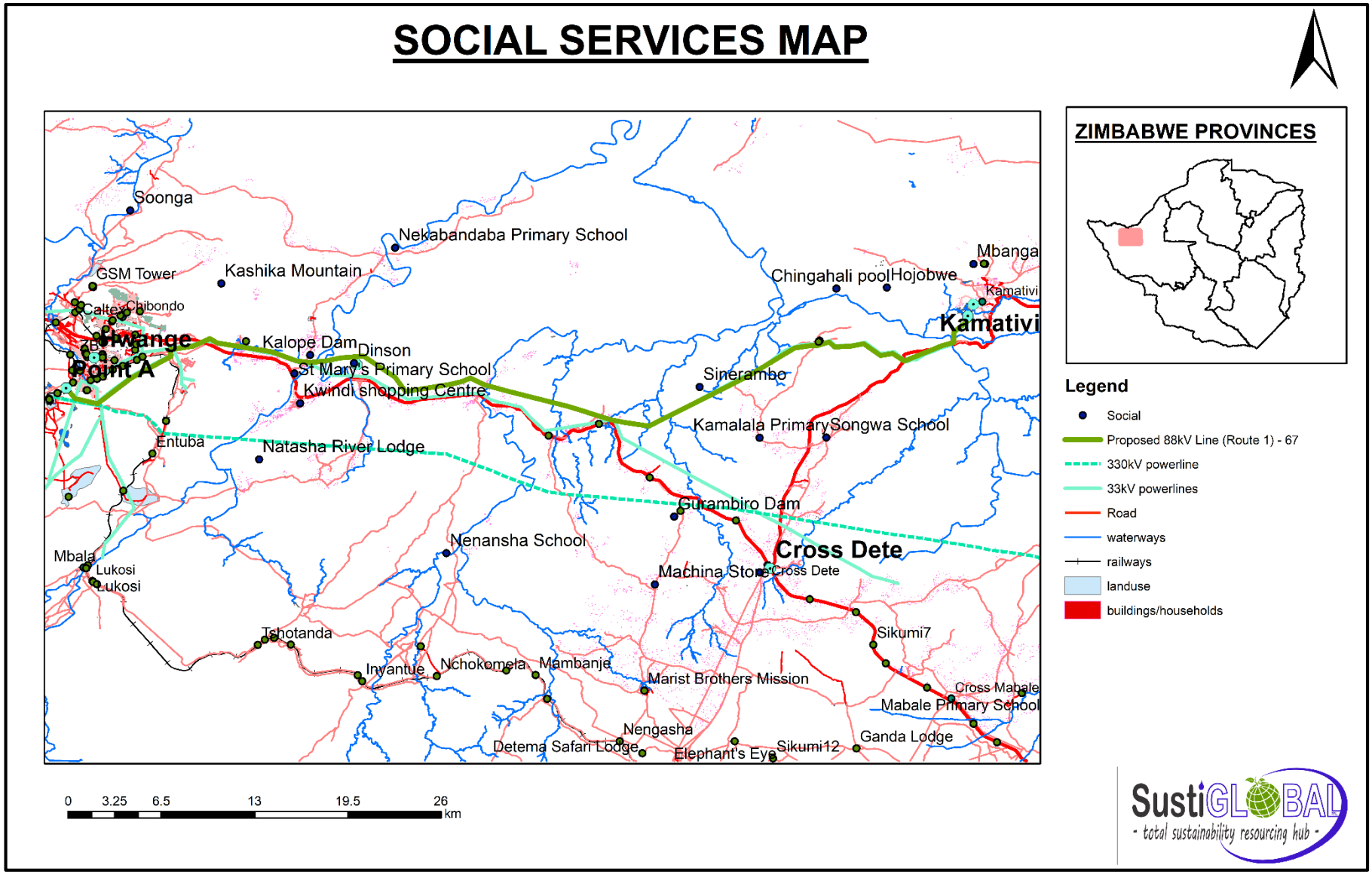


Figure 3.1(a): Project location (map by: consultant)

3.2 RESOURCES

This report takes note of all the resources that are required to complete to this proposed project and that baseline conditions for the sources are documented in order to ensure effective monitoring program. The proposed project requires several resources that includes water, energy, sand, and cement among other materials. Extraction and use of those resources shall have to be done in a sustainable way if the proposed project is to be considered a sustainable one. The sources of some the resource are geographically a distant from the proposed project, the scope of this ESIA shall cover those sources including waste sinks to ensure that the project's environmental and social impacts are fully identified and mitigated.

3.2.1 WATER

Water requirements for all the construction activities shall come from water sources found within the project area stretch. The proposed ±80km project stretch is comprised of dammed water sources and rivers/streams such as Kalope Dam, Lukosi, Inyatue, Ilambo, Kapani and Gwayi Rivers, which are all water sources found long the transmission line route. The consultant hereby recommends the sustainable utilisation of these water sources situated along the powerline stretch as they are the sources of lives for the local people and their livestock, and whole the ecosystem along the route. Hwange district falls in Natural Region V, therefore being a dry region water sources normally gets dry just after the rain season and no water source was found to be perennial except for Gwayi. Plate 3.1 below shows Gwayi River less than 5km before the line reaches Kamativi new substation.



Plate 3.1: Gwayi River

3.2.2. ENERGY SOURCES

Energy is an integral component of the proposed project right from the construction phase to decommissioning phase. Construction phase is characterized by land clearing and excavation by heavy equipment that is driven by diesel. Cooking shall enable by electricity, Liquefied Petroleum Gas (LPG) and fire wood especially during construction phase as the construction team moves along the

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transmission line. The consultant discourages the use of fire as energy for cooking as it comes with several environmental impacts such as veldt fires.

3.2.3 BUILDING MATERIALS

The proposed project shall require raw materials such as; sand, cement, machine 3/4 stones, crushed rock (gravel/ ballast), steel metal bars, paint/painting materials among others. All these will be obtained from licensed dealers and especially those that have complied with the environmental management guidelines and policies. The construction of tower foundations among other components of the project will relatively involve a lot of masonry work and related activities. General masonry and related activities will include concrete mixing, plastering, and slab construction, construction of foundations and erections of building walls, the canopy and curing of fresh concrete surfaces. Construction shall be conducted by machines that include trucks, cranes, bull dozers, excavators, concrete mixers, masonry tools and other relevant manual construction equipment. These will be used for excavation of the land, transportation of raw materials and the resulting construction debris. Most of the machinery will use diesel or petrol as a source of energy.

3.2.4 LABOUR

Both skilled and non-skilled workers will be required at all phases of the project. Labour force to be employed during the project implementation will include general workers for way-leave clearance and trenching and it will also include skilled or qualified workers for machine operators, masonry works, electricians, welders, painters and security personnel. However, general hands and other non-technical jobs shall be given to neighboring local community through recommendations by the traditional leadership, councilors among other local leadership.

3.2.5 ACCOMMODATION FOR CONSTRUCTION WORKERS

Unskilled workforce will be deployed by the Contractors from time to time from the local area as and when required. Skilled workers will however, be resourced from outside the area. This workforce will be stationed in rented accommodation in areas close to project office/village. This labour will be at times accommodated in construction camps that will be established along the powerline route. Some workers that may be station in Hwange or at Kamativi Mine as these areas are easy to access from any point along the transmission line route. On setting up the camping sites during project execution either at the mine site or along the route, the following minimum requirements shall be put in place;

(a) Trained First Aiders with valid certificates,
(b) Well stocked first aid kits and first aid materials,
(c) Safety, Health and Environmental representatives from the Contractor at a ratio of 1:50,
(d) Health and Safety Officer from the contractor side,
(e) Properly installed and equipped mobile toilets (ablution facilities),
(f) Potable drinking water,
(g) A waste management strategy in which biodegradable waste is composted while plastics and other non-biodegradable wastes are disposed in appropriate disposal sites approved by the respective rural districts' councils, and
(h) HIV/AIDS management plan (provision of male and female condoms, trained peer educators, HIV/AIDS awareness campaigns).

3.2.6 VEHICULAR ACCESS REQUIREMENTS

The designed route was made in such a way that it follows the existing 33kV Kamativi Power line which is positioned along the highway, as far as possible, access to tower sites will be easy in most cases as the powerline. In some cases existing roads and tracks will be utilised. In some cases temporary roads

might have to be created in order to access the tower site. These roads will not be graded and some of them would be retained for maintenance activity in future.

3.2.7 PROFILE OF THE PROJECT ROUTE

3.2.7.1 TRANSMISSION LINE ROUTES

The identified profile of the transmission powerline route is based on a walk over survey to identify the corridor and subsequent detailed survey, which was conducted by the consultant together with the ZETDC team to fix the alignment of the poles among other aspects. The transmission line route generally passes through a forest land, farms, and communal lands up to the mine site where the new substation is proposed to be. Construction activities will be initiated in most of the private land; with clearance being requested from the Lukosi Rural District Council (LRDC). No clearance will requested from individuals as there are no private properties along the route and that the land along the route falls under LRDC jurisdiction. There may be small changes in the alignment to take into account any specific requirement along the route which may result in some deviations from the original route profile. The transmission line passes through Ward 14 (Hwange Local Board), Ward 7 (Hwange Local Board), Ward 20, Ward 13, Ward 14, Ward 16 and Ward 11 of Hwange Rural District.

3.3 PROJECT SCOPE

The project scope is split into the main phases of the project namely, planning, construction and operation as shall be discussed fully in this section. Under construction, processes such as land clearing, construction of a temporal road, establishment of the power line and auxiliary structures shall be undertaken. The project essentially involves construction of an approximately 80km, 88kV overhead transmission line from the proposed Hwange Power Station substation to Kamativi Mine. The project will also involve construction of the new 88/33kV substation from which the mine will tape its energy requirements.

(a) Substation

The new Kamativi mine substation will include construction of new 88kV conventional air-insulated (AIS) substation at a site near the mine's administration or offices area. The main elements of this substation will include:

- Control and monitoring equipment,
- The civil works that will be completed as part of substation design, procurement, and construction include: Subsoil investigation, topographical & contour survey, as required.
- Earthworks and rock excavation including dewatering if required, filling and grading and paving as needed.
- Steel structures.
- Foundations for substation control building and structures.
- Infrastructure works such as perimeter fencing, access and service roads and paths, water supply, storm drainage, cable ducts/trenches, doors and windows, and finishing work including masonry, plastering, filing, and painting.

Design and execution will be based on applicable national and international regulations and standards in conjunction with ZETDC norms and standards.

(b) *88kV Transmission Line.*

The transmission line will pass through above described stretches. The following activities form part of the construction phase:

- **Preconstruction activities**: This will involve a walkover survey to identify the corridor and detailed survey for fixing the alignment of the towers throughout the line route. A check survey for the exact tower points and geo-technical investigations to ascertain the type of foundations to be constructed for each tower will also be done.
- **Marking of the route and wayleave**: All construction activities will be done within the wayleave for safe operations of the transmission line.
- **Clearing of the wayleave**: All the vegetation within the 30m wayleave for the line will be cleared to the ground as required in terms of the Electricity Act under such 88kV lines.
- **Excavation for Tower Foundation**: Foundations for the towers will be dug to a depth which will dependent on ground conditions.
- **Foundations for Towers**: Foundation for towers will be laid depending upon the type of soils encountered and the terrain.
- **Backfilling of the foundations**: Tower erection - A lag time as specified by the transmission tower standards will be allowed for in order to ensure curing of concrete before erection of the towers.
- **Stringing:** Generally stringing is done using trucks and cranes. It is therefore important to ensure that this activity is completed before the onset of the rains to avoid disrupting farming operations.
- **Rehabilitation:** Once backfilling is completed, the surface will be levelled. All excess construction material and debris will be removed from the site.

3.3.1 CONSTRUCTION PHASE PROCEDURES AND PROCESSES

This section provides a description of the various construction processes that will be used in constructing the proposed 88kV transmission powerline project. Descriptions of the facilities that make up the footprint of the 88kV transmission line project are described below. The total length of the proposed transmission line is approximately 88km. As the proposed project will be also managed by the Zimbabwe Investments & Development Agency (ZIDA), it is envisaged that there will be direct employment created for skilled, semi-skilled and unskilled workers during the construction phase of the project, with general labour of not less 90% to come from the local communities. It is further envisaged that specialist construction teams will be required for stringing conductors, etc.

Construction of the transmission line will take place within an easement negotiated between the proponent, ZETDC, Consultant and affected landowners. It is expected that the easement will be about 30m wide (15m on each side of the transmission line centreline to the outermost conductor). Construction is envisaged to begin if all project approvals have been acquired from EMA. The construction of the proposed transmission line and associated infrastructure will involve a number of activities listed below;

- Limited clearing of the easement where people have settled or conduct business;
- Excavation for the transmission line tower foundations;
- Installation of insulators and stringing of conductors;
- Clean-up and drying the powerline after testing to prepare it for operation; and
- Reclaiming impacted environmental areas.

The walkover survey and the route profiling for fixing of alignment will be completed by the consultant and the ZETDC team. The detailed check survey for exact tower spotting will be conducted and finalised by the implementation team for the total powerline stretch. The survey of private land was conducted by the consultant and that will be supported with the Ministry of lands for areas covered

by farms where private land can be found. In addition, forestry commission was consulted as a key stakeholder with regards to forest clearance. Transmission powerline construction is a sequential process and comprises of a distinct operations and phases. Given below are the activities that will take place during the pre-construction, construction and operational phases of the transmission powerline project.

3.3.1.1 PRECONSTRUCTION ACTIVITIES

This will involve a walkover survey to identify the corridor and detailed survey for fixing the alignment of the towers throughout the line route. A check survey for the exact tower points and geo-technical investigations to ascertain the type of foundations to be constructed for each tower will also be done.

3.3.1.1.1 SURVEYING AND MAPPING

Surveying and mapping operations are essential not only for transmission line construction, but to support various engineering decisions, including calculations for tower spotting, foundation designs, etc. Surveying will also identify unique circumstantial factors that must be accommodated during construction (e.g., nearby utilities, buried or otherwise). It is envisaged that the main contractor will carry out the surveys indicated in table 3.3

Table 3.3: Surveying information

Survey	*Use*
Topographical surveys.	For providing the location of natural and artificial features and elevations used in mapmaking.
Transmission powerline route surveys.	For identifying the most direct paths between control points, which are then amended based on field conditions.

3.3.1.1.2 ENGINEERING AND PROCUREMENT

The design and construction of the transmission line will be undertaken in accordance with national and international electrical energy industry standards and codes of practices. A preliminary and detailed engineering design of the transmission line will be undertaken by the owner's engineer and assistance from the ZETDC team. Subsequently, using Best Applicable Engineering standards, the engineers will prepare specifications and bills of quantities. ZETDC will be contracted to implement the project and the infrastructure will be handed over to the ZETDC after commissioning.

3.3.1.2 CONSTRUCTION

3.3.1.2.1 MARKING OF THE ROUTE AND WAYLEAVE.

All construction activities will be done within the wayleave for safe operations of the transmission line. All the vegetation within the 30m wayleave for the line will be cleared to the ground as required by the applicable laws on either project countries. However, less vegetation will be cleared as the transmission line will utilise the existing 33kV powerline's wayleave (see plate 3.3 below). Plate 3.4 below shows the vegetation in the area that shall partly be cleared to pave way for the transmission line. The same area hosts railway lines that are owned by the National Railways of Zimbabwe as shall be shown in chapter 4 of this report.



Plate 3.3: Existing 33kV wayleave

3.3.1.2.2 STAGING AREA DEVELOPMENT

Equipment and materials will be stockpiled before and during construction in staging areas, which are normally adjacent to the wayleave where they would not interfere with the movement of materials, erection of towers, and line pulling. The staging areas will be used for storage of materials and fuel used during construction, including diesel fuel, gasoline, lubricating oil, and paints. Depending on the location and stage of construction, they may be used for storage of herbicides that are used to maintain clearance along the wayleave. Blasting agents may be stored at staging areas, subject to applicable regulations and standards



Plate 3.4: Type of vegetation (acacia) that is likely to be lost at the mine (Photo by Consultant)

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3.3.1.2.3 ESTABLISHMENT OF ACCESS

In case of new access roads requirement, the extent of new access road construction that would be required to service construction and maintenance of a transmission line is very site-specific. Existing roads may serve some of the wayleave. The fill material and road base required for new access roads are likely to be derived from local sources at sites known as borrow pits. Excavation of borrow pits is expected to remove material and possibly habitat from nearby land. The impacts associated with use of borrow pits can be minimized by restoration of the surface of the pits.

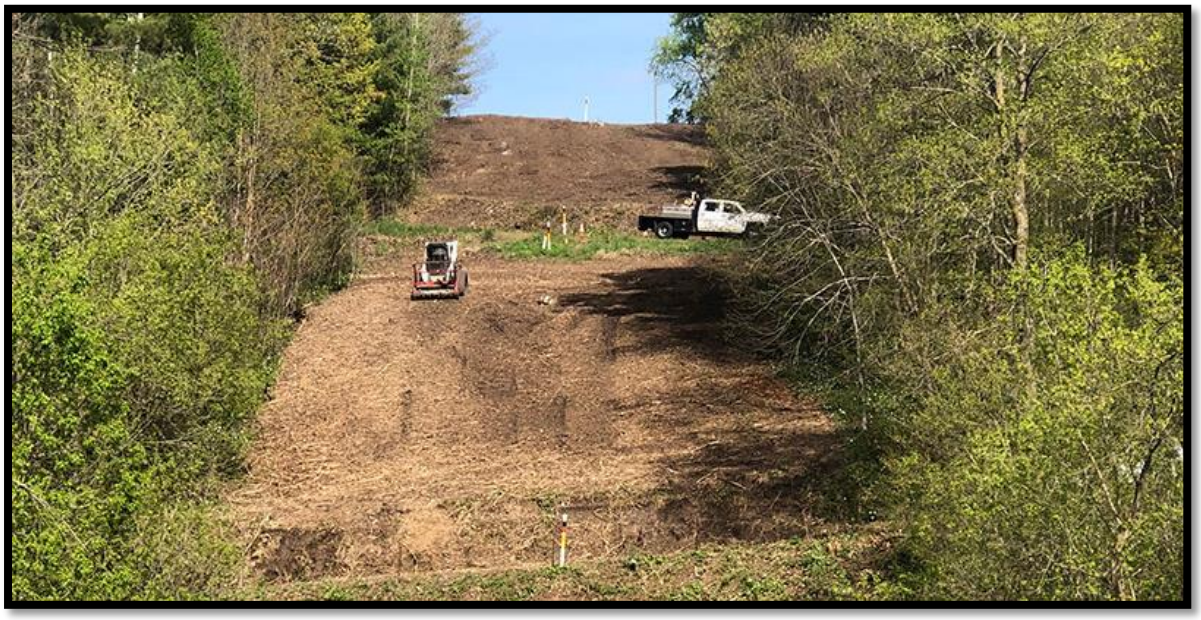


Plate 3.5: Typical image showing the process of right of way/ wayleave construction on an uphill

3.3.1.2.4 EXCAVATION FOR TOWER FOUNDATION

Wayleave clearance could employ a variety of techniques, including the use of heavy equipment such as dozers and scrapers, or selective hand-clearing. The choice will depend upon topography, current growth, land use, and plant species on wayleave-adjacent property and the presence of sensitive environments. In sensitive areas, hand-clearing may be used to minimize environmental disturbance. However, even with careful practices, habitat may be changed by wayleave clearing, especially if it results in substantial changes to the original vegetation cover. Changes may extend to the area adjacent to the wayleave, which is subsequently exposed to increased sunlight or other changes. This is particularly true in the case of an interruption in an otherwise continuous forest cover. Changes in drainage patterns may be an important consideration, especially if the wayleave is adjacent to a body of water.

Clearing of trees and removal of other obstructions, where present, will occur within about 30 meters of the transmission line, forming a clear corridor about 30 meters wide. Debris will be removed or burned (where allowed by authorities) so it does not present a fire hazard. In some cases, where the line traverses a valley, vegetation clearing may be limited or even unnecessary since the line may pass over existing vegetation with sufficient clearance and the towers can be accessed independently. Where the route crosses agricultural land, clearance requirements are expected to be maintained easily, so there should be no restrictions on ongoing agricultural activities. New steel towers will be placed at approx. intervals ranging from 150 meters to 600 meters depending on topography; towers will be closer when there is little or no relief and farther apart in hilly or mountainous terrain. The interval will be determined during the design in order to ensure the line will maintain a minimum

clearance of eight meters from ground obstructions, roads, or trees. Approximately, in-line towers will be 25 meters high and corner towers will be 20 meters high. In many locations, blasting will be needed to prepare sites for installation of foundations. Figure 3.3a below shows the plan on cross arm, figure 3.3b shows more details of the terminal structure and figure 3.3c shows the design criteria to be used in tower construction.

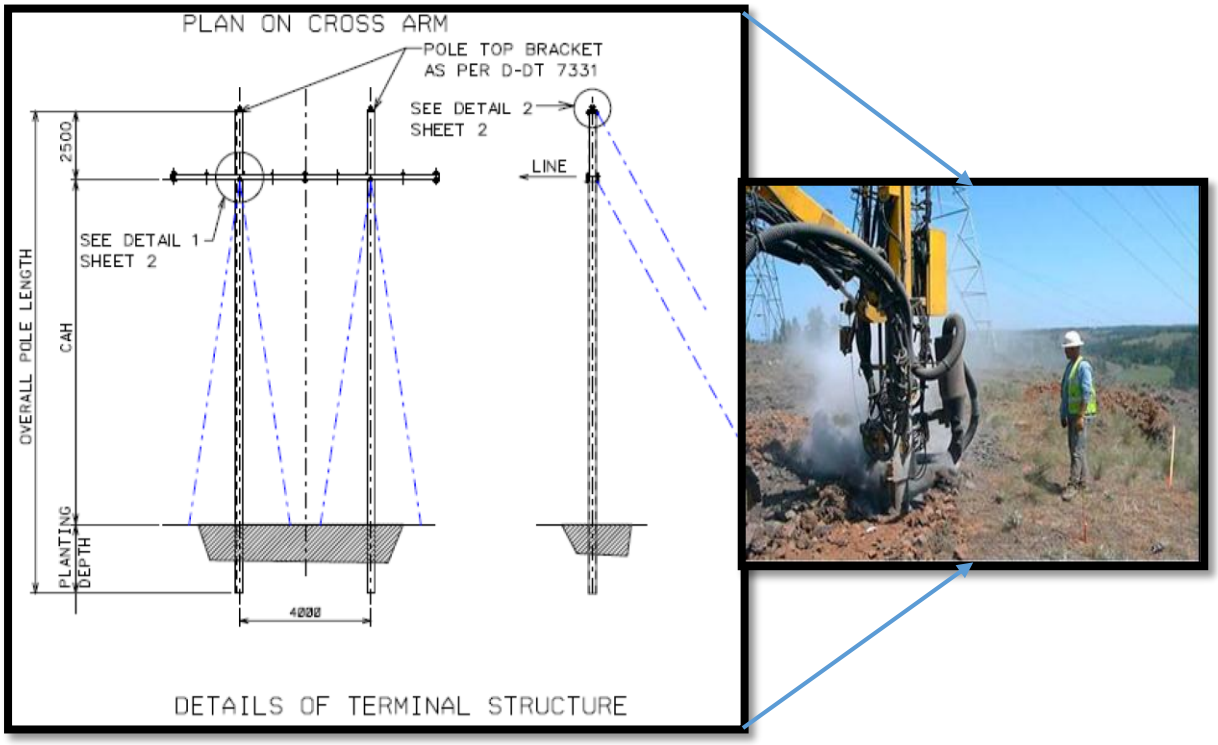


Figure 3.3: Details of the terminal structure (Plan cross arm) and the setting of the H-frame towers

Four different types of towers may be used along the transmission line route, depending on location (area), function, and availability of the towers. However, the proponent intends to use metal H-frame poles. Two types of H-frame structures (that is, shaped like an “H”) with two points of ground contact (two “legs”), anchor wires.

Other considerations that the proponent can opt for includes; the corner towers which have a triple lattice tower arrangement with 12 points of ground contact (that is, three four legged towers), anchor wires, or a single lattice tower structure with four points of ground contact (that is, a single four legged tower), anchor wires. Figure 3.4 below shows the H-frame tower design that shall be used in this project.

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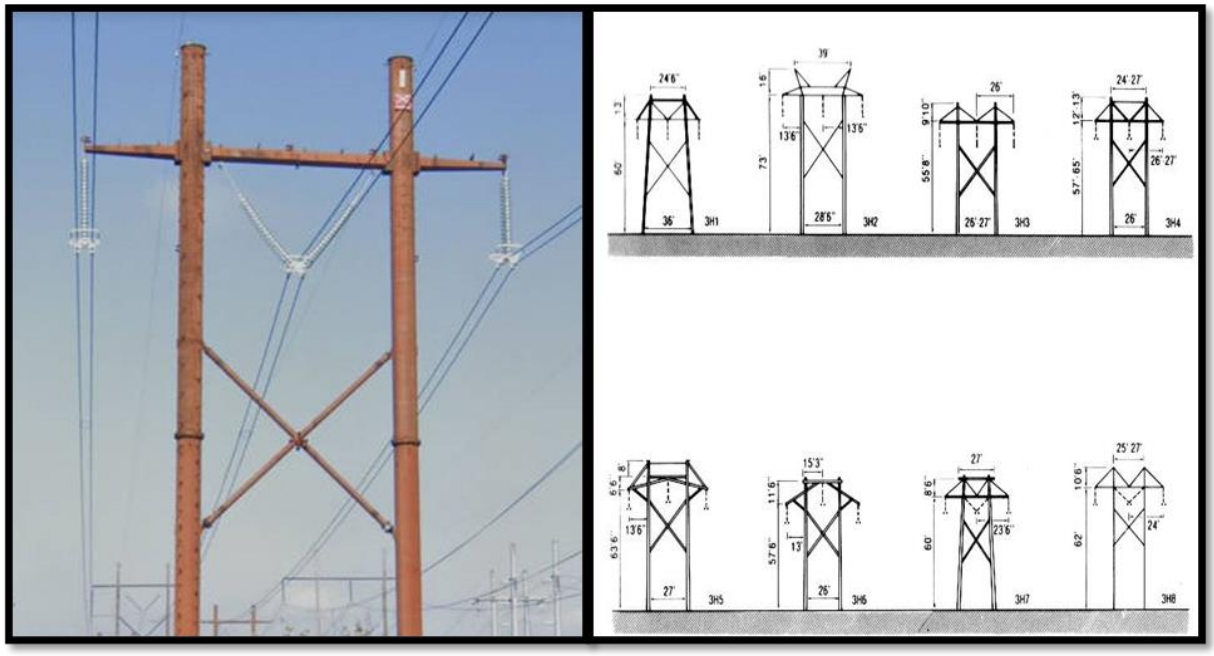


Figure 3.4: Typical H-frame pole structure to be used. Different height tower shall be considered depending on terrain and if either it's a bend or not.

Access to tower locations will be made by driving on unimproved access "roads" from existing road crossings over the ground to the right-of way. Neither permanent nor temporary paved/gravel access roads are proposed in the right-of way. The line route has areas which are some generally flat and undulating terrains. Therefore both the self-supported steel lattice towers with steel grillage foundations or concrete foundations, corner towers, and H-frame structures towers will be used in the project. The total stretch in not wholly straight as the route is going to bend just as the power evacuates from the substation and that it has to avoid some properties within certain stretches that include Dinson Colliery Plant.

Both steel grillage and concrete foundations are commonly used for high voltage overhead transmission lines in many African countries. Concrete foundations in some locations would be more expensive, mainly due to very high transport costs. Materials such as cement, rebar steel, crushed stones and to some extent proper sand would have to be brought by manpower in some tower locations. Generally, steel grillage foundations are basically acceptable technical solution, if there is no damage to the galvanizing and all steel to be buried is painted with two layers of bituminous paint for extra protection.

In the event of unfavourable soil acidity, a piece of iron left outside where it is exposed to moisture will rust. It will do so more quickly in the presence of moisture and salt water the collision rate is enhanced by electrochemical process in which water droplets become voltaic cell in contact with metal thus oxidizing the iron. Steel and iron products will widely be used in the construction of the 88kV tower, prevention or slowing of rust in this project is of major economic activities through several specialized technologies. Rust is permeable to air and water thus the interior metallic iron beneath a rust layer continues to corrode, in this case use of none corrosive metals for the tower or rust coating that preclude rust formation is imminent to prevent tower weakening and fall. Can be attained by using rust resistant alloys; galvanized like application of magnesium; coating and painting; bluing for small scale etc. in the named area is highly recommended.

As a conclusion, the foundations are mostly concrete foundations for the suspension towers, but steel grillage type shall be used in special conditions, too. The foundations of tensions and terminal towers shall be of concrete.

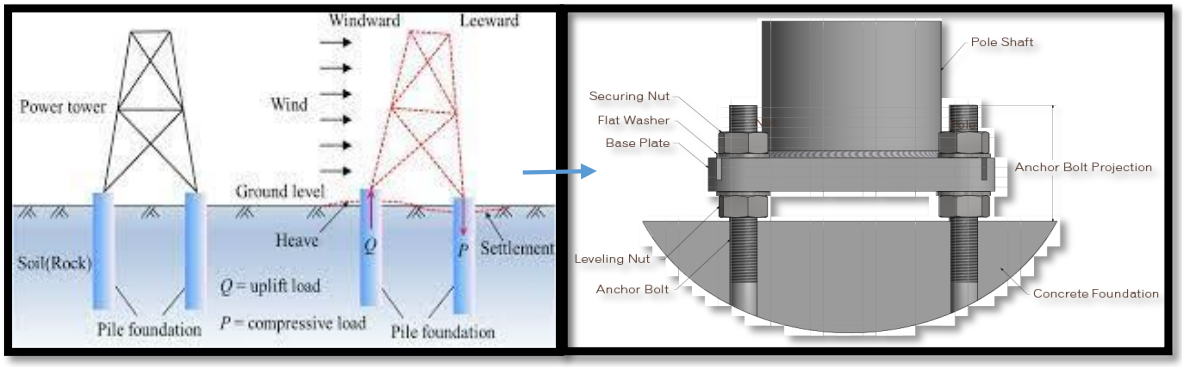


Figure 3.5: Construction details for foundation H-frame tower (typical).

3.3.1.2.5 BACKFILLING

The foundation pits will be backfilled following the removal of the formwork with soil excavated from the site itself. The top part of the stub of the tower leg remains above the ground level after the backfilling. The backfilling soil will be compacted in accordance with good engineering practices.

3.3.1.2.6 TOWER MATERIAL DELIVERY

The materials for construction of towers will be delivered from the storage site directly to the site. Material required for one particular tower will be issued for work at site. The material will be brought to the construction site using either a tractor / trailer or manually depending on the terrain. For the storage of construction materials, the construction contractors have built a storage yards at business centres along the proposed line route. Each storage yard will serves as supply source to tower construction sites in the vicinity.

3.3.1.2.7 ERECTION OF TOWERS

Lag time will be maintained for curing of concrete before erection of the towers. About 50litres of water is required at each site for curing of the 2 H-frame pole foundation. The expected time for tower erection on an average is two days. Erection of towers takes approx. 5 to 10 workers, which is done manually by assembling prefabricated components of the lattice structure.

3.3.1.2.8 STRINGING (TRANSMISSION CABLING INSTALLATION)

The stringing operations between two towers normally take 1-2 days. The operation involves 'paying off' conductors and earth wires on the ground and then hoisting them manually at most places and with the help of tractors/ puller machine at some places for fixing with the towers at both ends along with insulators and hardware. Stringing of the section between two angle towers is done at a time. The conductor used for the project will be Aluminium Conductor Steel Reinforced (ACSR Zebra). The stringing process will require approx. 20 workers when the process is carried out manually, however use of machinery or tractors will reduce the number of workers required.

3.3.1.2.9 REINSTATEMENT

Once backfilling is completed, the surface of the towers will be graded to ensure that water drains away from the tower supports and that the surface is smooth. All excess construction materials and debris will be removed from the site and disposed of at the nearest municipal disposal site or any other recommended disposal.

3.3.1.2.10 TESTING AND INSPECTION

On completion of the work, physical inspection and checking of all foundation work, tower erection and stringing will be carried out to ensure strict adherence to the technical requirements. Insulation and continuity test of the transmission line, as well as earth resistance of each tower will be carried out before final commissioning.

3.3.1.2.11 SUSBSTATION CONSTRUCTION

Substation construction is expected to kick-off simultaneously with the transmission project, which will roughly take 3 months will cover approximately 3-5 acres for the fenced station plus 3 acres for construction support.

3.3.1.2.12 SAFETY MEASURES FOR OPERATIONS

A warning sign will be attached to each tower approximately 2m above ground advising on high voltage. Once stringing is complete, anti-climbing devices will be placed on all faces of the tower. Also before the activation of the transmission line, a public announcement regarding operations of the transmission line will be made to the inhabitants in the vicinity.

3.3.1.2.13 MAJOR EQUIPMENT AND MATERIALS REQUIRED DURING CONSTRUCTION

Most common equipment and materials necessary for the construction of the transmission line is listed in Table 3.4

Table 3.4: Common Equipment and Materials Required.

SN	ACTIVITY	REQUIREMENTS
	Foundations of Towers	
1		Stubs of towers
2		Stub setting template
3		Stub setting jack
4		Form boxes for concreting, wooden planks for shuttering
5		Concrete Mixer machines, vibrator, dewatering pumps
6		Sand, cement and stone chips
7		Metal screens/ sand screens etc. and other related tools/ tackles for excavation/ concreting and backfilling.
	Erection of Towers	
1		Tower steel members with nuts and bolts and various tower accessories
2		Derrick poles for lifting of tower members
3		Poly propylene ropes for guying purposes
4		Various single sheave pulleys and other related tools/ tackles for tower erection.
	Stringing of Conductor and Earth wire	
1		Conductor and earth wire drums
2		Insulator discs, hardware fillings and accessories
3		Tensioner and puller machine for stringing purposes
4		Turn table and drum mounting jacks
5		Pilot wires for “paying off” conductor and earth wire
6		Hydraulic compressor machine for making joints of conductor and earth wire

7		Various four sheave pulleys, rollers, clamps, wire ropes, etc. and other related tools and tackles for stringing purposes.

3.3.1.3 DEMOBILIZATION AND CLEANUP

This includes the movement of staff and contractors, vehicles and equipment from the job site, as well as clean-up of the worksite and access route. Rehabilitation of any disturbed sites will be carried out as required and the site will be restored as close as possible to the original state. Generally, demobilization and clean-up will be ongoing throughout the construction phase as different types of equipment are required for different activities.

3.3.1.4 BORROW PIT

Borrow pits and/or quarries will be identified during the detailed engineering design stage of the project. Borrow pits may be required for extraction of suitable material for the access road construction to the transmission line wayleave. In general, borrow pits are usually worked in strips to ensure that only enough material for the project is obtained, and to limit the impacts of the borrow pit to as small an area as possible. Any top soils and sub-soils will be separated and progressively stored in a temporary storage area. The storage mound should also be terraced, where possible, to ensure stability. All temporarily stored materials shall be utilized in the restoration of the borrow pit. However, considering that for this proposed project, the new transmission line shall follow existing lines to which there are access routes in form of way-leaves.

3.3.1.5 CONTROL OF WATER

Control of water is of great importance during construction to prevent exposed soils eroding and silting up surrounding watercourses. It is essential that the works have little or no impact on the existing hydrology due to the ecology of the surrounding wayleave. While the water demand for the project at this stage is unknown, it could be satisfied in one of three ways namely:

- Abstraction of water from the existing boreholes in the local area after getting formal consent from the borehole owner(s); or
- Use of water bowsers and storage of water in tanks in the laydown area and camp sites; or
- Sinking new boreholes in accordance with the applicable regulation(s), and
- Utilisation of available surface water sources such as Kalope Dam, Lukosi River, Gwayi River, among other different surface water sources (small local dams and streams) along the project route.

During the construction phase of the project, measures will be adopted in order to prevent silt, chemicals and/or other contaminants from being washed into existing watercourses. Areas exposed due to the removal of vegetation are more susceptible to erosion during heavy rainfall, so areas will be reinstated as soon as possible to minimize this effect.

3.3.1.6 REINSTATEMENT

A detailed Reinstatement Plan will be agreed upon with ZETDC, any contractor and the proponent. For the purposes of this ESIA Study, the broad restoration measures proposed for the transmission line project are described below. General restoration will be required along the wayleave, construction camps and material laydown areas. Specific restoration will also be required around water crossings and borrow pits. As detailed in the various construction activities, the wayleave will be carefully cleared such that the excavated topsoil is neatly stored in windrows.

Once the towers have been erected, construction camps have been demobilized and material laydown areas have been cleared, the stockpiled top soil will be used for reinstatement. The stockpiles will be located away from surface water flows and their surfaces smoothed or covered to prevent erosion through rainfall. Excess sub-soils will be transported for use at other areas on site, i.e. reinstatement of borrows pits. The areas will be restored with the materials previously set aside as soon as reasonably practical. Access roads will be dressed off once the ROW reinstatement is complete. Soils and vegetation will generally be kept within their natural habitat and any excess used to cover areas where available soils are minimal. The site compound will be removed to the original formation level with all imported rock, geogrids and geotextile removed. All slabs and drainage facilities will be removed and backfilled. Previously set-aside materials will be used to backfill the area. The reinstated areas will be protected so as to prevent any erosion while vegetation re-establishes.

3.3.1.7 POLLUTION PREVENTION

3.3.1.7.1 FUEL AND OILS

All construction plant will be in good condition with no excessive emissions of exhaust, oil, fuel or coolants. Plant operators will check machines daily for oil/fuel leaks and take appropriate remedial action. All re-fuelling will be by an approved mobile fuel bowser using a suitable pump and hose. Absorbent material (spill kits) will be available on site and will be deployed to contain drips and small spillages. All other fuels, oils and potential contaminants will be stored within the site compound in secure, fit for purpose containers within bunded containment as appropriate.

3.3.1.7.2 NOISE QUALITY

Construction phase noise levels will be generated by construction plant and equipment such as excavators, lifting equipment, dumper trucks, compressors, generators, etc. Construction plant and equipment will be maintained in accordance with the preventive maintenance schedules indicated in the manufacturer's instructions to ensure that such equipment does not produce excessive noise and vibration.

3.3.1.7.3 WASTE AND LITTER

Contractors will be required to provide a Site Waste Management plan which will include details on waste minimization, recycling and disposal of the waste streams. The requirements of this plan will be implemented on site as required.

With respect to the control of 'litter' on site, all such waste will be collected and stored within sealed containers within the site compound and serviced by an EMA licensed waste carrier. No disposal of litter will be permitted at other locations.

3.3.1.7.4 SITE INDUCTION AND TRAINING

All employees and sub-contractors will undergo an SHE/SHEQ site induction to ensure that they are familiar with the site rules prior to any work commencing on site. In addition, the contractor will ensure that all operatives and sub-contractors responsible for handling fuel, oil, concrete or cement or other potential pollutants undergo a thorough induction program with respect to the proposed pollution control measures. The program will include, as a minimum, the following:

- Potential sources of pollution and their effects on the environment;
- Requirements of the contract and legislation with respect to pollution;
- The contractor's pollution avoidance plan;
- Traffic management and routing, including areas where access is not permitted;

- Emergency Response Plan (ERP);
- Training in the use of pollution control equipment

3.3.1.7.5 EMERGENCY RESPONSE PLAN

The main contractor will implement an Emergency Response Plan for credible SHE/SHEQ related scenarios. The contractor will provide and maintain on site, suitable oil spill response kits to deal with pollution emergencies. The contractor will replenish materials which are removed or expended as soon as possible.

In the event that a spill occurs on site, the following immediate action will be taken to limit the amount of spill by isolating and controlling/stopping the source. The spill will be contained by applying absorbent material (and in the case of spillage to a watercourse) by the use of booms. Action will be taken to ensure that no ecologically sensitive area is contaminated.

Clean-up operations can proceed by either excavation and removal of contaminated ground and mop-up material and removal from the site in a skip, for controlled disposal of hazardous waste in accordance with Environmental Management Act (CAP 20:27), SI 6 of 2007 (Effluent and Solid Waste Disposal) Regulations.

3.3.1.7.6 PROHIBITED ACTIVITIES

In order to ensure the sympathetic development of the transmission line project, given below are some practices which could potentially have a negative effect on the ecology along the wayleave following construction, and will therefore be prohibited.

- Entry of construction plant to or trampling of marked sensitive zones;
- Entry of construction plant to areas outside of designated working areas;
- Disposal of waste materials anywhere along the wayleave or indiscriminately in the construction camps and material laydown areas;
- Lighting of fires;
- Vehicles parking outside of designated parking areas;
- Interference with local wildlife or animals; and
- Fuelling outside of designated area.

In addition, a set of site rules will be developed based on previous experience and introduced to all authorized persons working on the proposed project. Visitors will be escorted at all times by authorized site personnel.

3.3.1.7.7WORKING HOURS

The construction program working hours will be based on the requirements of the Labour Act [Chapter 28:01] and its subsidiary legislation. Generally, night time will not be permitted except for security personnel. Any activity that requires working at night or outside daylight hours will require authorization of the relevant community members. Where work is permitted at night or outside daylight hours, floodlighting will be provided to ensure safe working conditions. The floodlights will be positioned in such a way as to limit light pollution in the direction of local residents. Lighting will be powered by mobile generators which will have drip traps and will be re-fuelled by an approved mobile fuel bowser using a suitable pump and hose.

3.3.2 OPERATION PHASE ACTIVITIES

Once the construction phase is complete, the line will be energized. Generally, the operation phase of transmission line projects is characterized by very minor negative environmental impacts. The main operation phase activities to be undertaken will mainly include:

(a) Cutting of bushes within the wayleave in line with the provisions of the Electricity Act
(b) Checking of corrosion on tower members and tower earthing,
(c) Ensuring there is adequate conductor clearances at important crossings,
(d) Replacing faulty insulators, and
(e) Replacing tower members that may be stolen in certain circumstances.

In terms of the Electricity Acts of both countries, human activities such as crop cultivation and wildlife grazing are allowed under the lines. However, no physical structures should be constructed. The operation phase of the project therefore presents very minor impacts on the biophysical environment.

3.3.2.1 OPERATIONS

The proposed 88kV Kamativi Transmission powerline will be connected to a substation to be constructed at Kamativi Mine. The control rooms of the sub-stations will be managed by qualified & experienced engineers round the clock. Modern operation and maintenance procedures for transmission lines now employ use of technology including electronic fault-finding techniques.

3.3.2.2 MAINTANACE

Most of the maintenance work on transmission lines incudes maintenance of vegetation in the way-leaves which for this reason, the need for clear temporary vehicle access passage is to be established during the construction process. Trees and bushes are however cropped to a maximum height of at least 4.5m for the entire lifetime of the transmission line. ZETDC will undertake a regular maintenance and monitoring programme for the transmission line which comprises of:

- Preventive measures and;
- Measure for breakdown

Preventive maintenance

The following preventive checks are planned to be carried out periodically along the transmission line:

- Pruning of trees /branches along the corridor/right of way for maintaining adequate electrical clearances.
- Visual inspections of (through binoculars)
    - insulators & hardware fittings
    - Conductor and ground wire, and their accessories such as vibration dampers, compression joints, repairs sleeves etc.
    - hot spots at night hours
    - Missing towers members (if any), nuts, bolts etc.
- Measurement of earth footing resistance for all towers periodically & taking necessary action by improving earthing arrangements as per site conditions in case of earth footing resistance is more than 10 ohms;
- Checking of anti-climbing device, phase plate, number plate, circuit plate, danger plate;
- Checking of corrosion on tower members, tower earthing etc. and taking necessary actions for Aluminium oxide painting;
- Checking of foundation chimneys, coping etc.;
- Checking of adequate conductor clearances at important crossings, conductor creep etc.

Break down Maintenance

The breakdown maintenance will include the following:

1) Patrolling of entire route length to check
   a. Conductor / Ground wire breakage;
   b. Phase to phase or phase to ground fault occurrence;
   c. Trees / branches touching the 88kV line conductors;
   d. Insulator breakage / failure causing earth fault;
   e. e) Tower collapse due to landslide etc.;
2) Rectification of fault as per ZETDC operations procedure.

3.4 PRODUCTS, BY-PRODUCTS AND WASTES TO BE GENERATED

This section provides an overview of the products, by-products and wastes to be generated by the proposed transmission line project. Most of these will be generated during the construction phase of the project while a limited amount will be generated during the operational phase.

3.4.1 CONSTRUCTION PHASE

3.4.1.1 PRODUCTS

The completed footprint will be the primary product of this phase of the project and will include:

- Steel lattice towers each spaced approximately 150 – 350m apart;
- Stringing of steel transmission line cables mounted on insulators fixed to the lattice towers;
- Appropriate electrical connections from the sub-station; and
- Grounding/earthing system for protection against lightning and stray currents.

3.4.1.2 BY-PRODUCTS

By definition a by-product is a secondary product derived from a manufacturing process or chemical reaction. It is not the primary product or service being produced. A by-product can be useful and marketable or it can be considered waste.

During the construction phase of the proposed transmission line project, it is envisaged that the by-products might include any excess construction materials brought to the project site by the contractor which can be reused later.

3.4.1.3 WASTE

During the construction phase, domestic and industrial wastes such as, timber skids, sewage, used lube oils and general refuse will be generated. All wastes generated from the project will need to be disposed in accordance with the Environment Management Act and subsequent statutory instrument (SI 6 of 2007). There shall be a strong emphasis placed on housekeeping and cleanliness at all sites in order to promote safety and minimize environmental impact. The characteristics of the wastes to be generated by the project are described below

Domestic Wastes

- The construction teams working along the proposed wayleave or staying at the camp site(s) are expected to be supplied with various forms of foodstuffs packed in plastic or other types of containers. This is expected to occur throughout the construction space within the proposed wayleave. The management of such waste will be incorporated by the main Contractor in the Construction SHE/SHEQ Management Plan.

- Other forms of waste include sanitary waste and therefore the provision of sanitary facilities will need to be considered both for the site construction workers and the visiting population.
- Kiosks selling various items may also emerge.

Site Construction Waste

The project will generate waste from the site construction activities which includes:

- Demolition wastes;
- Excavated soils and vegetation;
- Construction equipment maintenance wastes;
- Dusts and fumes;
- Scrap metals;
- Packaging materials, etc.

Dust

The construction activities that will occur particularly during the wayleave clearing process may potentially generate a considerable amount of dust and other particulates that will be released into the atmosphere. This is expected to be a short-term effect and can be mitigated by using dust suppression methods.

Smoke Emissions

The construction plant, machinery, equipment and trucks brought in by the Contractor are expected to generate gaseous emissions when in operation during the construction activities. The concentration of emissions will depend on the maintenance levels of the equipment, machinery and trucks used by the Contractor.

3.4.2 OPERATION PHASE

3.4.2.1 PRODUCTS

The primary product of the project during the operational phase will be transmission of electricity from Hwange Power Station substation to the proposed Kamativi 88/33kV substation at Kamativi Mine.

3.4.2.2 BY-PRODUCTS

During the operational phase of the project there will be minimal by-products generated. There will be minimal wastes generated by the project during the operational phase. Some key wastes expected include soils contaminated with transformer oils and other equipment oils.

3.4.3 DECOMMISSIONING PHASE

Decommissioning is the process of taking structures and/or equipment out of service when it has reached the end of its useful life. From an operational perspective, that point is reached when maintenance and replacement costs for older structures and/or equipment begin to outweigh the value obtained from continued operation. However, in Zimbabwe ZETDC transmission lines are not removed during decommissioning, they are rather left in place.

3.5 ALTERNATIVES

The without project scenario from a socio-economic perspective would mean that the use of the site continues in a marginal manner with substantial underutilisation of the land resource. Without the proposed development project, the proposed Kamativi lithium mine and the beneficiation process

cannot run, that will result in s huge loss of foreign investment and failure to achieve vison 2030 and NDS1. Additionally, potential for employment during and after construction of the proposed development would also be lost. This alternative is the least favourable.

3.5.1 WITH OR WITHOUT PROJECT SCENARIO

The 'with project scenario' contributes toward a national goal to expand the opportunities for infrastructural development and a foreign exchange earner. This development would also be compatible with the existing and future planned land uses. Significant forward and backward linkages associated with the local sourcing of powerline construction material and employment opportunities during construction would be created. This alternative was acceptable.

3.5.2 ALTERNATIVE ROUTES

There are three (3) transmission line routes that were considered during the design of the project by the consultant in consultation with the proponent and the route engineers. The chosen power transmission line route was a result of several factors such as total distance or stretch covered, cost effectiveness, coverage needed, terrain of the area, environmental setting, accessibility, stability among other factors. Figure 3.6 premises the three (3) routes that were considered in this ESIA study.

- **Route 1:** This route starts from Hwange Local Sub-Station. The line proceeds straight at a bearing of 88.66° for 54.7m. This is a hypothetical route that is straight and is the shortest however, it cuts through communities thus necessitating multiplicity of compensations and relocations as well as cutting through mountains that require opening of access routes and roads. This route, though it is the shortest but it is the most expensive in that it will require auxiliary infrastructure such as roads and building of houses, schools and clinics that may have been destroyed for falling within the 30m way-leave.

- **Route 2:** This route starts from Hwange Local Sub-Station. The line proceeds for a ground length of 69 mitres and then turn and proceed parallel to high voltage 330kV lines from HPS to Insukamini Substation, till it reaches Dete Growth Point where it turns left and run parallel to Kamativi Road. The line meets the route one at point with the coordinates Lat -18.349499° and Long 26.950802° then it proceeds running on existing but decommissioned 33kV transmission line to Kamativi Mine. In figure 3.6 the most desired route is shown in Blue.

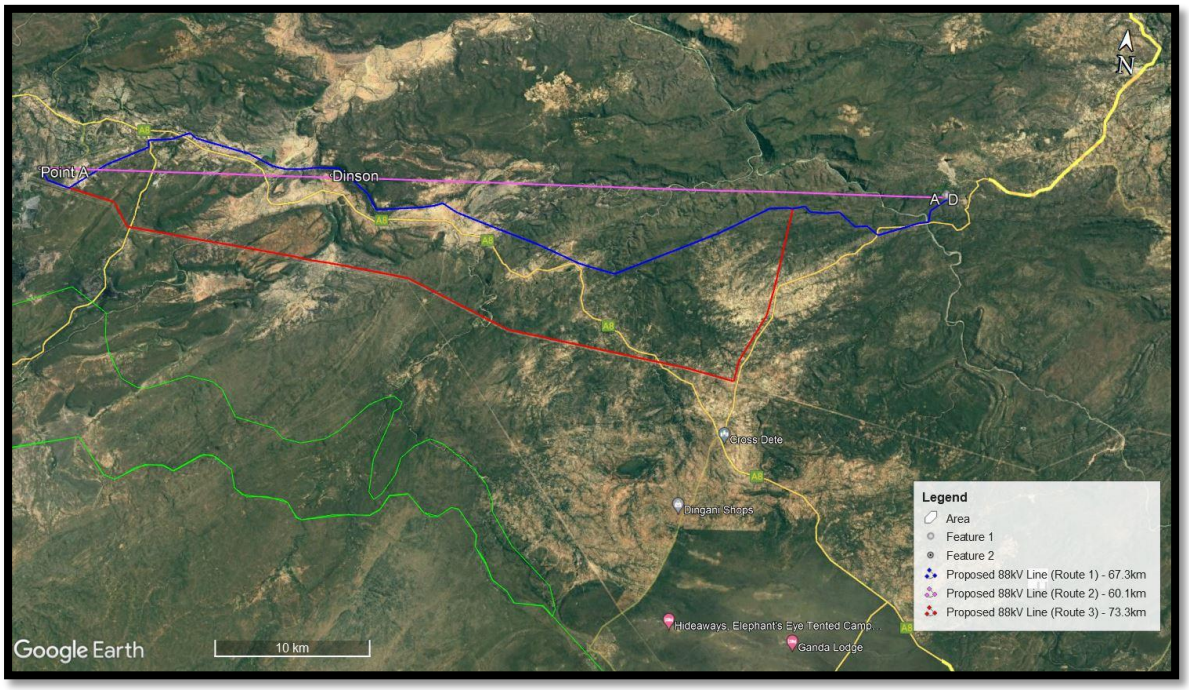


Figure 3.6: The three (3) routes that were considered in this ESIA study

3.5.3 ALTERNATIVE CONSTRUCTION MATERIAL

The proponent had two options to consider which either construction of power lines anchored on wood poles which have been phased out by ZETDC or installing of transmission line anchored on steel poles that are more durable. The steel poles are not new in this power line, in fact the decommissioned section of the line has got steel poles already.

3.6 THE PROJECT COST

This section houses the costs that are expected to be incurred in this project. The table 3.5 below is a breakdown of all the costs adding up to **US$2,815,000** according to the information supplied by the proponent. According to the latest EMA guidelines a review fee, EMA review fees will be calculated by the following formula

$$\boldsymbol{ESIA\ Review\ Fee} = [\boldsymbol{Project\ Cost}] * [\boldsymbol{Project\ Class\ Percentage}] * \mathbf{0.012075}$$

This gives a review fee of **USD 27,192.90** assuming that the project is classified in 0.8% category

Table 3.5: The project cost

ITEM	ACTIVTY DESCRIPTION	QUANTITY	UNIT COST (USD) per KM	AMOUNT (USD)
A.	**88KV LINE CONSTRUCTION AND ITS ASSOCIATED BAYS AT KAMATIVI MINE**			
	88kV line from ZPC Hwange Power Station substation to proposed KMC substation.	±67km	35,000	2,345,000
	Civil works complete	2	25,000	50,000
B.	**GREEN FIELD 88KV SUBSTATION CONSTRUCTION AT THE MINE**			
	Power Transformer	2	130,000	260,000

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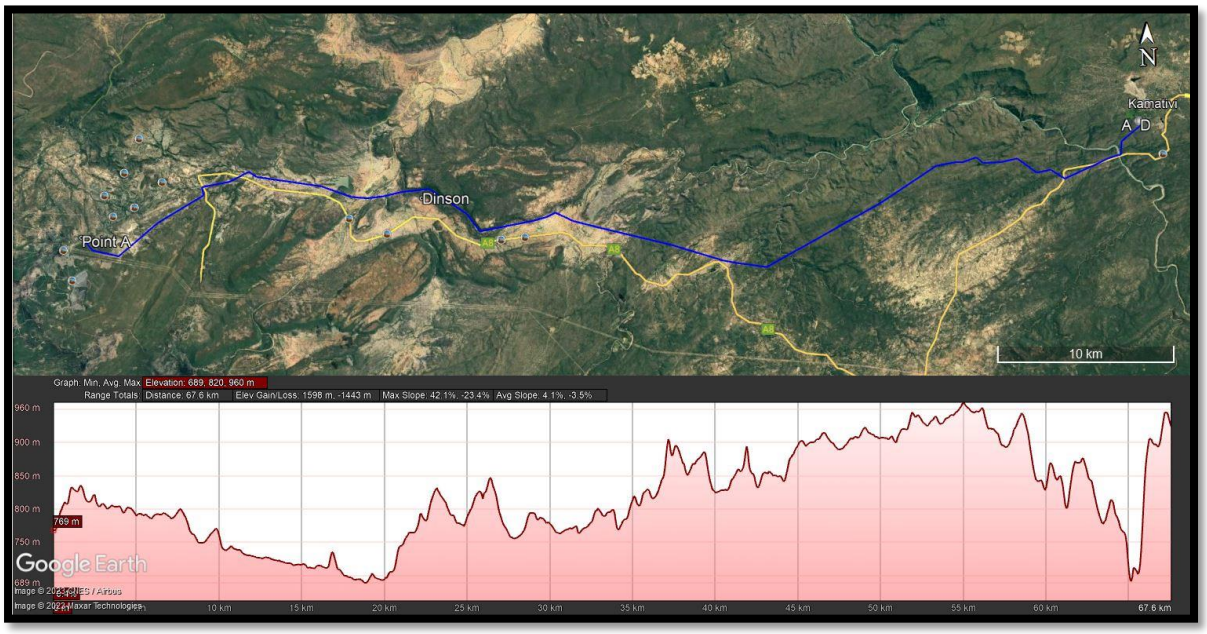
	Civil Works complete including Control room building expansion, structure and equipment foundations, cable trenches, Firefighting air conditioning and ventilation system.	1	160,000	160,000
	GRAND TOTAL			**$2,815,000**

CHAPTER 4: ENVIRONMENTAL BASELINE SETTING

This chapter premises the consultant's description of the environmental setting of the project site, which includes the biophysical environment and the socio-economic environment as observed and verified by respective experts for the ESIA process as put forth in chapter 1 of this report. Trends and anticipated environmental impacts will also be indicated. Environmentally sensitive areas of unique scientific, socio-economic and cultural value will be tabled and fully dissected to come up with sound and a practical mitigation plan. Enough information has been given to allow the reviewers to understand the environmental impacts and assessment carried out in relation to the current environmental conditions. The baseline information will also assist in monitoring of the environmental, social and health impacts linked to the project in construction, operational and decommissioning stage of the project.

4.1 TOPOGRAPHY

The project site topography varies from mountainous to flat plains. Generally the project area lies in a rugged terrain (around Hwange) with pillow lava outcropping occasionally that spreads towards Matetsi Area. The Hwange coalfields are in a gently dipping and the Triassic Grits therefore, tends to rest as plateaus of varying elevations on the top of Madumabisa escarpments rising to Batoka Gorge area to the far north of the Hwange District. There are a few dust roads networking the area, also included are a tarred road, railway line, 88kV transmission lines, 11kV power lines and mountains. The figure 4.1 below shows a digital elevation model of the project site, while figure 4.2 show the elevation map of the area (source: Google Earth).



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Figure 4.1: Elevation profile of the area from point 1 to the substation at Kamativi.

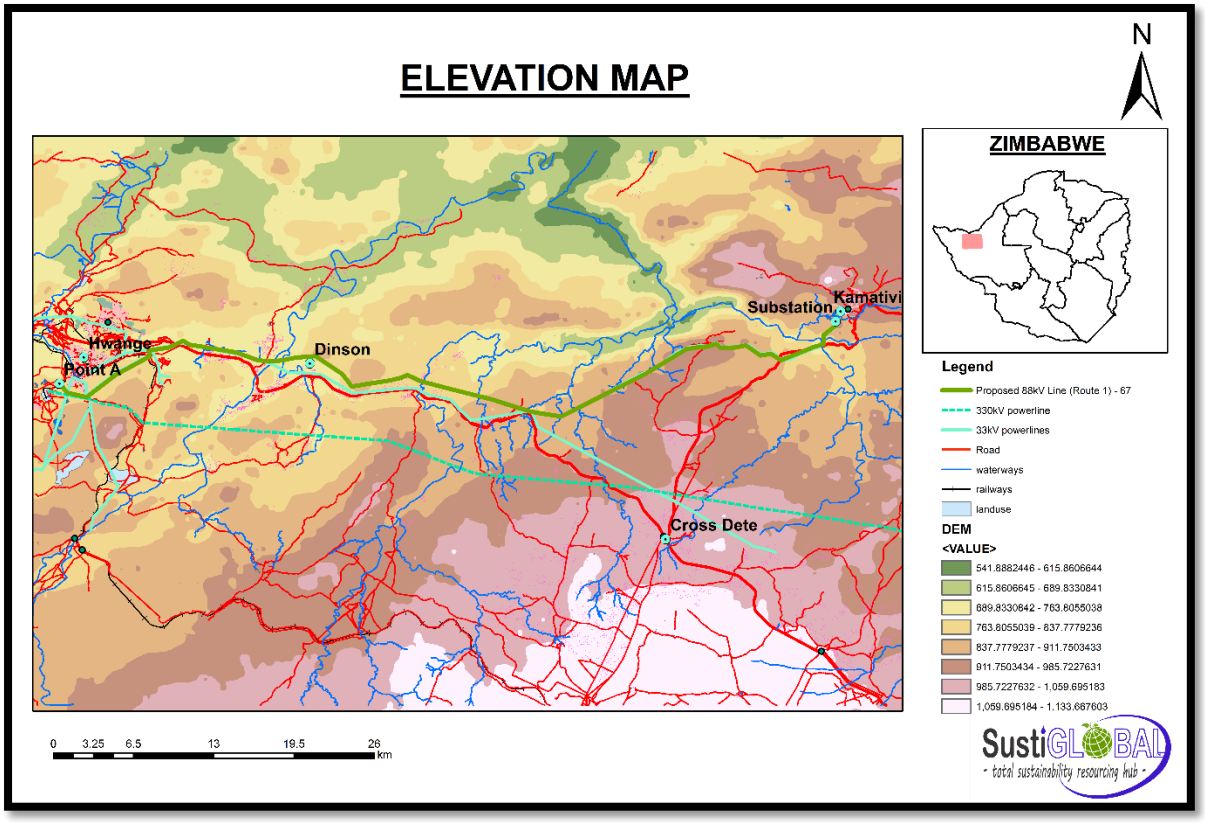


Figure 4.2: Elevation map of the project area

4.2 SOIL CHARACTERISTICS

The project area falls in the Amorphic Order that is dominated by lithosol groups of soils. The latter group contains very shallow sand soils that are less than 25cm deep that are spread over weathering rock or gravel. The limitations of theses soils include low water holding capacity, low permeability and low nutrient reserves. They are therefore used for commercial forestry and also for production of crops like millet and /or sorghum (Nyamapfene, 1991). These sandy soils characterising the project area have very serious implications on the nature of foundations for the project. The predominance of the sandy soils means the foundations have to be deep in order to avoid collapse especially during the rainy season. Figure 4.3 showing soil properties that were noted at the project site. Soil texture of the project site is 0.05 –2.0 mm, with poor water holding capacity and high aeration due to low organic matter content.

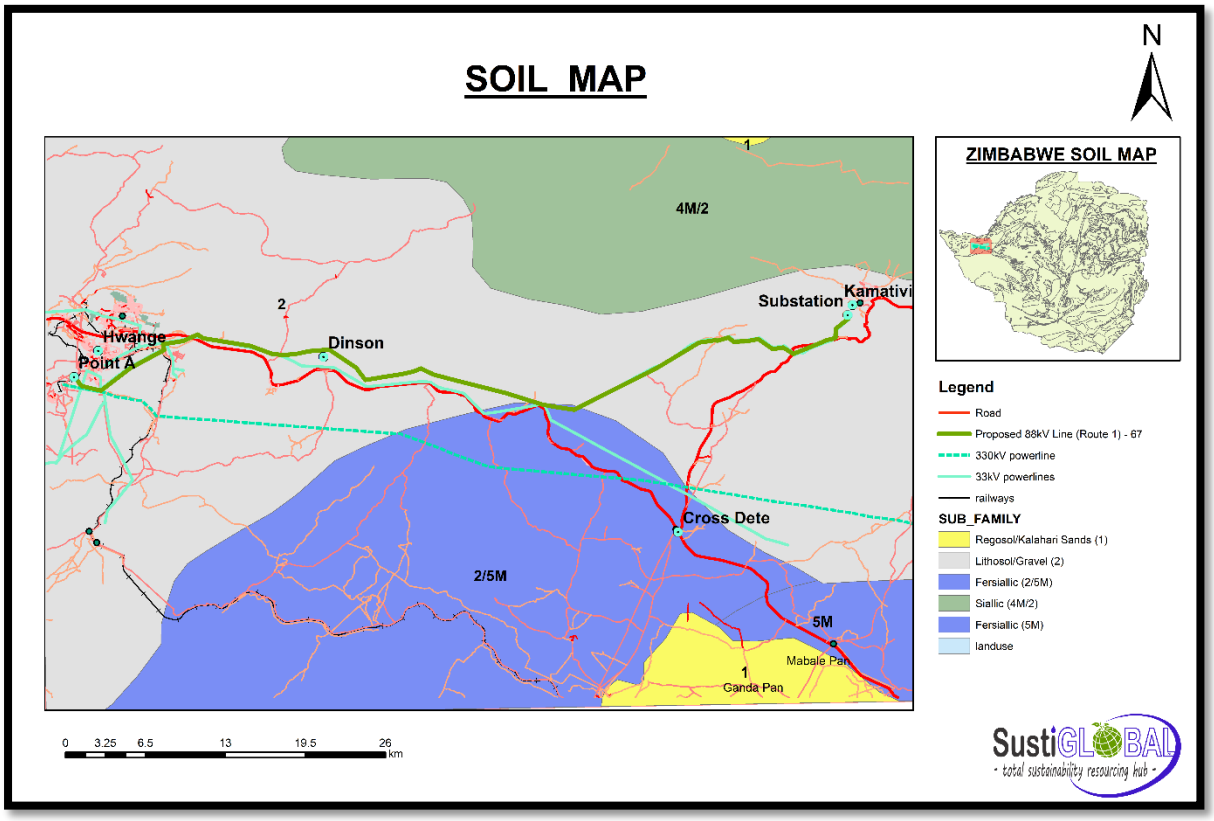


Figure 4.3: Geology Map Extract of the area harbouring the proposed transmission line.

Oil spillages may affect the soil structure and general soil hydrology due to oil's hydrophobicity property. Waste soil and coal area rich in sulphur that may get oxidized to form acid-mine drainage. This condition makes re-vegetation difficult. Low pH nature of the clay soils may cause solubility of heavy metals such as mercury (Hg) and can be taken up by plant and bio accumulates and bio magnify in higher organisms. There is a need to have good tailings management to ensure that no hazardous substance pollutes underground water and the immediate vegetation Plate 4.1 to follow shows the soil profiles from collected places along the stretch of the power line.



Plate 4.1: Soil profiles in Hwange and Kamativi respectively (photo by consultant)

4.3 HYDRO-GEOLOGY

4.3.1 GEOLOGY

The geology of Hwange grades from the Lower Karoo to the upper Karoo which is divided by the Deka Fault. The lower Karoo is to the east of the Deka Fault and is composed of Lower Wankie Sandstone (k1), Lower Carboncecouse Mudstones (k2), Wankie Fireclay (k3), Upper Wankie Sandstone (k4) and Madumabisa Mudstone (k5) and overlying the lower Karoo is the Escarpment Grit (k6) of the Stormberg Formation. Further east overlain by the Lower Karoo are gneisses (Gn), Sijirira Group (s) rocks composed of red grits, sandstones, shales and conglomerates and Piriwiri Group (w) rocks composed of phyllites and quartzites of the Magondi Super Group. Bordering to the west of the Deka fault is the Batoka Basalt (B,Bj).

The Karoo sedimentary rocks are composed of sandstones and mudstones. The sandstone will be generally consolidated and range from fine grained to coarse grained sandstones, which in places have grits. The mudstones are of the carbonaceous mudstone of the Coal Measure Formation and Madumabisa Mudstones. The Karoo sedimentary rocks are dotted with plant and animal fossils (Bond, 1974).Plate 4.2 shows the exfoliated rocklings that dominate the project site while figure 4.4 shows geological map of the project area.



Plate 4.2: Showing rocklings of the geological rock formations found around the area.

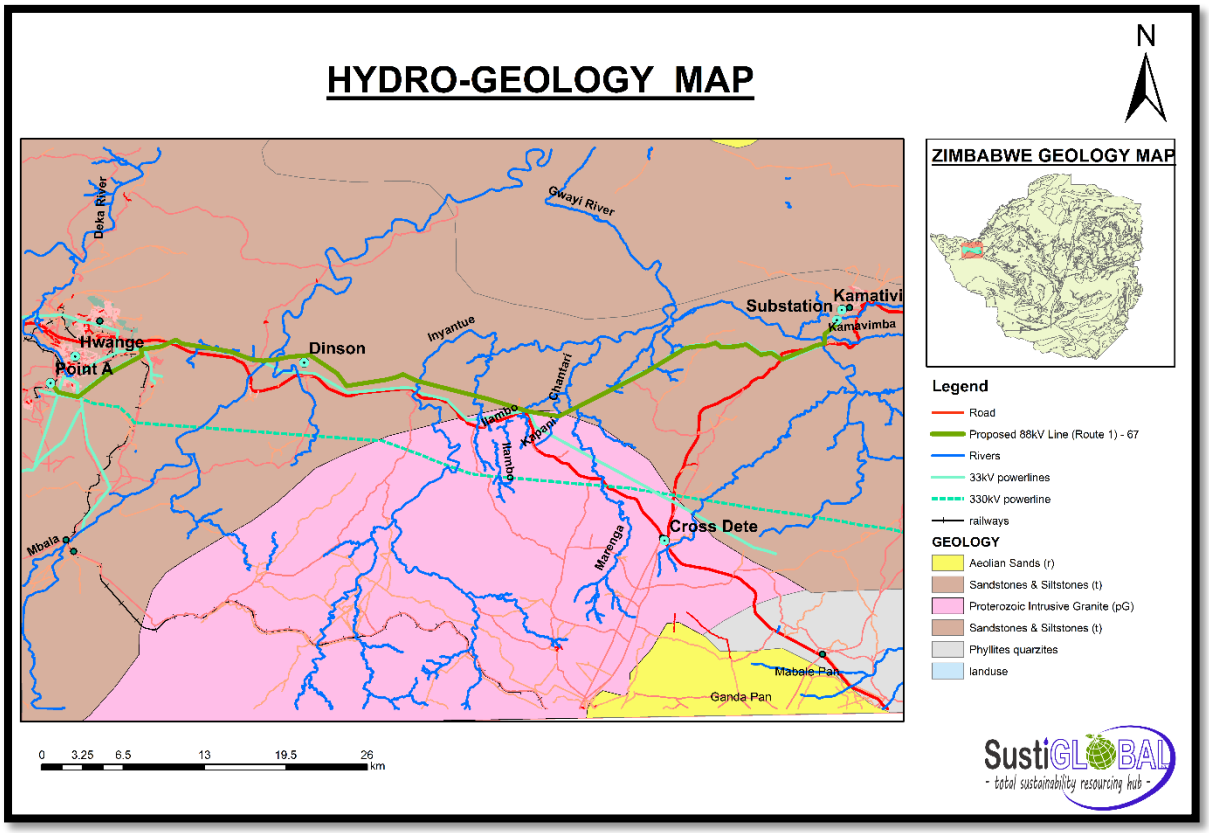


Figure 4.4: A coarse grained sandstone (layout by consultant)

Hwange Coalfield is situated in the North-Western corner of Zimbabwe. The sediments of the area are part of the Karoo system. The main seam comprising of Vitrinite-rich bright banded coking coal and durain rich power coal rests directly upon the lower Wankie Sandstone with a conformable contact.

The seam forms the base of the unit known as lower carbonaceous mudstone overlain by Wankie fireclay. Generally, within the opencast area, this combination of fireclay and carbonaceous mudstone from the Overburden stripped by Dragline mining operations. In areas where the depth of Overburden exceeds 35 meters, a coarse-grained upper Wankie sandstone is encountered usually in the form of a capping on top of small kopjes.

4.3.2 HYDROLOGY

This section expresses an overview of the major hydrological impacts of the proposed project. The proposed site is located on Deka River where some water for the thermal power station shall come from. This section analyses the likely hydrological impacts from the project. Table 4.1 shows hydrology information.

Table 4.1: Hydrology information

Catchment	Gwayi	**Subzone area**	3 558km^2
Sub catchment	Lower Gwayi	**Subzone**	AD
Mean Annual Runoff	20.9mm/year	**Coefficient of Variation**	125.8%
Mean Annual Evaporation	2115mm/year	**Mean Annual Rainfall**	550-583mm
Base flow Index	0.21		

The area is located in the Gwayi catchment which receives very low rainfall in Zimbabwe. The rainfall received in this area is about a quarter of the evaporation which affects most of the rivers rendering them to be ephemeral streams. Rainfall received in this catchment is routed by the stream network to the Zambezi River before being stored in the Kariba dam. Abstraction from the upstream basin are monitored and regulated by the governments of the two countries (Zimbabwe and Zambia) as the interests from the system are centered on power generation.

The water quality of the Zambezi River and its tributaries is monitored by the Zambezi River Authority as water quality determines the usability of the water. There is a thriving fish industry on Kariba dam, which relies on water of good quality. The water quality parameters monitored include Temperature, pH, Electrical Conductivity, Dissolved Oxygen, Alkalinity, Total Suspended Solids, Total Dissolved Substances, Turbidity, Total and Ortho Phosphorus, Chlorophyll, Ammonia, Alkalinity and Faecal Coliforms. Water quality parameters are monitored against specified quality standards in the Water Quality Guidelines that were developed by Zambezi River Authority and respective stakeholders. Plate 4.3: Shows Deka River.

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Plate 4.3: Gwayi River and the bridge (photo by consultant)

4.3.3 DRAINAGE (SURFACE AND GROUNDWATER)

The Batoka basalt occurs in subzone AD. Basalt has no primary porosity, and groundwater occurs where secondary porosity has developed. Basalt has a moderate potential for groundwater occurrence with borehole yields generally in the 20 to 100 m^3/day range. The base flow index is low owing to the high evapotranspiration values and low precipitation values. The lack of primary porosity interferes with the hydrogeology of the area and allowing quicker response of the precipitation in the rivers. Table 4.2 below shows drainage characteristics of the area.

Table 4.2: Rock – drainage characteristics data

LITHOLOGY	GROUNDWATER DEVELOPMENT POTENTIAL	BOREHOLE YIELD (M^3 DAY^{-1})
Basalt	Moderate	20 -100

4.4 WATER QUALITY

The data collected during baseline survey shows that the water is of high quality. All parameters fit in the blue normal band. The blue sensitive band is the standard used for ambient water quality. This classification standard is acceptable because the blue sensitive band is very stringent for effluent and was thus adopted for general ambient water assessments. Deterioration of water quality is expected to be chiefly caused by soil excavations, dust, and siltation from landscaping. Other ways in which water quality can be tempered with are; siltation through soil erosion, fuel leakages and effluent discharge contamination. The general terrain of the area is between 1 and 2 % which is insufficient to cause any significant erosion. Table 4.3 shows water quality data of water sample collected from Lukosi Bridge.m

Table 4.3: Water quality data of water sample collected from sand under the Bridge

PARAMETER	UNITS	SAMPLE	CLASSIFICATION				
			BLUE		GREEN	YELLOW	RED
			SENSITIVE	NORMAL			
COD	Mg/L	55.2	<30	<60	<90	<150	<200

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DO	Sat %	51.4	>75	>60	>50	>30	<15
EC	uS/cm	454	<200	<1000	<2000	<3000	<3500
pH	-	6.3	6.0-9.0	6.0-9.0	5-6,9-10	4-5,10-12	0-4,12-14
TDS	Mg/L	134	<100	<500	<1500	<2000	<3000
TSS	Mg/L	6	<10	<25	<50	<100	<150
Chloride	Mg/L	8	<200	<250	<300	<400	<500
NO_3^-	Mg/L	7	<10	<10	<20	<30	<50
NO_2^-	Mg/L	1.8	<3	<3	<5	<8	<10
Turbidity	NTU	5.2	<5	<5			

4.5 ECOLOGY

Ecology is the study of the relationships between plants, animals, people and their environment and the balances between these relationships. A more scientific definition defines Ecology as the study of the biotic and abiotic components of the environment and the interaction between them and their environment. An Ecosystem is a natural unit of living and non-living parts that interact to produce a stable system in which the exchange of materials between living and non-living parts cycles. It is of profound importance that all the living (*biotic*) and non-living (*abiotic* or physical) conditions that act on an organism and affect its chances of survival are examined in the construction and laying out of the transmission powerlines.

4.5.1 FLORA

The methods discussed below were used to do vegetation monitoring across the entire project area. The first stage taken when carrying out the vegetation survey was collection and study of relevant available information from libraries and internet. The relevant information included the soil, geology and vegetation studies within and around the study area. GIS /Aerial photographs from Google Earth, MODIS and EROS were used to observe and study the area and come out with areas of vegetation that are homogeneous, and marked out.

After studying background information and aerial photographs, we physically inspected the marked project site and drew up a species list of the vegetation in the area that is distinct plant and animal species existing. After the field visit, we analyzed the data collected and classified the vegetation on the basis of mainly vegetation structure and species composition. Geology and soils also were used. Data analysis and vegetation classification and description were then done in the office. Individual interviews were also conducted to acquire more knowledge on the different flora and fauna found in the area.

4.5.1.1 TRANSECT METHOD FOR TREES SAMPLING

A transect is a path along which one counts and records occurrences of the species of study. We moved along a fixed path and identified and counted species occurrence the predetermined transects. The findings from the belt transects were used to estimate vegetation species abundance and ground cover.

4.5.1.2 QUADRAT METHOD FOR GRASS SAMPLING

A quadrat is a plot used in ecology to isolate a standard unit of area for study of the distribution of an item over a large area. In this particular case, fairly regular 1m by 1m quadrats were randomly set up

to sample and identify vegetation, particularly the grass species. In the same manner transects were set, quadrats were set in each of the predetermined stretches.

4.5.1.3 RESULTS

Along the route on which the powerlines are going to be structured, random 30m x 30m quadrants were selected for the purposes of identifying grass species and 500m long transects were set for trees identification and quantification. 6 Points were created along the route and the vegetation was studied as follows; from point 1-2 Albizia tanganyicensis (*mutsvedzabveni*) and Colophospermum mopane (*mopane)* were dominant, from point 2-3 Acacia galpini (*munanga)* , Colophospermum mopane (Mopane), (mutsvedzabveni) and mugokwe were dominant, from points 3-4 mopane and Albizia tanganyicensis mutsvedzabveni were dominant, from point 4-5 the vegetation diminished although traces of mopane could be identified and from point 5-6 there was no vegetation since it's the location of the Hwange Power Station. The average tree diameter was measured as 0.3m and estimated average height is 7m. Some of the grasses identified include *Heteropogoncontortus,* and *Danthoniopsis* species. Plate 4.4 and Plate 4.5 below shows some of the vegetation that was identified along the proposed transmission powerline route.



Plate 4.4: Flora in the area (photo by consultant)



Plate 4.5: Flora in community area (photo by consultant)



Plate 4.6: Flora in the area (photo by consultant)

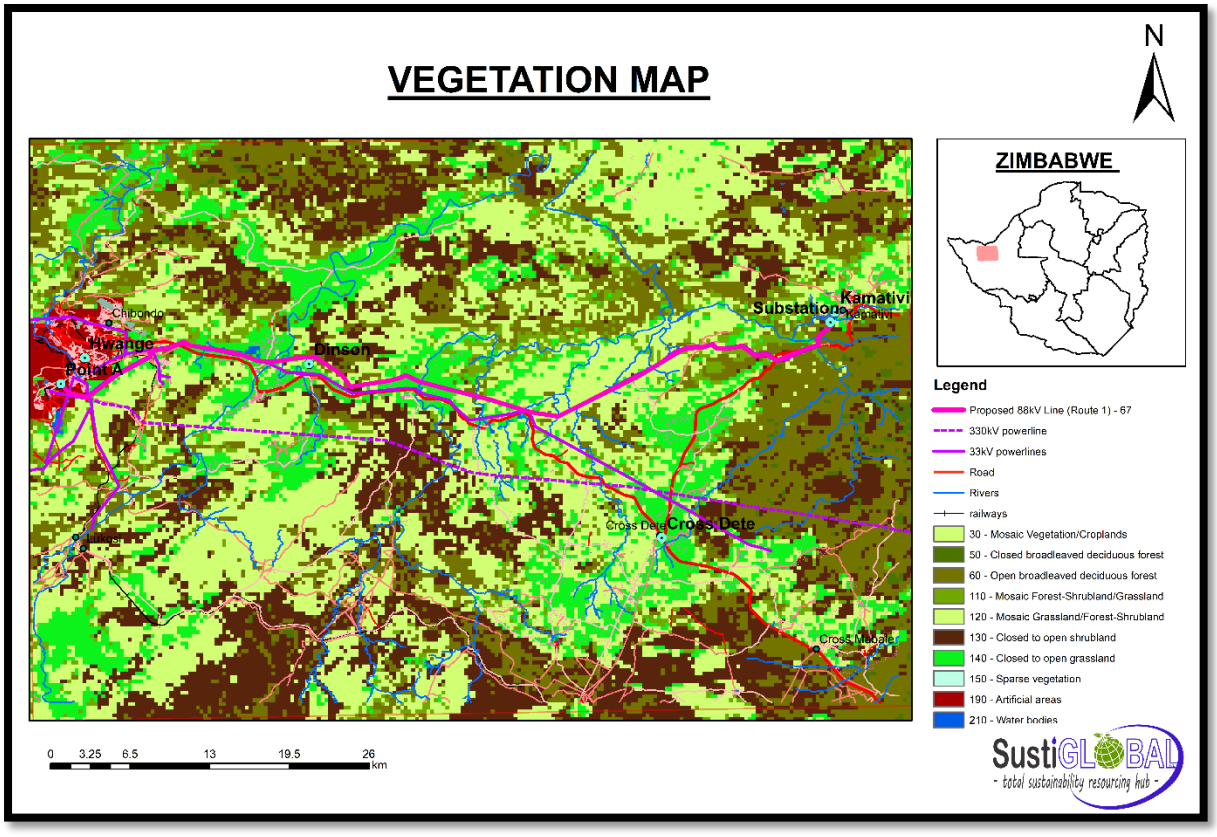


Figure 4.5: Vegetation map of the project area

The project area is dominated by closed broad-leafed deciduous forests especially around Dinde Villages and Lambo Village community. Some sections host a closed to open grassland as provided for by figure 4.5 above. There are also areas where the line passes through sparsely vegetated Savannah areas.

4.5.2.4 DIVERSITY INDEX

The diversity indices in the quadrants is **2.516285563** which suggest that the area is highly diverse; basing on the Shannon-Wienner scale which ranges from 0 – 5+ as given in the following scale;

0 < H' ≤ 1: Low diversity

1< H' ≤ 2: Slightly diverse

2 < H' ≤ 2.8: Diverse

2.8 < H' ≤ 5+: Highly diverse

The project will not cause much damage on the diversity of trees in the areas since they are common even outside the project area. The diversity index of trees in the project area was calculated using the Shannon-Wiener index (H') which is:

$$H' = -\sum_{i=1}^{S} (p_i \, ln \, p_i)$$

Table 4.4: Average species abundance in the quadrants and list of species

				Average Abundance			
Species	**Transect 1**	**piLn(pi)**	**Transect 2**	**piLn(pi)**	**Transect 3**	**piLn(pi)**	**Average**
Albizia tanganyicensis(Mutsvedzabveni)	7	-0.1849948	4	-0.128755	6	-0.16457	5.6667
Mugokwe (Botanical name unavailable)	5	-0.1487962	2	-0.07824	1	-0.04466	2.6667
White thorn acacia	2	-0.0776628	1	-0.046052	2	-0.07599	1.6667
Colophospermum mopane(Mopane)	5	-0.1487962	3	-0.105197	3	-0.10228	3.6667
Mwerere (Botanical name unavailable)	1	-0.0456943	2	-0.07824	1	-0.04466	1.3333
Acacia galpini(Munanga)	3	-0.1044507	1	-0.046052	2	-0.07599	2.0000
Flacourtia hirtiuscula (Munhunguru)	6	-0.1677244	8	-0.202058	6	-0.16457	6.6667
Vangueria infausta (Mudzvirimombe)	15	-0.2832283	13	-0.265229	16	-0.28797	14.6667
Brachystegia spiciformis(Msasa)	13	-0.2638834	12	-0.254432	13	-0.25993	12.6667
Dichrostachys cinerea (Mupangara)	18	-0.307381	15	-0.284568	14	-0.26995	15.6667
Melia azedarach (Musiringa)	4	-0.1278743	7	-0.186148	6	-0.16457	5.6667
Julbernardia paniculata (Mutondo)	4	-0.1278743	6	-0.168805	7	-0.18163	5.6667
Brachystegia boehmii (Mupfuti)	7	-0.1849948	9	-0.216715	13	-0.25993	9.6667
Guazuma ulmifolia (Mutamba)	2	-0.0776628	4	-0.128755	1	-0.04466	2.3333
Sclerocarya birrea (Marula)	3	-0.1044507	5	-0.149787	5	-0.14591	4.3333
Grass and Others	6	-0.1677244	8	-0.202058	8	-0.1973	7.3333
Sum of species	**101**		**100**		**104**		
H' (negative)		-2.5231934		-2.541091		-2.48457	
Average H' (positive)						**2.516286**	

Figure 4.6 to follow shows a pie –chart illustrating species abundances along the stretch of the power line form Hwange to Kamativi Mine.

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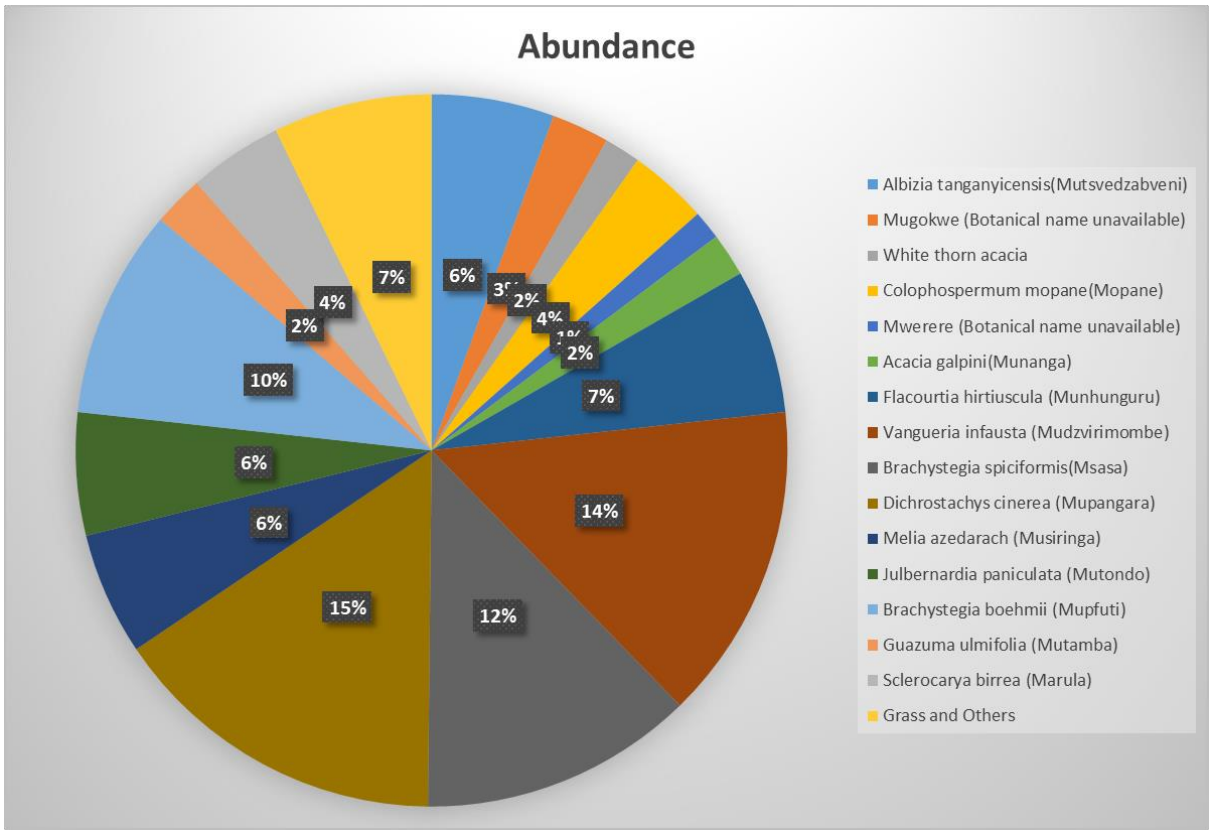


Figure 4.6: Showing species against abundances indicating ground cover

4.6 CLIMATE

The project area has a typical savanna type of climate. The period from August to October are characterised by high temperatures during the day. During these dry months wildlife concentrate around the man-made waterholes, without which they would die. The area has a relatively low average rainfall of between 570-650mm per annum. Temperatures can reach over 40°C, while on average they range from 18-30°C. Baseline study shows that the project site is characterised by gully erosion due to flush floods that are often received in the area.

In terms of agro- ecological zoning, the area lies in Natural Region VI and V suitable for semi-intensive farming and wild life. Rainfall in the range of 450 – 650mm per annum is received. The region is subject to periodic seasonal droughts and severe dry spells during the rainy season. In region V, the rainfall is too low and erratic. The total rainfall is below 600mm. The graphs in figure 4.7 below show average temperature and rainfall distribution in the project area. It is clear that the project area is generally a very low rainfall region.

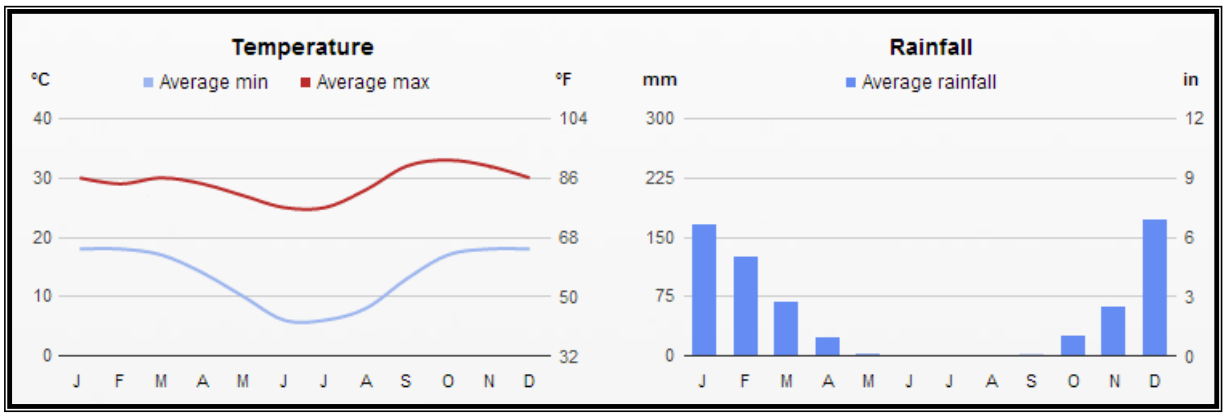


Figure 4.7: Temperature and rainfall graphs (meteoblue)

4.7 SOCIO-ECONOMIC SETTING

This section provides a detailed analysis of the socio-economic status of the inhabitants within which this project falls. Simply put, it concentrates on people's social behaviour and economics nexus. It thoroughly looks at how social norms, ethics and other social philosophies that influence consumer behaviour shape an economy, and uses history, politics and other social sciences to examine potential results from changes to society or the economy through economic projects which may be implemented in the area.

4.7.1 SOCIAL SETTING

4.7.1.1 INSTITUTIONAL FRAMEWORK

There is well integrated institutional structure which starts at a Provincial level and extends to the District Hwange District, which is in Matabeleland North Province. The Provincial Administrator who is stationed in Hwange administers the whole district of Hwange. The different ministries have district representatives, whose initiatives are coordinated by the District Development Coordinator (DDC) through a mechanism of the District Development Committee. The District Developments Coordinator's office is the most powerful body in the district, given that it is where the district policies are made. The District Coordinator's job is to facilitate the implementation of district council policies and to make sure that they adhere to national policies. Grassroots representation at a district level is facilitated by the division of the district into a number of wards, from each of which a Councillor is elected to sit in the District Council. The project falls in ward 7, 8, 9, 11, 13, 14, 16 and 20.

4.7.1.2 CURRENT TRADITIONAL PRACTICE

Chiefs continue to be held in high regard with respect to traditional practices and ceremonies over which they preside. Belief in the spirits of the tribal ancestors is very much a part of everyday life. There are no sites of particular spiritual value within the project route. It is considered necessary for all people working or living within the Chairman area to pay him customary allegiance. It would be expected that the project team will occasionally visit the Chief to discuss conservation of cultural heritage. The traditional village heads were replaced by ward party Chairman who are appointed on party politics.

4.7.1.3 EDUCATION

Census information on education revealed that about 12 percent of the population age 3-24 years had never been to school 58 percent of the population was currently attending school. The proportion of the population age 3-24 years that had left school at the census time was 25 percent. Of the total

female population age 3-24 years, 12 percent had left school while the proportion for males was 13 percent. The literacy rate for the province was 96 percent. High literacy level helps the project to a greater extent as it would provide local skilled workforce to the project such as engineers and safety healthy and environment officers. Education is a purposeful activity directed at achieving certain aims, such as transmitting knowledge or fostering skills and character traits. It is important for local children to get full education in that it creates more employment, securing high income in that people with education are more likely to get high-paying, expert jobs, education helps countries grow economically since it is about getting knowledge and being able to apply it wisely to different lives. They are also schools in the local area that provide basic education to all children in the area that include Dinde Primary School (see plate 7 below), St Mary's Catholic School, St Theresa Primary School and Lukosi Primary School. The table to follow shows the population that is attending school at different levels in Hwange district.



Plate 4.7: Dinde Primary School

Table 4.5: Population Age 3-24 Years attending school as percentages in Hwange District (ZimStas 2012)

CURRENT LEVEL	MALE	FEMALE	TOTAL
Hwange			
Pre-School	10.7	10.4	10.5
Primary	69.9	67.6	68.7
Secondary	18.6	21.1	19.8
Tertiary	0.5	0.6	0.5
Not known	0.1	0.0	0.1
Missing	0.3	0.3	0.3
Total	100.0	100.0	100.0

4.7.1.4 SOCIAL SERVICES

Social services are a range of public services intended to provide support and assistance towards particular groups, which commonly include the disadvantaged and the general public. They may be

provided by individuals, private and independent organizations, or administered by a government agency. They offer both positive and negative impacts to the society that are on positive, social services supports personal growth helping the society on how to communicate, behave and as well how to control one's emotions. They can also be of an advantage in that they help in creating employment for the locals and this leads in reducing the levels of poverty in the country. The district, in which the project falls, offers various social services which are currently withstanding the population. For buying various items mainly daily commodities like bread local people buy at local tuck shops within the project area and other shops near the project site that include Dinde Shops, St Marys Shopping Center and Lukosi Shops or growth point and to those who require other things buy at Hwange Pick N Pay in Hwange town.



Plate 4.8: Dinde Shops

4.7.1.4.1. ENERGY

Electricity is a basic need to Zimbabwe's economic and social development especially for the Kamativi mining projects. Electricity supply interruptions, including shortages and load shedding have serious repercussions on any efforts of Zimbabwe's economy to successfully grow. Electricity from the national grid is the main type of energy that is used in Kamativi. Along the stretch of the transmission line, fire wood is the main fuel that is used in communities. Plate 4.9 shows fire-wood that is collected from way-leave clearing.



Plate 4.9: An already existing 33kv power-line on the way-leave

4.7.1.4.2. WATER AND SANITATION

Water and sanitation is one of the major factors to be considered in the district as to avoid different types of diseases such as cholera and typhoid. Water plays many important roles in the human body including flushing waste from the body, regulating body temperature, transportation of nutrients and is necessary for digestion and it is a requirement for one to have access to safe clean water. Water requirements for the community comes from the nearby dams, streams which runs close –by the line route such as the Lukosi River, Bongola River Kapami River as well as Gwayi River. People of the area face a lot of challenges as they walk long distances in search of clean water for use. Several streams have been noted along the line routes which are the main sources of water for the livestock, farming and agricultural farming within the area. Local people get water for domestic use from the community boreholes and the Lukosi River. Sanitation refers to public health conditions related to clean drinking water and treatment and disposal of human excreta and sewage. Plates 4.10 and 4.11 shows available water sources that are available for use by the community.



Plate 4.10: Gwayi River located along the line route



Plate 4.11: A broken down borehole without the arm

4.7.1.4.3. HEALTH FACILITIES

Health facilities play a vital role in the mitigation of disasters because of their particular function in treating the injured and handling outbreaks of diseases. Dinde Clinic. For medication and other health services local people go to Dinde Clinic and those who need serious medical attention go to Hwange Colliery District Hospital.

4.7.1.4.4. TRANSPORT

Transportation is one of the major economic activities that enable trade and commerce among businesses that are practiced in the district. Transport helps in the assembly of services, raw materials and distribution of finished goods. It makes it possible to move goods and services from the place of production to their final place of market. Plate 4.12 below shows the road to Kamativi Mine.



Plate 4.12: Showing road near the line route

4.7.1.5 INFRASTRUCTURE AND SETTLEMENT

Roads, Schools and ZETDC transmission line are the infrastructure that is found near the project site and they are maintained by both the government and private sectors so as to satisfy the needs of good road for transportation of different services to places of production. The project site falls in the linear type of settlement pattern. Dispersed settlement occurs where the houses or homesteads are spread out over a wide area. Plate 4.13 shows infrastructure that is in the area.



Plate 4.13: Part of infrastructure in the area (road and power-line)

4.7.1.6 DEMOGRAPHICS

The (2022) Census profile for Matabeleland North province showed that the province stood at 827626 with 427438 being female and 400188 males whilst district has 69357 people and the wards altogether has a total of 24971 people. The population trend shows available workforce who can be readily available to provide both employment and market to the proposed project. Below is a table 4.6 which shows the demographic characteristics of Wards 7, 8, 9, 11, 13, 14, 16 and 20, Kamativi highlighted in yellow.

Table 4.6: Demographic data of wards 7, 8, 9, 11, 13, 14, 16, and 20 Hwange District (Zim-Stats 2022)

Hwange Rural District

	Population		
	Male	**Female**	**Total**
Ward 01	2,529	2,487	5,016
Ward 02	3,141	3,039	6,180
Ward 03	1,786	1,883	3,669
Ward 04	1,665	1,888	3,553
Ward 05	1,219	1,431	2,650
Ward 06	1,289	1,428	2,717
Ward 07	1,628	1,748	3,376
Ward 08	900	1,044	1,944
Ward 09	1,021	1,033	2,054
Ward 10	2,111	2,378	4,489
Ward 11	1,767	1,980	3,747
Ward 12	1,325	1,464	2,789
Ward 13	356	397	753
Ward 14	1,595	1,874	3,469
Ward 15	2,299	2,698	4,997
Ward 16	1,576	1,805	3,381
Ward 17	1,886	1,761	3,647
Ward 18	1,772	1,828	3,600
Ward 19	666	413	1,079
Ward 20	3,165	3,082	6,247
Total	**33,696**	**35,661**	**69,357**

The map to follow shows the demographic data of the district. The (2022) Census profile for Matabeleland North Province showed that the province stood at 827626 with 427438 being female and 400188 males whilst and the district has 69357 people. Figure 4.8 shows a *d*emographic map of Matabeleland North (ZIM -STATS 2022)

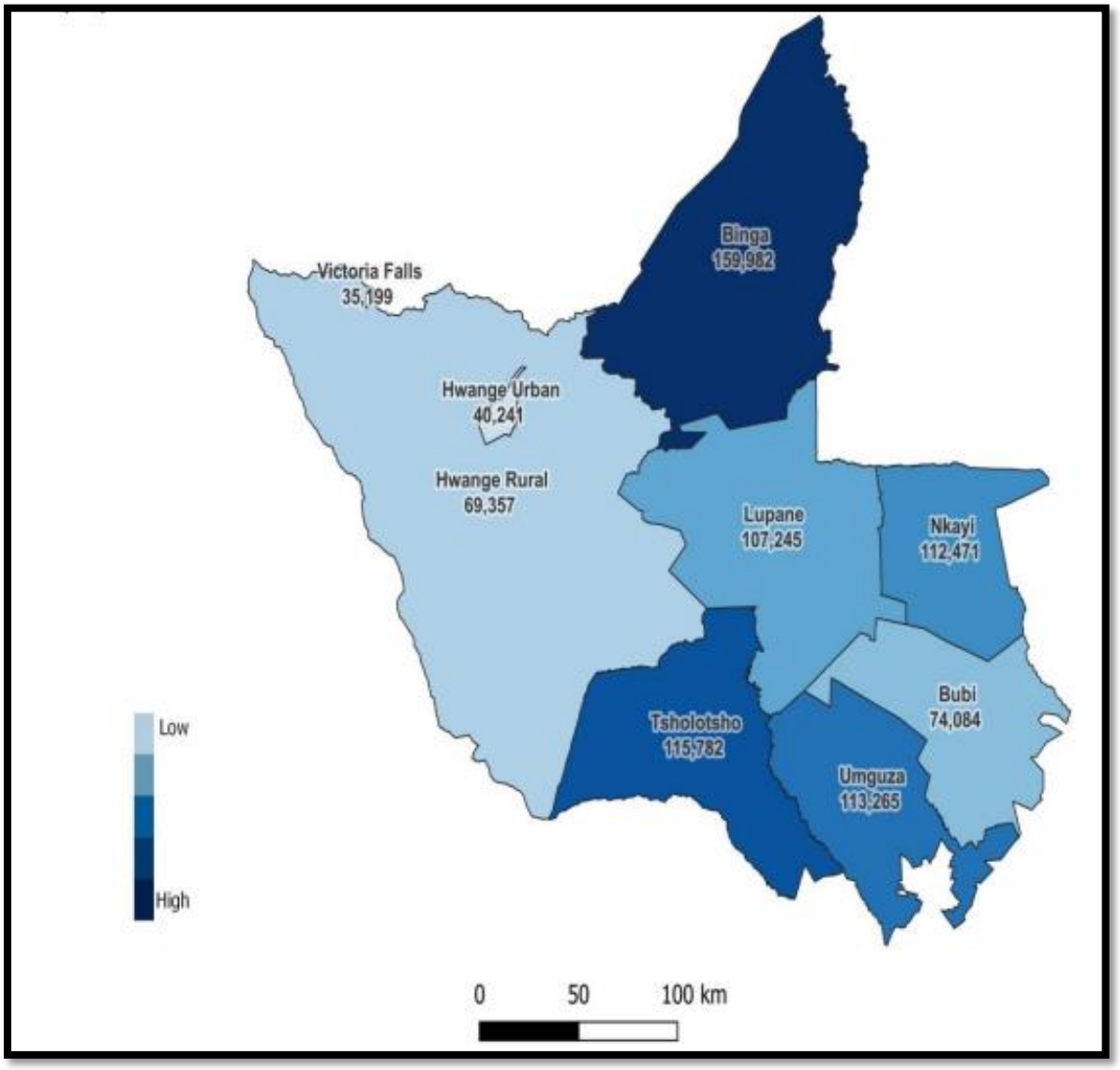


Figure 4.8: Demographic map of Matabeleland North (ZIM -STATS 2022)

4.7.1.7 ARCHAEOLOGY

The archaeological records housed at National Museum show that the project area does not have any areas of cultural significance. That fact is also confirmed by the local traditional leadership. In the event that such physical cultural resources are found in the project area and the cultural sites includes a graveyard. However, there are graves that were identified in the communities but the nature of the project will not have any effect on them because the line route has been designed in a way to avoid households, grave yards and other infrastructures to avoid relocations. Plate 4.14 shows a grave that was noted in Dinde Village towards the escarpment.



Plate 4.14: Showing a grave yard on one of the homesteads in ward 13

4.7.2 ECONOMIC SETTING

4.8.2.1 NATURAL RESOURCES AND ECOSYSTEM SERVICES

Natural resources are resources that are drawn from nature and used with few modifications. This includes the sources of valued characteristics such as commercial and industrial use, aesthetic value; scientific interest and cultural value. An ecosystem service is any positive benefit that wildlife or ecosystems provide to the people. Typical homesteads in Hwange rural are round huts which are built mainly from clay bricks and sand with wooden poles as supporting structures extracted from local trees, then thatch grass for roofing. They also gain food from their ecosystem as they gather wild fruits like *nyii* for consumption and also for selling it to other people in the area. Dominant crops in Hwange district especially around Dinde and Lukosi area is sorghum mainly because climatic conditions in this district only favours dry resistant crops. Livestock in this areas such as goats and sheep get water from natural streams and rivers. In addition, firewood is the main source of energy for domestic use like cooking. The natural ecosystem also provides employment to the locals due to mining activities that are done in the project area, mainly coal mining. Plate 4.15 below shows a typical homesteads in the area.



Plate 4.15: A typical homesteads in the area.

4.7.2.2 LAND TENURE

Land tenure refers to the rights of people or communities to manage (own and use) the land that they reside on. Land tenure systems in the area are characterized by freehold, communal and state ownership. Hwange district is characterized by communal land tenure system whereby the system appoints the head or the Chief of the community to take the obligation of distributing the land to other community members.

4.7.2.3 ECONOMIC ACTIVITIES

Economic activities consists of purchasing or selling of goods and services. Hwange District falls under Matabeleland North Province which is rich in coal hence a number of local people are employed in different coal mining and energy companies that includes but not limited to Hwange Colliery Company, Makomo Resources, Dinson Colliery Company, Zambezi Gas Company and Zimbabwe Power Company (ZPC). Also, Hwange District hosts the nation's largest game park hence some locals render their services as part of employment. However, some locals engage into some economic activities such as fishing from giant rivers such as Zambezi and Gwayi, hunting and gathering of wild fruits such as nyii for selling. After collecting nyii and baobab fruits women and children line up the main Hwange – Bulawayo road as they display their products. Some also burn mopane tree and make charcoal which they also display to motorists along the road. However, the business of selling charcoal is illegal. Plate 4.16 shows a woman selling her dried nyii fruit to the ESIA consulting team.



Plate 4.16: Part of economic activities (Local woman selling wild fruits)

4.7.2.4 HUMAN RESOURCES

According to the 2012 Population Census, the population age 15 years and above for Matabeleland North Province was 749017 and 58.8 percent of this population was economically active. This shows that out of the economically active population, 20.3 percent were unemployed whilst 96 percent were employed. The proportion that was economically active varied with different age and sex categories of the population and it showed that there were more economically active males than females showing that more males were employed than females.

4.7.2.5 COMMUNICATION

Newspapers such as Herald and Newsday as well as various local radio stations such as Power FM are available to the local people. Local television station Zimbabwe Broadcasting Commission (ZBC) is also available and most of the residents have DSTVs which they pay monthly subscriptions to view international channels. Public messages and announcements are passed to the residents on local radios and televisions stations. Some announcements are made at schools to students to go tell their parents. Network providers such as Econet, Telecel and Netone provide cell phone networks for the local people which they use for communication.

4.7.2.6 FINANCIAL SERVICES

Hwange District residents get banking services from commercial banks such as CBZ, First capital Bank, Stanbic Bank, FBC Bank, ZB Bank, CABS, Mukuru and other mobile banking platforms such as Eco-cash, One Wallet and Telecash located in Hwange.

CHAPTER 5: STAKEHOLDER CONSULTATION

5.1 INTRODUCTION

Stakeholder consultation process is a valuable source of information on key impacts, potential mitigation measures and the identification and selection of alternatives. The openness and transparency which was practiced in this process ensured that unbiased information was collected from this process. It is anticipated that the stakeholder participation will be maintained throughout the project life-cycle and integrated with the Environment Management Plan. Stakeholder's engagement according to World Bank Environmental and Social Safeguard (ESS10), proponents should recognize the importance of open and transparent engagement between the proponent and project stakeholders as an essential element of good international practice. Effective stakeholder engagement can improve the environmental and social sustainability of projects, enhance project acceptance, and make a significant contribution to successful project design and implementation. Usually, this chapter provides basis for development of Stakeholders Engagement Plan (SEP) which is a framework that guide engagement of stakeholders from inception to decommission phase of the project, including Grievances Redress Mechanisms (GRM.

Environment Management Act (CAP 20:27), section 4 (2c) states that, the participation of all interested and affected parties in environmental governance must be promoted and all people must be given an opportunity to develop the understanding, skills and capacity necessary for achieving equitable and effective participation. This section makes the stakeholder consultation an integral part of the environment management process. The Act empowers the local community to participate in the implementation and promulgation of legislation and policies that secure sustainable management of natural resources while promoting justifiable economic and social development hence public consultation forms a vital component of the ESIA process. According to ESS10, a "stakeholder" refers to individuals or groups who:

(a) Project-Affected Parties (PAPs): These are people or group of people which are affected or likely to be affected by the project. These include land owners, local communities that will shoulder the project impacts directly.

(b) Interested Parties (IPs): These are people that may have an interest in the project that include neighbors, traditions leadership, suppliers, customers, government departments and regulatory agencies.

5.2 STAKEHOLDERS' CONSULTATION OBJECTIVES

The stakeholder consultation or engagement process has the following main objectives;

(a) To facilitate an open and inclusive approach to consultation that provided timely and transparent information on the project to stakeholders.

(b) To establish a systematic approach to stakeholder engagements that will help Borrowers identify stakeholders and build and maintain a constructive relationship with them, in particular project-affected parties.

(c) To assess the level of stakeholder interest and support for the project and to enable stakeholders' views to be taken into account in project design and environmental and social performance.

(d) To promote and provide means for effective and inclusive engagement with project-affected parties throughout the project life cycle on issues that could potentially affect them.

(e) To ensure that appropriate project information on environmental and social risks and impacts is disclosed to stakeholders in a timely, understandable, accessible and appropriate manner and format.

(f) To provide an opportunity for stakeholders to provide feedback of the project and to voice their concerns.
(g) To gather baseline environmental, ecological, health and social data held by stakeholders.
(h) To aid project planning and development of mitigation measures monitoring plans to address issues raised.

5.3 PRINCIPLES GOVERNING PUBLIC CONSULTATION

In compliance with the Environment Management Act (CAP 20:27), SustiGlobal and the proponent will consistently try to uphold the following values of stakeholder consultation in pursuance of sustainable development. The following principles were followed to achieve the above goals of the stakeholder consultation;

(a) Inclusivity: The public consultation process covered representation of all relevant stakeholders. To ensure this principle was held, the stakeholder list was rationalized by the Local District Council and the Consultant.

(b) Open and transparent: In order to enhance this principle, the consultant ensured that all steps and activities of public consultation were understood by all consulted stakeholders before attempting to give comments pertaining to the proposed project.

(c) Relevant: Relevance was also vital in this EIA and this was achieved through remaining focused on the project issues that matter. The consultation boundaries also ensured that the consultation process remains relevant to the proposed activities.

(d) Fairness and responsiveness: To achieve the objectives of the stakeholder consultation process there was a need to ensure that the consultation was conducted impartially. All stakeholders were empowered with project information first, and then solicit their informed input. Women were also encouraged to participate in the meetings that were conducted.

5.4 PUBLIC CONSULTATION METHODOLOGY

The tools which were used for this process are a questionnaire which was administered and on special cases open ended questions were posed to note down qualitative data. Identification of the interested and affected public was done considering major constraints to their involvement. However, all the methodology rested on the close proximity of the consultation subjects. Other comments where received through the social media platform; www.facebook.com/sustiglobal and our official website; www.sustiglobal.com; see appendix of this report. We aggregated our stakeholders into two categories that are primary and secondary stakeholders. Primary stakeholders can be defined as those with a direct interest in the resource; either because they depend on it for their livelihoods or they are directly involved in its exploitation in some way. Secondary stakeholders would be those with an indirect interest, such as those involved in institutions or agencies concerned with managing the resource or those who depend at least partially on wealth or business generated by the resource.
Participatory tools used in the areas that were consulted are a modification of the conventional tools used in Social Research. The tools were used for creating dialogue and for collecting information. However, these tools emphasize a shift from solely verbal to a combination of both visual and verbal communication in the process of data collection. For example, the dialogue that accompanies the preparation of maps is as much an objective as the end product. Furthermore, the process of data collection is not an end in itself but analysis takes place during the process. The exercises enable communities to unravel and analyze their own situations and, in optimal cases, to plan and act on their premises. Given that no situations are the same (i.e. in terms of the people who participate, their cultural context, their problems and their ideas), the tools are characterized by ingenuity and flexibility

as the situation dictates. There are various tools used in stakeholder consultation. These can be used for:

i) Collecting data and information.
ii) Analyzing data.
iii) Both collecting and analyzing data.
iv) Communication.

Diagrams and maps summaries data in such a way that they can be used for different purposes: exploration and problem identification for planning; and the analysis and future for monitoring and evaluation. However, the maps and diagrams present the communities' knowledge and not that of experts. Thus, they may not be statistically accurate. Scoring (ordinal) and ranking (cardinal) provide relative values as opposed to absolute figures. The advantage of the results of these exercises is that they reflect input by various members of the community. Thus, information is verified by many people. However, for a consultation exercise to be successful, the facilitator possessed an attitude and conduct that encouraged participation by communities. For example, the facilitator encourages all participants to voice their opinions and cross check information. There is a danger that if participation by different individuals and groups is not encouraged, the results will only reflect the opinions of the powerful and most vocal members of the communities.

The data was analyzed and presented below with a varying ranking with respect to stakeholder class for the purposed of data analysis. The stakeholder classes are Individuals, Affected Organizations, Clustered Locals and Government Offices as also defined in the table below. Basic Microsoft Excel (2010) in combination with SPSS was used to analyze the stakeholder consultation data. Table 5.1: Shows the stakeholder classes and ranking of their points.

Table 5.1: Shows the stakeholder classes and ranking of their points

STAKEHOLDER CLASS	**CONTENTS**	**POINTS PER CONCERN**
Individuals	Those that falls within the project district and they are consulted separately in interviews or those that may be leaving out of the concerned district but are affected by the project.	1
Affected organization(s)	This class comprises of neighbouring organizations, competitors, suppliers, service providers, schools, commercial farmers, neighbours, clinics and any other recognized organizations that are consulted separately	3
Clustered locals	Those that falls within the project district and they are consulted collectively in a meeting with their traditional leader(s) present.	5
Government Officers	All government officers/ ministry representatives that are consulted separately or collectively through key informant interviews. Traditional leader(s) also falls in this class when they are consulted separately out of clustered local.	5

5.5 CONSULTATION PROCESS

The consultant managed to consult quite a number of stakeholders that were drawn from various classes. This was meant to ensure that a full stakeholder's perception about the project is noted and a balanced decision is made by the proponent so as to ensure project cohesion with the concerned stakeholders and interested parties. The consultant depended on a questionnaire as the most effective research tool to find data from other local residents since they lived in a dispersed type of settlement.

5.6 STAKEHOLDER ENGAGEMENT MEETING IN WARD 11

This section presents consultations and engagements held in ward 11 where the mine site is located. The stakeholder engagement meeting was held at Kamativi Old Terminus at around 1504hrs late in the afternoon on the 3rd day of April 2023, attended by a total number of eighteen people, eleven males and seven females. According to the Constitution of Zimbabwe it states that ages eighteen-to thirty-five are considered as youth. Therefore, this stakeholder meeting was attended by five youths between the age of twenty-six and thirty-five and thirteen adults between the age of thirty-seven and seventy-eight. However, this indicates that there was 74% rate of adults and 26% of youth who attended the meeting. In terms of Gender this meeting was more attended by males than females and this highlights less women and youth involvement in community development. Nevertheless, stakeholders welcomed the project as it will boost in KMC mining production and community development in the area.

5.6.1 RECOMMENDATIONS

- Women to participate equally as men in stakeholder consultation process to promote and enhance full community engagement.
- Youths are also encourage to participate in such community meetings so that they cannot be omitted by information that is most likely to benefit them.

Table 5.2: Key issues raised by stakeholder at Kamativi Old Terminus Ward 11

ISSUES/CONCERN	DETAILS	MITIGATION/RESOLUTION MEASURE PROPOSED BY THE COMMUNITY
Development in the area	Locals raised a point of infrastructural development in their area for example electrification of schools to improve technology	KMC to install transformers so that local schools also benefit power from the proposed line
Will the community be able to get Zesa?	The stakeholders wanted to know if they were going to benefit electricity from the 88kv power transmission line.	KMC to consider installation of transformers for the locals to gain electricity for their homesteads.
Employment	Stakeholders highlighted issue of investors employing non locals more than locals	The community shall engage the proponent to be given the first preference of jobs, especially unskilled labour like way leave clearing.

5.7 STAKEHOLDER ENGAGEMENT MEETING IN NEKATAMBE WARD 13

This section provides the outcomes of the stakeholder engagement consultation process in Nekatambe ward 13 at Dinde project centre where the line passes through. Different stakeholders met and discussed key issues regarding the 88kV power transmission line project. The stakeholder consultation was held at Dinde project centre at around 1100hrs in the morning on the 13th day of April 2023. Fifteen people attended the meeting, thirteen males and two females. During the meeting they were no youth only adults attended the meeting and these adults ranged from thirty-seven to eighty years of age and they had 100% attendance rate and the youth had a 0% attendance rate. The stakeholder consultation register showed that they were more males than females due to different reasons. Community members welcomed the project as they gave positive remarks that the project will the local communities through electricity which will boost mining production leading to creation of employment and creation of access routes that can be used by the community later after the project.

5.7.1 RECOMMENDATIONS

- Women and youth are strongly encouraged to participate in community meetings as their concerns and opinions are valued in the decision making.
- Patriarchal systems should not hinder women to participate in stakeholder consultation meetings.

Table 5.3 shows key issues raised by stakeholders at DINDE PROJECT CENTRE in NEKATAMBA ward 13

ISSUES/CONCERN	DETAILS	COMMUNITY PROPOSED MITIGATION/ RESOLUTION MEASURE
Employment	Stakeholders emphasized on 80% employment of locals and 20% of non-locals	When it comes to employment, first preference to be given to locals.
How far is the line from homesteads?	The stakeholders wanted to know if the line will not cause any destruction to the community homesteads.	The consultant assured the locals that the line shall not be less than 30m away from each homestead.
Disruption of cultural norms	Community members were worried about cultural dilution hence stressed a point on protecting their cultural norms through employment of locals.	Stakeholders proposed that the traditional leaders should be engaged throughout the project construction phase.
Violation of labour laws	Villagers wanted investors to stop the violation of labour laws whereby they do not pay workers and does not take the workers safety into consideration as they do not provide workers with the required PPE.	Villagers proposed that workers should be paid adequately and in reasonable times. They should also be provided with adequate PPE.
Infrastructural development	Locals stressed a point of infrastructural development in the	The proponent shall consider installation of boreholes for the

	area that includes drilling of boreholes and rehabilitation of roads.	local communities and rehabilitation of roads.

5.8 STAKEHOLDER ENGAGEMENT MEETING IN WARD 20

On the 13th day of April 2023 a meeting was conducted in ward 20 at Lukosi Shops at around 1100hrs in the morning with various stakeholders from the community in a bid to discuss the impacts of the proposed project. A total number of seventy-six people attended the meeting with a total of thirty-seven males and thirty-nine females with a total number of six youths. The attendance rate for the meeting was 92% for adults' attendance and 8% for the youth. According to the statistical calculations on attendance rate shows that they were more females than males. The villagers gave positive remarks towards the project as they praised the project that it would bring employment creation to locals and the improvement of power supply in the community.

5.8.1 RECOMMENDATIONS

Recommendations that can be made on the above meeting at Lukosi is that males are encouraged to attend meetings and as well the youth are also encouraged to attend and participate in the decision making during the meeting proceedings.

Table 5.4 Key issues raised by stakeholder at Lukosi Shops in ward 20

ISSUES/CONCERN	DETAILS	MITIGATION/RESOLUTION MEASURE PROPOSED BY THE COMMUNITY
What if the line passes through a homestead	The stakeholders wanted to know if the line was going to cause any destruction to the community homesteads	The community proposed that the power line will have to divert whenever it approaches a homestead to avoid destruction of the community house.
Infrastructural development	During the meeting the community highlighted that they need their road to be constructed as part of CSR after the project	The proponent will be advised to construct the road as part of corporate social responsibility
Employment of non-locals	Headmen Lukosi (Joseph Change) articulated that the employment of non-locals will lead to cultural dilution thereby causing some changes in the way of living of the community members.	Community stakeholders proposed that the proponent should employ many locals as possible to eradicate cultural dilution in the society.

5.9 INDIVIDUAL STAKEHOLDER MEETINGS

Engagements were held with different governmental departments in the district with an oversight responsibility of general district development al issues and all necessary departs in the district. These includes officials from the following departments Land Management and Administration Department (Hwange district office), ZIMPARKS (Hwange Regional Office), Ministry of Health, Forestry Commission, Ministry of Youth, District Administrator (Hwange office), Ministry of Women Affairs, Councilors, Village Head, Headman, ZRP, Chief Nekatambe and other organisations such as Zamezi gas

and coal mine company. Furthermore the meetings were done separately because the departments were dispersed in the district.

Table 5.5 Key issues raised by governmental stakeholders

STAKEHOLDERS CONSULTED	IMPACTS RAISED	MITIGATION MEASURES
Ministry of Health	• Employment creation • Boost production at Kamativi Mining Company • Loss of vegetation during clearance • Possible displacement of people	• Divert the line when approaching homesteads • Compensate the affected people
Ministry of Women Affairs	• It increases power efficiency at high voltage levels. • It also reduce the power losses (especially line losses) • Transmission line construction will cause disturbances of row soils and vegetation through the movement of people and vehicles along the row roads and lay down areas.	• Plant vegetative plants to block views of the line leaving the row in a natural state and so to provide wildlife habitat
Department of lands	• Activation of the whole mining processes • Employment creation • Creation of access routes to remote areas due to construction	• No mitigation measures
Zimbabwe Republic Police (ZRP)	• Employment to the local communities. • Minimize crime rates • The line will pass through local community properties causing disgruntlement amongst those affected.	• Local leadership engagement and the community • Specifically engage the people that are affected by the project.
Ministry of Youth	• Creation of employment • Poverty reduction • Infrastructure development • Land degradation • Air pollution • Deforestation	• Need for rehabilitation • Need for conducting afforestation programs.
Forestry Commission	• Infrastructure development • Employment creation • Power supply improvement • Cutting down of trees • Destruction of ground cover	• Planting of tree and ornamentals in the district to replace the destroyed flora.

District Administrator	• More electricity to the locals thereby reducing power cuts or load shedding	• No mitigation measures
ZIMPARKS	• Provision of electrical power supply to a mining company which benefits national economy • Provision of electrical power supply to local communities in surrounding areas to the Kamativi Mining Company and other sectors. • Employment creation of skilled and unskilled personnel from the local communities during the course of the project • Increased security in the area • Loss of biodiversity • Habitat fragmentation • Pollution during installation of transmission line • Soil erosion from land clearance • Power line may results in land use restriction along access routes • Dangers of electrostatics and electromagnetic fields	• Planning and careful placement of the transmission steel H poles and installing markings to reduce risk of bird collision • A monitoring plan can be developed for periodic monitoring of environmental performance indicators during operational and maintenance activities
Councillor ward 11	• The project will improve business sector and institutions like schools and hospitals.	• No mitigation measures
Councillor ward 14	• Employment creation • It boost lithium mining in Kamativi Mining Company	• No mitigation measure
Headman Lukosi ward 20	• Employment creation • Boost Kamativi Mining Company production • Employment creation for non-locals will lead to cultural dilution	• Employ locals by all means.
Headman Mafimba ward 13	• Economic development enhancement • Employment creation	• No mitigation measure
Headmen ward 14 (LAMBO village)	• Employment creation especially during way-leave clearance	• 80% employment to the locals.

	• Firewood benefit from trees cut during way-leave creation • Employment of non-locals • Deforestation	
Chief Nekatambe	• Employment creation • Improves or boost production at Kamativi Mining Company.	• No mitigation measures
Zambezi Gas & Coal Mine	• Renewable energy integration. • Improved grid reliability. • Facilitating rural electrification. • Economic growth and job creation. • Increased energy access • Reduced transmission losses. • Support for industrial development • The new transmission line can enhance the resilience of the electric grid against natural disaster and other disruption. • Habitat disruption for small insects and other animals. • Vegetation loss during wayleave clearance • Transmission towers and power lines can alter the visual landscape, particularly in scenic or natural areas, diminishing their aesthetic value. • The presence of power transmission line near residential areas can lead to decreased property values due to perceived health risk • Land use restriction • Noise during construction phase.	• Implement regular vegetation management along the transmission line corridor. • Adopt measures to protect wildlife • Implement erosion and sediment control measures • Involve local communities and stakeholders in the decision making process. • Provide fair compensation to landowners affected by the transmission line • Employ visual mitigation techniques such as using appropriate tower designs. • Implement noise reduction measures during construction. • Prioritize local employment opportunities during construction. • Explore opportunities for sharing infrastructure with existing linear infrastructure. • Develop a comprehensive maintenance and monitoring plan to ensure the longevity of the transmission line. •



Plate 5.1: Part of stakeholder meeting at Dinde Clinic



Plate 5.2: Showing a presentation by the consultant to the proponent on the line route

Various government officials were consulted as well as other people in the vicinity of the project area and those who are outside the jurisdiction of the project location but there are near the project site as a result there are prone to the negative effects which the project might cause such as pollution and land degradation.

The following is a list of stakeholder cohorts, the key stakeholders that were reached during the consultation tour and the justification for consulting them.

Table 5.2: List of stakeholder classes consulted and justification for consultation

STAKEHOLDER CLASSES	STAKEHOLDERS CONSULTED	JUSTIFICATION FOR CONSULTATION
Locals	Community,	They are affected by both the positive and the negative effects, however there are a handful homesteads near the project site which belongs to farmers.
Government Departments	ZETDC (HQ offices)	They are a crucial stakeholder because electricity will be used as a key source of energy during the project construction and operation period.
	Ministry of women affairs.	In order to ensure gender equality and also because women are included in the workforce during construction and after project completion hence their views are equally important. It also ensures an evidence based and participatory decision making.
	Zimbabwe Republic Police.	As a national force it plays an important role in ensuring safety and security management during the project. Therefore, they are a key stakeholder to this project hence leading to effective decision making.
	Forest Commission	Forestry commission plan and help in the management of land conservation and rehabilitation, in this project it is identified as a key stakeholder in helping managing land during the project flow.
	ZIMPARKS	Zimparks is an important stakeholder with a mandate of conserving wildlife heritage through protection and sustainable utilization of natural resources.
	Ministry of Health	The have to be consulted so that they give their views on the issue of health of the workers and how the project can operate at minimum health hazardous conditions.
	Ministry of Youths Sports, Arts and Recreation	The workforce which is going to be needed at the project will include young ladies and gentlemen which will be mostly the youths which makes the ministry a key stakeholder.
	Councillor	The councillor oversees ward in which the project is located therefore it is important to notify him

STAKEHOLDER CLASSES	STAKEHOLDERS CONSULTED	JUSTIFICATION FOR CONSULTATION
		about projects which are to happen in his jurisdiction.
	Chief	Chiefs are of important in organizing the village administration, carrying out village development, fostering village community, and empowering the village community
	Village Head	The village head are of importance in the project because they help investors to maintain law and order in the village as well as protecting areas of cultural significant.

5.6 ANALYSIS OF FINDINGS

The graphical presentation below is a summarized and consolidated concerns that were raised and recommendations that were given to the proponent through the consultant. Raw comments enshrined in the questionnaires and minutes are premised in Appendix B of this ESIA report.

5.6.1 VULNERABLE PEOPLE EXPECTATIONS

Engagement of vulnerable groups that include women and orphans unearthed a number of issues that provided under the following themes.

5.6.1.1 PEOPLE WITH DISABILITIES

None of the people with disabilities were consulted separately.

5.6.1.2 ELDERLY OR YOUTH

The elderly were much concerned about the line route if it was going to displace a lot of people and it was addressed that the line route will not interfere with homesteads rather the line route would be diverted when approaching homesteads. They also proceeded, advising the proponent on employing local youth as a way to improve the living standards of people in the area and alleviate poverty in the area. Village heads also requested for the donations of solar batteries to both village heads and councillors. They were also concerned about the electrification of rural schools to upgrade the rural education, allowing students to gain the confidence in the modern technologies.

5.6.1.3 INDIGENOUS PEOPLES, ETHNIC OR RELIGIOUS MINORITIES

Indigenous people are a group of people with culturally distinct, whose members are directly descended from the earliest known inhabitants of a particular geographical region and to some extent, maintain the language and culture of those original peoples. The project site is also mainly dominated by different cultures who speak in different languages that include Nambya, Tonga, Ndebele and a few Shona speaking people who are from other provinces.

5.6.2 OVERALL STAKEHOLDERS FEEDBACK

The main issue raised by the government officials such as Chief Nekatamba and Ministry of youth gave positive remarks towards the project that the project will bring in the creation of employment for the locals and hence boost production at Kamativi Mining Company. The stakeholders through the

consultation stressed the need for the proponent interference in developing the infrastructure in the locals and as well contribute to charity. They firmly highlighted the need for prioritizing the locality when it comes to employment creation as they outlined the positive impact of the project of employment creation. The bar-graphs below were driven from the collected information during the consultation of the local residents, leaders and government office.

5.6.2.1 NEGATIVE IMPACTS

Government officials and other stakeholders outlined various negative impacts which are likely to be caused by the project, such as deforestation, land degradation employment of non-locals and pollution during project construction phase. Figure 5.1 below shows the negative impacts presented graphically.

The graphs are highlighting both the positive and the negative impacts the project may have on the community and the environment as well as the expectations of the people from the proponent through corporate social responsibility.

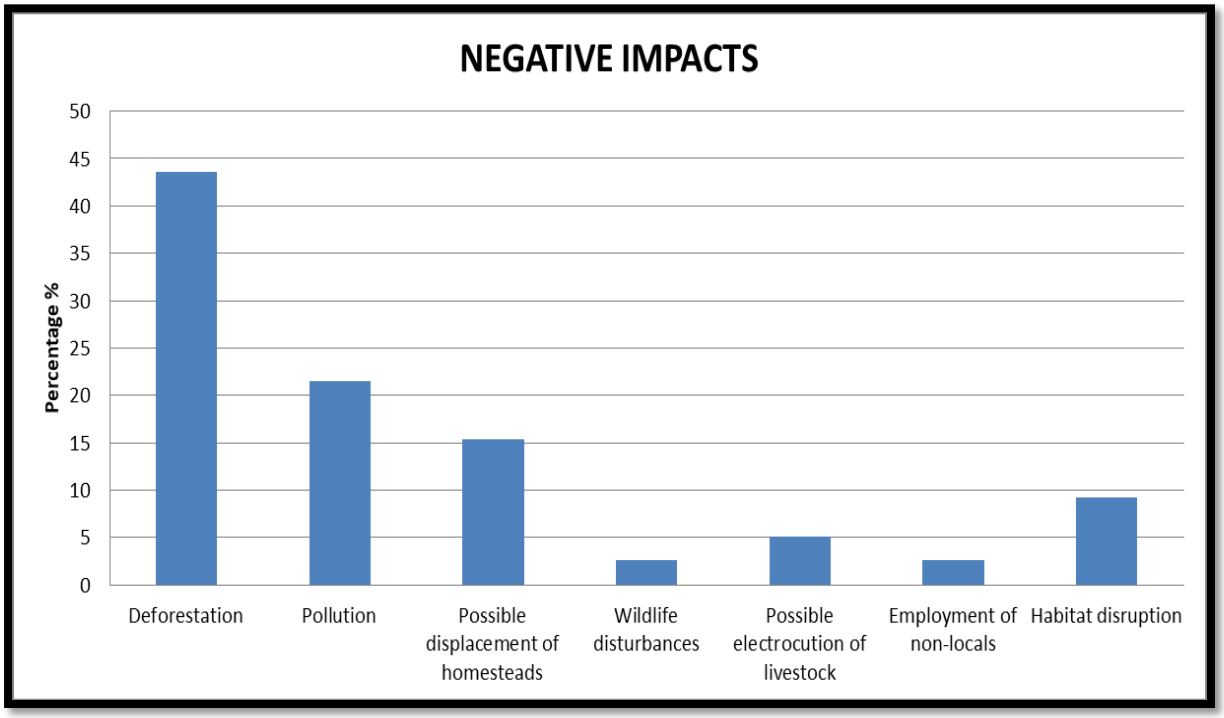


Figure 5.1: Negative impacts bar graph

5.6.2.2 POSITIVE IMPACTS

Despite the negative impacts above, various positive impacts were also raised through stakeholder meetings which were held. The bar graph in figure 5.2 to follow shows positive impacts as perceived by the various stakeholders that were consulted which include employment creation to locals, improved power supply and boosting of production at Kamativi. Most of the positive impacts are directly linked to the stakeholders' intentions for instance; employment creation.

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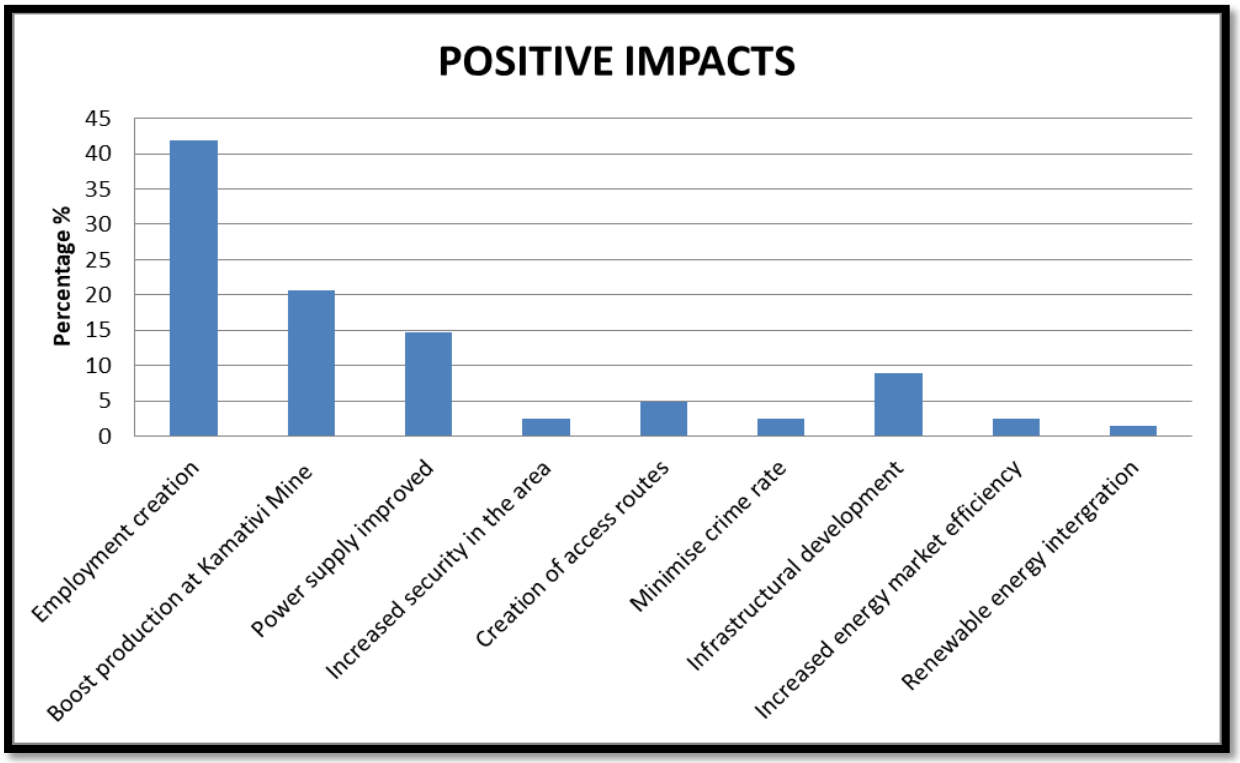


Figure 5.2: Positive impacts bar graph

5.6.2.3 CORPORATE SOCIAL RESPONSIBILITY AND OTHER ISSUES

Once the project has been a success the proponent is expected to contribute to the community in terms of corporate social responsibility (CSR). The areas that need to be improved were outlined during the stakeholder meetings Figure 5.3. Below is a graph which shows the list of issues that were raised as Cooperate Social Responsibilities by consulted stakeholders such as infrastructure development, the replacement of carbon stock since Kamativi have a lot of mining activities that needs that carbon stock. These translate to improved standards of living.

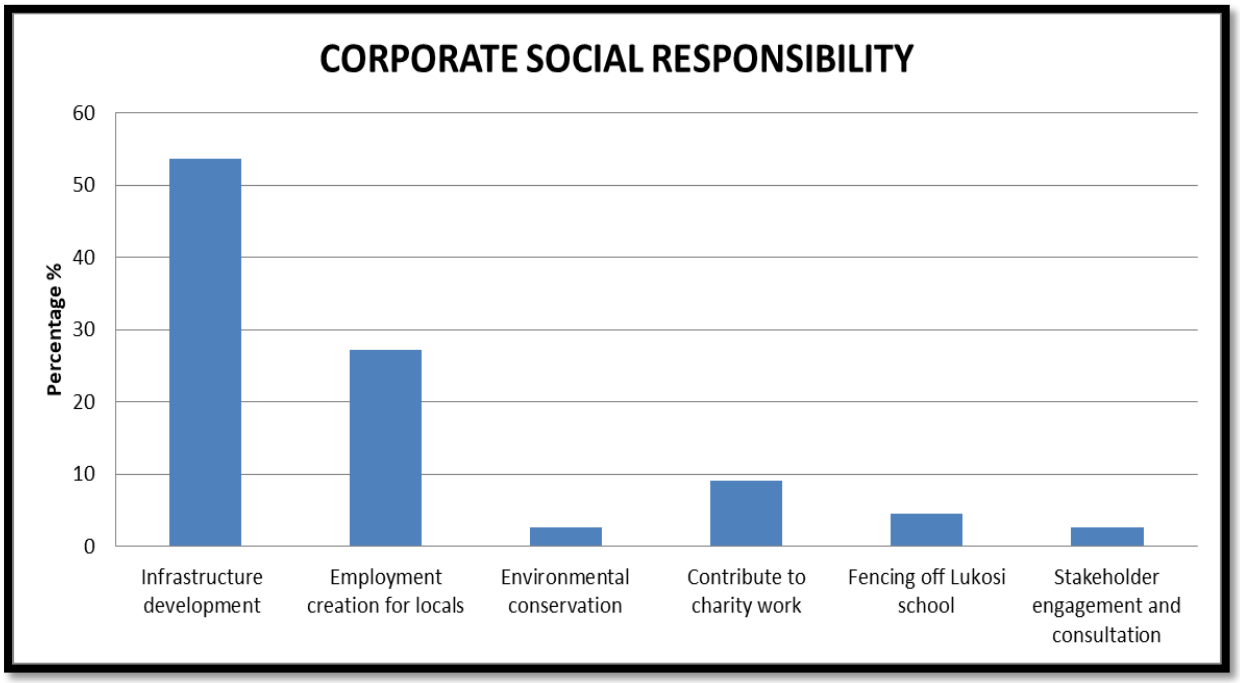


Figure 5.3: Corporate social responsibility (CSR) focus bar graph

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CHAPTER 6: ENVIRONMENTAL & SOCIAL IMPACT ASSESSMENT

The process of impact assessment has two major components namely impact analysis and impact evaluation. Each of the components is discussed in this chapter. Impact assessment and evaluation form the basis of environment management by ranking various impacts and thus, apply various measures to mitigate the impacts. Mitigation is meant for significant impacts that are further discussed in the ESMP chapter of this ESIA report. This chapter is based on mitigation hierarchy. Mitigation is vital to the process of ESIA, because it ensures that the adverse environmental impacts of a developmental project are minimized or completely avoided. Mitigation comes with a variety of levels, and this is commonly called as "mitigation hierarchy" in ESIA literature. In this post, I'll be talking in detail about this hierarchy, and the concept of offsets in the developmental project. The mitigation hierarchy consists of five (5) steps that an ESIA team can take to successfully mitigate environmental impacts in the project site:

1. **Avoidance:** This is the first step in the mitigation hierarchy. It is the complete mitigation of an impact, by preventing it from happening. It is obviously the most preferred form of mitigation, because it ensures no environmental damage.
2. **Minimize:** Here, the proponent recognizes that the environmental impact cannot be completely side-stepped; instead, they take steps to ensure minimal damage is done to the environment.
3. **Rectify:** Rectification of an impact implies that the impact has already happened; what we are doing now is damage control. In a way, rectification allows us to correct the mistake that led to the adverse environmental impact.
4. **Reduce:** If rectification is not possible, we reduce the extent of the impact through management practices and/or change in our methodology. It is when even reduction is not possible that we go for the final step of the mitigation hierarchy-environmental offset.
5. **Environmental offset**: This is commonly defined as actions taken outside of the development site to compensate for residual impacts in the development site. In effect, this means that the development authorities undertake environment conservation activities to compensate for what they do in order to achieve "no net environment loss", or more specifically "no net biodiversity loss". The hierarchy begins from the most beneficial method of mitigation and goes on to the least beneficial method of mitigation. Figure 6.1 below shows the hierarchy.

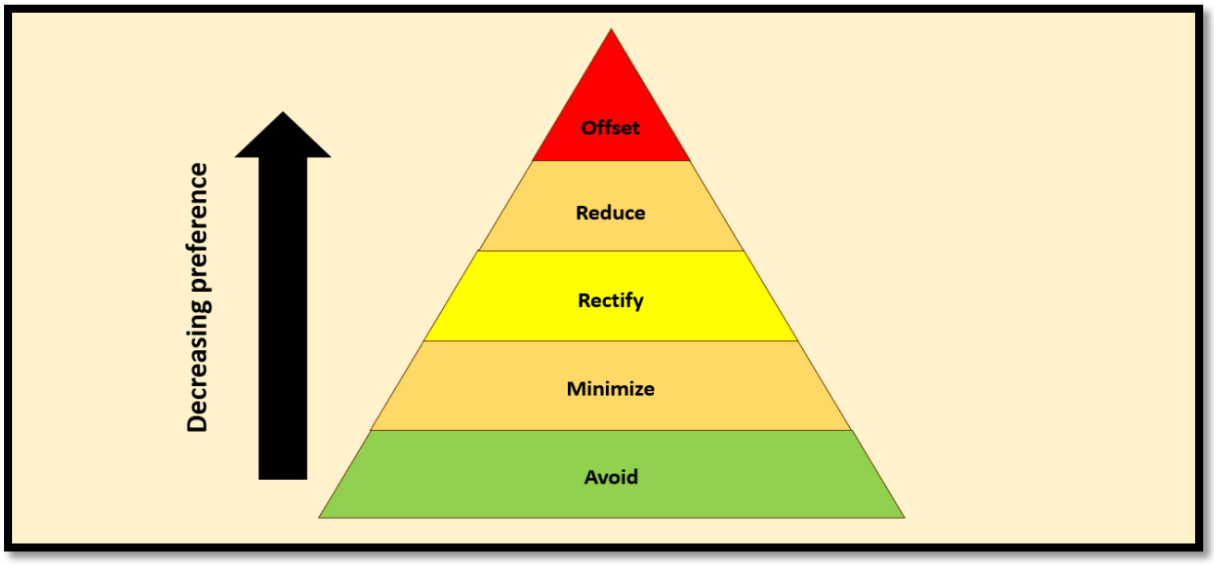


Figure 6.1: Mitigation hierarchy

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6.1 IMPACT ANALYSIS

Following identification of the various potential social, health and environmental impacts through public consultation (chapter five) and literature review an impact analysis and evaluation framework is established. The framework looks at the impacts under the following aspects;

a) **Nature of the impact:** This dimension reveals if the impact is direct or indirect, cumulative or instantaneous and whether the impact is positive or negative.
b) **Magnitude:** This parameter discusses the intensity of the impact, whether it is low, moderate or high intensity.
c) **Extent / Scale:** The extent gives the quantitative aspects of the impact and the spatial distribution of the impact.
d) **Timing:** This shows when the impact would occur in terms of the project life cycle.
e) **Duration:** The parameter reveals whether the impact is short term or long term, intermittent or continuous.
f) **Permanence:** This tells whether the impact in question is reversible or irreversible. In the table to follow permanence is categorised into three classes namely, permanent, semi-permanent and temporal.
g) **Likelihood:** This tells us the probability of the impact occurring.
h) **Significance:** This quantifies the overall value of the impact after Extent **(E)**, Duration **(D)**, Probability **(P)**, Severity **(S)**, Acceptability **(A)** and Mitigatory potential **(M)** of the impact is considered. There is a numerical value calculated by the equation below.
i) **Residual Impact:** This is a general measure of effectiveness of mitigation exercise. Residual impacts are those that remain after the mitigation process has been administered to the impact.

The analysis of the environmental impacts is focusing on the entire project life; from planning to decommissioning phase.

6.2 IMPACT ASSESSMENT

Following the identification and analysis of potential environmental impacts, this section focuses on the evaluation of the significance of the identified impacts and the impact of the potential remedial action or enhancement measures. As indicated in the impact analysis, this evaluation only focuses on the impacts arising from the planning, construction, operation and decommissioning phases of the project. A systematic process was followed in evaluating significance, distinguishing between 'as predicted' and 'residual' impacts.

1) This first step involved evaluating the significance of 'as predicted' impacts to define the requirements for mitigation and other remedial actions.
2) The second step involves evaluating the significance of the 'residual' impacts, i.e. after mitigation measures are taken into account. This test is the critical measure of whether or not a proposal is likely to cause significant impacts. It is determined by the joint consideration of its characteristics (magnitude, extent, duration etc.), that is intensity and the importance (or value) that is attached to the resource losses, environmental deterioration or alternative uses which are foregone.

Firstly, a technical objective judgment was made to measure the extent to which mitigation will reduce 'as predicted' impacts. Secondly, a subjective value was placed on the significance of residual impacts, using criteria and tests described in the table below. Assessed significance is found as a product of intensity and importance as given below by the mathematical equation below;

Extent + Duration + Probability + Severity + Importance = Significance

In the above equation, intensity refers to the quantitative characteristics (magnitude, frequency of occurrence, duration) of the impact while the importance is based on value that the affected stakeholders place on the impact. Intensity is based on facts on the impact while the attached importance is quite subjective and is so much influenced by the perceived value. The following key will be used in the allocation of significance and importance to each and every impact.

Table 6.1 Key for impact intensity, importance and significance

ASSESSMENT CRITERIA	Rating	INTERPRETATION OF RATING	CODE
1 Extent/Scale	Low	Impact will be limited to the site	1
	Medium	Impact will be felt on the region	3
	High	Impact will be felt on the provincial, national and international regions	5
2 Duration	Short term	Lifespan of impact: less than a month	1
	Medium term	Lifespan of impact: between a month and 6monts	3
	Long term	Lifespan of impact: more than 6months	5
3 Probability	Improbable	Likely to occur once per year due to history and design	1
	Probable	Likely to occur monthly	3
	Highly probable	Likely to occur weekly or more - continuous	5
4 Severity	Low	Minimum effect on the environment	1
	Medium	Medium effect to the environment	3
	High	The impact is highly severe to the host environment	5
5 Importance	Low	People do not value the impact so much	1
	Medium	The local stakeholders slightly value the impact	3
	High	The community is highly affected by the impact and it values such that its presents is easily felt	5
6 Mitigatory potential	Low	No or little measures in place to mitigate impact	1
	Medium	Potential to mitigate negative impacts. However, the implementation of mitigation measures may still not prevent negative impacts	5

ASSESSMENT CRITERIA	Rating	INTERPRETATION OF RATING	CODE
	High	High potential to mitigate impacts to the level of insignificant effect	10
7 Enhancement potential	Low	No or little measures in place to enhance the positive impact	1
	Medium	Potential to enhance positive impact. However, the implementation of enhancement measures may still not raise the significance to a significant level	3
	High	High potential to significantly enhance positive impact to very high level.	5
8 Significance	Low	5-12	
	Medium	13-19	
	High	20+	
9 Residual impact	Low	5-12	
	Medium	13-19	
	High	20+	

The conventional classification was applied for both the positive and negative impacts with the only difference being that, when considering positive impact, enhancement measures will be applicable while mitigation was applied to negative impacts. The "as predicted significance" pertains to unmitigated negative impacts and also level of positive benefit had before the enhancement measures. The residual significance refers to the magnitude of negative impacts that remain even after mitigation and also refers to the level of positive benefit after the enhancement measures are implemented in this project.

As aforementioned, this aspect is calculated from Predicted significance and available practical mitigation plan. For negative impacts the residual impact is computed by the formula below. If mitigation is significantly high, it can reduce the overall significance to acceptable levels. It should be noted that for positive impacts yellow and red colours are the most favoured however, for negative impacts green colour is the most favourable for it shows the lowest level of negativity of the impact.

Predicted significance (S) – Mitigation (M) = Residual impact

In the case of positive impacts we don't talk of mitigation, rather, we talk of enhancement measures aiming to improve the positive impacts. If the enhancement value is big enough, it can ensure a significant increase in the predicted significance of the positive impact. The equation below models how residual impact under these circumstances can be calculated. It should be noted that for positive impacts yellow and red colours are the most favoured.

Predicted significance (S) + Enhancement (En) =Residual impact

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Table 6.2 Positive Impacts analysis and evaluation

IMPACT		BACKGROUND	TIMING	ENHANCEMENT REQUIRED	PREDICTED SIGNIFICANCE						RESIDUAL IMPACT	
					EXTENT	DURATION	PROBABILITY	SEVERITY	IMPORTANCE	SIGNIFICANCE	ENHANCEMENT	SIGNFICANCE
1.	Employment creation.	Pronounced benefits since a significant number of people has been employed for the project.	Occurs continuously during construction and operation phase.	Proponent shall employ locally available non-professional staff. Technical staff should come from Zimbabwean graduates from all over the country but, with first preference given to the hosting province.	3	3	5	3	5	19	3	22
2.	Increase in power and other amenities in the communities	Pronounced since the project feed a 132kV powerline	Occurs once during the construction phase of the project	The proponent should ensure that the locals also benefit from this project either by a sound Corporate Social Responsibility contribution or other schemes.	1	5	3	3	3	15	3	18
3.	Control of veld fires by wayleaves	This is significant considering that the 77.8km way-leave that shall be maintained will serve as an effective fire-guard	Occurs continuously during the construction and operational phase of the project	The way-leave should be maintained at a most feasible maintenance schedule.	1	5	3	3	3	15	3	18

IMPACT		BACKGROUND	TIMING	ENHANCEMENT REQUIRED	PREDICTED SIGNIFICANCE						RESIDUAL IMPACT	
					EXTENT	DURATION	PROBABILITY	SEVERITY	IMPORTANCE	SIGNIFICANCE	ENHANCEMENT	SIGNFICANCE
4.	Corporate Social Responsibility.	Applies directly to the hosting community.	Occurs continuously throughout the operational phase.	Regular meetings should be conducted between local community and the proponent to address areas of possible corporation.	3	3	3	3	5	17	3	20
5.	Reduction in deforestation and emissions emanating from fossils fuels	Directly benefit the local community and the nation at large	Occurs continuously throughout the operational phase.	This electricity should be sold at affordable rates so that the poor can switch to electricity thus leaving forests undisturbed.	3	5	3	3	3	17	1	18
6.	Creates downstream investment opportunities in host communities.	Directly benefits the whole community around the project site.	Occurs continuously during construction and operational phases.	Establishment of downstream business networks such as maintenance, cleaning services and etc. Downstream businesses should benefit the very local community first.	1	3	1	1	5	11	3	14
7.	Contribution to GDP from revenue. Remitted to the	Directly benefits the nation and local authorities.	Occurs during operation phase of the project	The proponent should ensure that all revenue is remitted to the government. Some corruption free policies should be adopted for the organisation in a bid to seal revenue leakages.	3	5	3	3	5	19	3	22

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IMPACT		BACKGROUND	TIMING	ENHANCEMENT REQUIRED	PREDICTED SIGNIFICANCE						RESIDUAL IMPACT	
					EXTENT	DURATION	PROBABILITY	SEVERITY	IMPORTANCE	SIGNIFICANCE	ENHANCEMENT	SIGNFICANCE
	Government by the proponent.											
8.	Infrastructural development	High since access routes, and the transmission line will be opened.	Occurs in the implementation stage and lasts for the life of the infrastructure developed.	Infrastructures to be developed in the area should conform to the council standards and planning. Development should address people's needs and wishes	1	5	1	3	1	11	3	14
9.	Building material suppliers shall benefit through improved sales	This is definite considering the fact that the project shall involve purchase of cement, towers, and other materials	This shall be realised during constructional phase of the project.	The proponent should prefer materials supplied by the local community to the same products that may be supplied by distant areas.	1	3	3	3	5	15		15

Table 6.3: Negative impacts analysis and evaluation

IMPACT		BACKGROUND	TIMING	MITIGATION REQUIRED	PREDICTED SIGNIFICANCE						RESIDUAL IMPACT	
					EXTENT	DURATION	PROBABILITY	SEVERITY	IMPORTANCE	SIGNIFICANCE	MITIGATION	SIGNFICANCE
1.	Destruction of vegetation and habitat for fauna	Directly affect the host ecosystem particularly targeting the way-leaves	Occurs in the construction phase and during maintenances.	Destruction of vegetation and habitat to be confined to specific project areas and revegetation shall be part and parcel of the decommissioning plan. The proponent should undertake compensatory re-afforestation.	1	5	5	3	5	19	5	14
2.	Dust from excavation of foundations and movement of equipment	Directly affect employees and vegetation	Occurs continually during construction phase of the project	The proponent shall continue to carry out dust suppression measures such as sprinkling of water. Wet the roads within heavily populated public places. Enforcement of speed limits in some areas is important to address dust challenges	1	1	3	3	5	13	3	10
3.	Wild and domestic animals may fall in pits	Directly affects Game Parks and other conservative areas.	Occurs incidentally during the construction phase	Some safety tapes or nets should be installed around each and every pit.	1	1	3	3	5	13	3	10
4.	Traffic accidents with	Directly affects the local environment and the community	Accidentally in the implementation and operation phase	General caution when driving, giving way to animals and speed control, there should be proper signage to be installed on the road.	1	5	3	1	3	12	3	9

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IMPACT		BACKGROUND	TIMING	MITIGATION REQUIRED	PREDICTED SIGNIFICANCE						RESIDUAL IMPACT	
					EXTENT	DURATION	PROBABILITY	SEVERITY	IMPORTANCE	SIGNIFICANCE	MITIGATION	SIGNFICANCE
	domestic or wild animals											
5.	Disruption of wildlife by disturbance and poaching	Directly affect the local community and ecosystems	Occurs during construction and implementation of the project	Workers should not provoke animals and they should avoid direct passage through animal resting places in the project area.	1	5	3	3	5	17	3	14
6.	Horizon pollution (visual intrusion impact).	Directly affect neighbouring residence who are not yet used to the obstruction.	Occurs continually during operation phase of the project	The proponent should adapt to natural colours and blend with the host topology. Violent paints should not be used since this would beef up the level of negativity of this visual impact.	1	5	5	3	3	17	5	12
7.	Noise from the heavy vehicles during construction.	Directly affects the employees and wild animals living within the project site's ecological unit.	Occurs intermittently during the construction process.	• The proponent shall employ sound safety and health measures for the benefit of the workers. • Unnecessary hooting by construction vehicles and equipment should be avoided.	3	3	3	3	3	15	3	12

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IMPACT		BACKGROUND	TIMING	MITIGATION REQUIRED	PREDICTED SIGNIFICANCE						RESIDUAL IMPACT	
					EXTENT	DURATION	PROBABILITY	SEVERITY	IMPORTANCE	SIGNIFICANCE	MITIGATION	SIGNFICANCE
8.	Generation of waste oils	These oils include maintenance oil, lubricants, oily rags Office wastes (food, papers etc.)	Occurs intermittently during the construction and operational phase.	• There should be an effective waste management plan • Segregation and recycling of waste oils should be done • Hazardous wastes should be properly contained and stored for proper disposal	1	5	3	5	5	19	3	14
9.	Oil spills and escape of SF6 gas to the environment	This is probable considering the SF6 gas is found the breakers at a substation	Occurs intermittently during operational phase.	• The proponent should contain oils spills • Contaminated soils and water should be treated	1	5	3	3	3	15	3	12
10	Increase in demand for social services such as; health and police services.	Most probable considering that a number of people shall be employed by the project	Occurs continuously and significantly during the construction and operational phase.	Contractor should have first aid kits to address health emergencies that may erupt during the construction and operation of the project.	3	3	3	1	5	15	3	12
11	Cultural dilution as a result of coming in of foreign labour force.	Directly affects local culture if the contractor employs labour force from other places.	Occurs during construction and operation phase of the project	Employment of the locals as professional and non-professional staff will help reduce cultural erosion.	3	3	3	3	5	17	5	12

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IMPACT		BACKGROUND	TIMING	MITIGATION REQUIRED	PREDICTED SIGNIFICANCE						RESIDUAL IMPACT	
					EXTENT	DURATION	PROBABILITY	SEVERITY	IMPORTANCE	SIGNIFICANCE	MITIGATION	SIGNFICANCE
12	HIV and AIDS proliferation.	Directly affects that employees and the host community.	Occurs Intermittently during construction phase.	Raise awareness on self-control, integrity and HIV and AIDS before the project starts. Make announcements to the community to expect such foreigners in their territory.	1	5	1	3	3	13	3	10
13	Possibility of veld fires on site.	Directly affect vegetation and animals in the area. There is high likelihood of veld fires because the project area is half covered in grass.	Accidentally in the implementation and operation phase of the project	Establishment of fire guards around the premises and induction of workers on veld fire management and control. Construction should be done in seasons with low risk of veld fires.	3	3	1	3	5	15	3	12
14	Possibility of soil erosion from excavated soil stock-piles.	The soils are lose and the project area receives heavy rains during the rainy season.	Occurs continuously during the construction phase of the project.	All excavated soils should be backfilled and spread across deep areas and compacted before it is washed away by rains.	1	3	3	1	5	13	5	9
15	Siltation of rivers / dams	There is a river that will be crossed over by the powerlines.	Occurs in the implementation stages (land clearing),	No excavated soil should remain loose on the surface for days especially during rainy season. Proper drainage system should be installed.	3	1	3	1	5	13	3	10

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IMPACT		BACKGROUND	TIMING	MITIGATION REQUIRED	PREDICTED SIGNIFICANCE						RESIDUAL IMPACT	
					EXTENT	DURATION	PROBABILITY	SEVERITY	IMPORTANCE	SIGNIFICANCE	MITIGATION	SIGNFICANCE
16	Increase of water usage	This is very significant considering the fact that a lot of water will be used during the project processes.	This occurs during the operation of the plant.	The building contractors and shop users should ensure that they limit their water usage by practising best applicable resources efficiency methods.	1	1	3	3	3	14	3	11
17	Occupational Health and Safety risks	Directly affect employees that shall be involved especially in construction.	Occurs in the construction phase of the project.	Use safe construction methods. Provide adequate and appropriate personal protective equipment for employees during the construction stages.	1	3	3	3	5	15	3	12
18	Possibility of electrocution	Direct effect on the local people bordering transmission line	Occurs continuously in the operational phase	• The proponent should advice the local communities on dangers associated with stealing transformer oil. • A razor-wire fence and a security guard should be guard the switch station	1	5	3	3	5	17	3	14
19	Air pollution due to ionisation of air (corona dis-charge)	This is probable considering that corona discharge produce SO_2, NO_2 and O_3 into the atmosphere	This occurs continuously during the operational phase of the project.	The proponent should use conductor insulators. However, there is nothing much that can be done to ameliorate corona effects.	1	5	5	3	3	17	5	12

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					EXTENT	DURATION	PROBABILITY	SEVERITY	IMPORTANCE	SIGNIFICANCE	MITIGATION	SIGNFICANCE
20	Possible accidental injury from (Electro Magnetic Field) EMF	This affects employees working around energized equipment	This occurs continuously during the operational phase of the project	The mitigation is proper technical designs according to international standards (IEC)	1	5	5	3	5	19	3	15
21	Disturbance of bird flow in the game parks.	Directly affects surround game community and wildlife territories	Occurs continuously during the operational phase of the project.	Bird diverters should be put in place to ensure that birds see the transmission line and reduce risk of collisions.	1	5	3	3	3	15	3	12
22	Fire hazard from shaken pylons	Probable and highly significant considering the fact that the transmission line passes through game parks with elephants	Occurs continuously in the operational phase	The pylons should be netted by razor-wire fence to deter elephant and buffalos away. Right type of the pylons that withstand shaking should be used	1	5	3	3	5	17	3	14
23	Risk to lightning	Probable and highly significant considering the fact that the	Occurs continuously in the implementation	• Tower erection should not be done during wet weathers.	1	5	1	3	5	15	3	12

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IMPACT		BACKGROUND	TIMING	MITIGATION REQUIRED	PREDICTED SIGNIFICANCE						RESIDUAL IMPACT	
					EXTENT	DURATION	PROBABILITY	SEVERITY	IMPORTANCE	SIGNIFICANCE	MITIGATION	SIGNFICANCE
		transmission line will be high above the ground	and operational phase	• In mountainous areas the transmission line should blend with the overall terrain.								

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CHAPTER 7: ENVIRONMENT & SOCIAL MANAGEMENT PLAN

7.1 ENVIRONMENT & SOCIAL MANAGEMENT PLAN (ESMP)

The environment management plan is an umbrella term that houses the environmental & social management and the environmental monitoring plan. It presents a summary of management initiatives that will be required to ensure that identified potential negative and positive impacts are mitigated and maximized respectively. However, this EMP will be focussing on negative impacts pointed out in chapter six of this ESIA report. It also indicates who will be responsible for undertaking the management initiative. The monitoring and evaluation indicators are also tabled in this chapter. The EMP should not be used as a substitute to indigenous knowledge systems (IKS) but rather the two should complement each other for the best environmental protection.

The chapter also lays down the plan for monitoring the potential impacts during project implementation and decommissioning stages. The ESMP is also aimed at ensuring continued compliance even after the duration of project. In some cases the implementing agencies would need the assistance of the consultant to adequately formulate local area and more specific implementation strategies. It is important that the proponent implements this EMP with reference to the impact analysis and evaluation chapters which have more detail on the impacts and the suggested mitigation measures. The EMP summarized the impacts and configured them into objectives that can be pursued sustainably for both the biophysical and the socio-economic impacts. The table 7.1 shows the environmental mile stones that should be achieved during implementation of this project.

7.1.1 HAZARD RISK ASSESSMENT DURING CONSTRUCTION

The hazards during the construction phase that shall have to be managed are:

a) Fire
b) SF6 gas leaks from the switching station
c) Equipment failure
d) Explosion in the switching station
e) Outbreak of diseases
f) Falling from heights
g) Electrocution from existing live equipment and 132kV line
h) Accidents involving moving vehicles
i) Snakes and insect bites

One of the most important aspects of risk assessment is accurately identifying the potential hazards in the workplace. The proponent has put in place and is enforcing use of the following three Think-Safe steps to help prevent accidents at work:

- Spot the Hazard (Hazard Identification)
- Assess the Risk (Risk Assessment)
- Make the Changes (Risk Control)

In order to minimize the risks, the proponent and the contractor will ensure that the following measures are implemented:

a) Hazard Identification & Risk Assessment (HIRA) Form should be completed by everyone at site
b) Risk Register should be at all construction sites

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c) Conduct Factory Due Diligence prior to approval of plant to manufacture equipment and carry out factory acceptance tests.
d) Adhere to all relevant Zimbabwean Laws and by laws.
e) Adhere to the ZETDC's Safety Rules (Safety Rules Book)
f) Maintenance and enforcement of the SHEQ Management Plan to be incorporated at tendering stage.

7.1.1.1 HAZARDS EXPLOSION IN THE SWITCHING STATION

In the case where the potential for a flammable or explosive atmosphere exists, the relevant area and temperature classifications shall be applied to such areas. Classification shall be in accordance with the IEC, API and NFPA standards and recommended practices or other internationally recognized and approved standards. During construction, the proponent's site works manager and the project consultant shall ensure the contractor's compliance on daily basis. The Project Manager shall immediately be informed of any infringements.

7.1.1.2 FIRE PROTECTION AND DETECTION MEASURES

The Contractor shall, as part of the project, install a stand-alone fire detection and protection system. All passive and active fire protection and prevention measures shall be in compliance with the Factories and Works Act and monitored by NSSA. The Contractor shall state all departures or deviations of the proposed fire system expansion design from the recommendations in NFPA standard 850 in writing to the proponent to be discussed and agreed upon.

Firefighting system shall be automatic and in all instances be adequate. The system shall be a combination of fire alarm system and water spray system. The system shall be tested annually. All equipment in the switching station shall be equipped with water spray system (multi-fire protection).

During construction, the proponent's site manager and the project consultant shall ensure that the Contractor supplies and develops the correct firefighting facilities and procedures on a daily basis. In addition, all construction and commissioning personnel shall be adequately trained to use fire protection facilities and to take action in case of emergency. The Project Manager shall monitor the implantation of the above activities.

7.1.1.3 ACCIDENTS RELATED TO CRANES AND LIFTING EQUIPMENT

During construction, the proponent's site manager and the project consultant shall ensure that the Contractor supplies all cranes and lifting equipment that will be necessary for the safe and efficient operation of the plant. In addition, the safe working load (SWL) shall be marked on all cranes and lifting equipment and all lifting equipment and cranes should be certified by a Government Registered Inspector.

7.1.1.4 CHEMICAL SPILLS OR DISCHARGE

All hazardous substances will be stored in separate locations, well ventilated and locked, and with clear marking (both in writing and in pictures) of the type of material and appropriate actions to be taken in case of accidents or leaks. Adequate safety materials shall be available at these sites, such as goggles, gloves and rubber boots. Fire extinguishers as well as first aid kits suitable for the type of material, such as foam or powder canisters, eye-wash, fire blankets and bandages shall be available on location and kept under regular inspection for function and availability. The site manager and its project consultant shall ensure that the above is clearly specified in the tender documents and also

forms part of the conditions of the EPC contract. During construction, proponent's site manager, through the environmental officer and the project consultant shall ensure compliance to the above. The Project Manager shall immediately be informed of any infringements.

7.1.1.5 ACCIDENTS DUE TO FALLING FROM HEIGHTS

The proponent together with the project Contractor shall ensure that all staff to work on heights undergo compulsory medical examinations. They shall also ensure that the contractor provides adequate and proper personal protective equipment. This includes, helmets, full-body harnesses, safety belts, work suites, safety boots, and leather gloves. In addition, they shall monitor and ensure that someone on the ground should watch people working on heights. In the event of a storm, work should cease forthwith if the work has commenced. If work has not commenced, then it should not resume.

7.1.2 WAY-LEAVE VEGETATION MANAGEMENT PLAN

Within the wayleave or right of way, what is required is the public and employee safety and as well as the reliable operation of the power transmission line. The wayleave will be maintained and with an on-going maintenance throughout the life-cycle of the project. Regular vegetation management is required to ensure that the regrowth of the vegetation in the cleared wayleave area does not interfere with the operation of the line by maintaining vegetation height of 15cm to reduce soil erosion. The method and timing of vegetation will depend on a number of factors such species present, growing condition and density. Host communities are engaged to do wayleave clearing. Resultant way-leaves would work as fire guards in most of the areas the transmission lines pass through.

Table 7.1 Summary of the Environmental Management Milestones

ITEM	OBJECTIVE	SCOPE	CONTROL MEASURES
Pre-construction phase impacts	Reduction of pre-construction phase impacts	Pre-construction phase	• The Proponent should appoint a project HSE Officer • Demarcate clearly all areas to be developed before construction commences; • Maintain records of environmental incidents and avail a copy of these records to relevant lead agencies on request throughout the construction phase; • Identify and confirm suitable sites for the construction camps and storage areas for materials; • Store construction equipment in construction camps. Ensure oil changes take place on an impermeable surface such as reinforced concrete slab; • Provide as much as possible opportunities for employment to persons from the local areas along the wayleave; • Train site staff on the following areas of environmental management; • Environmental awareness training for construction staff, concerning the prevention of accidental spillage of hazardous chemicals and oil; pollution of water resources (both surface and groundwater), air pollution and litter control and identification of archaeological artefacts; • Project Manager shall ensure that the training and capabilities of the Contractor's site staff are adequate to carry out the designated tasks;
Occupational accidents	Zero accidents and near misses	Pre-construction phase	• Operators of construction equipment (such as excavators, loaders, etc.) shall be adequately trained and sensitized to any potential hazards associated with their tasks; • No operator shall be permitted to operate critical items of mechanical equipment without having been trained by the contractor and certified competent by the Project Manager;

ITEM	OBJECTIVE	SCOPE	CONTROL MEASURES
			• Staff should be educated as to the need to refrain from indiscriminate waste disposal and/or pollution of local soil and water resources and receive the necessary safety training
Traffic and access management during construction	Proper management of traffic and access during construction phase	Construction phase	**Construction traffic** 1. Clearly define construction routes and required access roads; 2. Use the minimum number of trips for delivering construction plant and equipment along the wayleave; 3. Strictly control the access of all construction and material delivery vehicles especially during wet weather to avoid compaction and damage to the topsoil structure; 4. Schedule the delivery hours to avoid peak hour traffic, weekends and evenings; 5. Implement wheel washing and damping down of un-surfaced roads to reduce dust and nuisance; 6. Service vehicles and equipment regularly to avoid the contamination of soil from oil and hydraulic fluid leaks, etc. Servicing of vehicles and equipment must be done off-site and on an impermeable surface such as concrete; 7. Soils compacted by construction equipment along the wayleave should be ripped and regarded. **Access** 8. Rehabilitate temporary access roads prior to the contractor leaving the site; 9. Position entry and exit points strategically to ensure minimal effects on traffic;

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ITEM	OBJECTIVE	SCOPE	CONTROL MEASURES
			10. Clearly signpost primary routes to the site and issue to all suppliers and Sub-Contractors. 11. Plan access routes to the site for construction purposes and affected Landowners. All agreements reached should be documented and no verbal agreements should be made. 12. Where new access roads are constructed, this must be done according to design and contract specifications. Drainage channels shall be suitably designed to ensure erosion does not occur, especially at the outflow points. The new access road shall be designed to allow for the natural flow of water where required. Crossing of eroded areas on access routes to new sites shall be thoroughly planned and installed according to design and contract specifications. All areas susceptible to erosion shall be protected with suitable erosion control measures from the onset of the project. Prevention is the ultimate aim, as restoration is normally difficult and costly **Road maintenance** 13. All damaged roads shall be rehabilitated using suitable measures. In the event of rehabilitation work being required on private roads, such work will be done to the original specifications of the private road; 14. Access roads should be maintained in good condition by attending to potholes, corrugations and storm water damage as soon as these develop. **General** 15. Safety requirements shall be complied with at all times during the construction phase. All equipment transported shall be clearly labelled as to their potential hazards according to specifications. All the required safety labelling on the containers and trucks used shall be in place;

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ITEM	OBJECTIVE	SCOPE	CONTROL MEASURES
			16. The Contractor shall ensure that all the necessary precautions against damage to the environment and injury to persons are taken.
Setting up and operation of Construction camps	Avoid improper setting up and operation of construction camps	Construction phase	1. The contractor to seek approval from the relevant local authority for the location of the construction camp. Factors to consider during siting of construction camps include location of local residents and/or ecologically sensitive areas, including flood zones and slip/unstable zones. If the contractor chooses to locate the camp site on private land, he must get prior permission from both the Project Manager and respective landowner; 2. Minimize the size of the construction camp (especially where natural vegetation or grassland has had to be cleared for its construction); 3. Provide adequate parking for site staff and visitors. This should not inconvenience or serve as a nuisance for neighbours; 4. Provide adequate drainage around the camp site to avoid standing water and/or sheet erosion.
Storage of materials (including hazardous materials)	Proper storage of materials and prevention of fire outbreaks	Construction phase	1. Choose storage area location by considering prevailing winds, distances to water bodies, general onsite topography and water erosion potential of the soil. Impervious surfaces must be provided where necessary; 2. Designate, demarcate, fence off and secure all storage areas to minimize the risk of crime; storage areas should be safe from access by unauthorized persons; 3. Provide fire prevention facilities at all storage facilities 4. Store all hazardous materials such as oils, paints, thinners, fuels, chemicals, etc. in properly constructed and impermeable bunded areas. Hazardous materials must not be

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ITEM	OBJECTIVE	SCOPE	CONTROL MEASURES
			allowed to contaminate the subsurface or enter into drainage systems. Siting of hazardous material storage areas must be approved by the Project Manager. 5. The contractor to acquire MSDSs for all chemicals and hazardous substances used on site. Training on environmental impacts of chemicals and hazardous substances and PPE required to worn must be provided to the users. 6. Hazardous material storage areas must be signposted clearly 7. Use an EMA licensed waste handler for disposal of all used oils from the camp sites. A waste tracking sheet must be completed 8. Dispose of any excess concrete mixes in consultation with the Project Manager. 9. Immediately contain, recover and clean up any spillages that may occur during the construction phase. All spillages must be reported to the HSE Officer and Project Manager.
Drainage of construction camp	Proper setup of drainages	Construction phase	1. Ensure that all potentially contaminated run-offs from the construction camp meets the discharge limits. Run-off from the camp site must NOT discharge into neighbours' properties or into adjacent wetlands, rivers or streams
Soil Management.	To ensure that soil is conserved during construction through phase.	All areas where soil is disturbed during construction and where the surface is to be used for temporary or permanent construction purposes.	• Excavated soil material will be protected from erosion by placing them away from water ways, and slopes or in direct line of local drainage. • Loose soil will be kept covered till the time of backfill and the excess soil should be removed after casting activities are complete. • The construction activities should be planned in such a way to avoid the rainy season so as to minimise any run-off water.
Dust Management Programme.	To maintain to acceptable ambient dust concentrations.	All dust and particulate emission within the site perimeter and access roads throughout the project lifespan.	• Implementation of traffic control measures such as low speed limits (25 km/h) on unpaved roads and control of traffic volumes in and around the construction site. • In the case of cement dust that may be produced, workers should wear respirators and ear-plugs to ensure that they are fully protected from dust. Dust producing areas should be kept humid to ensure low propagation of dust.

ITEM	OBJECTIVE	SCOPE	CONTROL MEASURES
			• In some areas where the driveway is still under construction, a browser should conduct daily watering to suppress dust and improve safety of the public.
Noise Management Programme.	To maintain ambient noise levels in areas bordering the project, within acceptable occupational health and safety limits and community health guideline levels.	Operation of all types of vehicles, site generators, and equipment attributable to the proposed project that may generate noise and vibrations reaching levels that may be detrimental to the health of employees and to the psychological health of surrounding communities.	The noise management programme will include the following key provisions: • Avoid noisy construction work and heavy vehicle movements at night in the vicinity of residential areas, • Institute controls for vehicle routing, access and speed limits as indicated by the level of community complaint. • Service equipment as per manufacturer's recommendations. • Limit speed of vehicles to a maximum of 25 km/hr within the project area during construction phase.
Worker Health and Safety Management Plan	Ensure the safety and health of the workers is safeguarded during construction and operational phases of the project.	All areas where there will be construction activities	• Health and safety training sessions will be provided and workers will be tested for safety procedures and regulations. • Workers will be provided with personal protective equipment such as hard hats, safety shoes, *et cetera* and will be required to use these. • Safety and warning signs will be placed all around the construction sites. • The proponent, should as much as possible put up their own facilities, especially for first aid emergency treatment on the site. • The proponent should ensure that all health and safety regulations are observed by all categories of workers to minimise the risk of injuries during the construction phase.

ITEM	OBJECTIVE	SCOPE	CONTROL MEASURES
			• There shall be a health facility on site to cater for workers during the construction phase.
Employment Management Plan.	To maximise employment opportunities for local people during the construction phase.	The construction phase and maintenance phase.	• Use local labour for casual jobs. • Insist on minimum wages for the project as specified in the labour regulations. • Use labour intensive methods. • Procedures for operation of various equipment at the project site should be available to those who want to use them so that work is completed fast and properly.
Health of the Community during Construction.	To minimise risks of contracting sexually transmitted infections, HIV, and other such diseases.	The target population that the plan should target is the host community.	• As much as possible, the proponent should employ local labour from the host communities. • Education and counselling through the local health and social welfare organizations should be carried out in conjunction with the contractor/ proponent. • HIV awareness campaigns should also be carried out in conjunction with the Ministry of Health and Child Welfare.
Waste Management.	To minimise risks of accumulation of waste that may compromise health and safety of the public.	All areas that have potential of generating waste such as; the construction phase, and operational phase that shall produce domestic waste.	• All domestic waste generated from the contractor camps must be stored either in refuse bins or in a waste skip. If weather conditions are windy, nets should cover these bins or skips. The Contractor must ensure that these containers are emptied on a daily basis. All litter shall immediately be deposited into refuse bins or the waste skip. No litter must be left at the construction site. • Construction waste must be removed from the site on a daily basis and disposed of at a registered waste disposal site. Contaminated construction waste must be dealt with separately. Soils that have been contaminated by diesel, petrol, oil or any other substance that may inhibit the growth of plants must be removed to a registered waste disposal site for hazardous waste. • The burning of waste on site shall be prohibited since this in a way introduces dioxins and other gaseous pollutants into the atmosphere.

ITEM	OBJECTIVE	SCOPE	CONTROL MEASURES
			• Waste receptacles must be provided within the boundaries of the project site to reduce littering. • Used oils shall have to be sold to those who are into timber curing. • Scape metal and plastics shall be sent to recyclers and those who may want to re-use them. • Alternative waste management strategies such as reuse and recycle should be explored and adopted to ensure sustainability.
Possibility of contamination of water sources.	To ensure that leachate from septic tanks are contained, hence it does not translocate to water sources that supply water to the community.	This looks at the construction and operational phase when the developer hand over shops for rental.	• Used oils that may be produced by material bearing trucks and construction equipment should be disposed of through sewer system.
Socio-economics of decommissioning plan.	-The community should not be left worse off than they were before project implementation. However, such projects normally do not quickly reach decommissioning phase.	This targets the decommissioning phase of the residential area	• Provide proper protective clothing and other safety related equipment to those involved in the decommissioning process to meet recommended safety standards; • All employees will be entitled to their pension and contract termination benefits as required by the respective legislations; • Recommended workers to other related industries and where possible seek absorption of their employees; • Inform stakeholders and clients and\or business associates likely to be affected in not less than six months prior to closure, so that alternatives can be made by the respective parties; • Address social amenities withdrawals cordially, i.e. communicate with those bound to be affected six months prior to decommissioning, e.g. student attaches and

ITEM	OBJECTIVE	SCOPE	CONTROL MEASURES
			• Establish a budget and schedule for post-abandonment benefits. • Termination of contracts procedures should be followed in accordance with the decommissioning process to meet recommended standards.
Rehabilitation	Proper ending of powerline construction	End of construction	1. Rehabilitate all storage areas after construction has been completed on site and all excess material has been removed. Such areas shall be rehabilitated to their natural state. Any spilled concrete shall be removed and soil compacted during construction shall be ripped, leveled and re-vegetated; 2. Store construction materials, soil stockpiles, machinery and other equipment in designated areas; 3. The construction camp must be kept clear of litter at all times. Spillages within the construction camp need to be cleaned up immediately and disposed of in the hazardous skip bin for correct disposal. No open fires are allowed within the construction camp and no wood from surrounding vegetation may be used to create a fire.

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7.2 INSTITUTIONAL CAPACITIES AND STRENGTHENING PLAN (ICSP)

The proponent does not have a fully fledge SHE department that can adequately handle all environmental and social issues that are highlighted in this report. Therefore there is need to develop that department and then conduct training of the SHE department regarding findings of this ESIA and environmental monitoring processes so that the ESIA would serve the purpose it was designed for. The top management is advised to fund the ESMP so that the key department will be able to deliver on its mandate. From time to time, the consultant shall visit the project site and see how the project will be progressing and assist the key department to compile quarterly reports.

7.3 ENVIRONMENTAL MONITORING PLAN

Monitoring of biophysical and social environmental indicators signal potential problems, facilitate timely implementation of effective remedial measures and allow for validation of assumptions and assessments made in the present study. The biophysical and social environmental monitoring plan will enable a proper assessment of any changes in baseline conditions as discussed earlier in this report. Monitoring will measure the effectiveness of proposed mitigation measures in minimizing and/or reducing potential environmental and social impacts. It allows the implementation of corrective actions or new adaptive management programs as required, should the proposed mitigation measures fail in reducing or eliminating potential negative impacts; and to meet the pre-determined levels of performance (i.e. local environmental standards/ thresholds). Monitoring allows for continual review of post-construction and operational activities based on performance data and consultation feedback.

Monitoring shall start soon after an ESIA certificate is issued. It shall be implemented throughout all project phases and managed by the proponent. The Management shall also be responsible for ensuring that the surrounding environment and social communities are protected throughout the life of the project. Table 7.2 below is a summary of the environmental monitoring plan (EMP).

The plan details the following

- **Objective:** This is the overall goal the proponent should aim to achieve. The object should be specific, measurable, achievable, and realistic and time bound (SMART).
- **Parameter**: This is an aspect that is measured to try to assess the level of achievement of the objectives.
- **Indicator:** It is a visual or scientific attribute that seeks to describe harm or corrective measure done to the environment by the project in question.
- **Monitoring Method:** This assesses method used to assess the impact or corrective action carried to the impact. Examples are visual and laboratory assessment.
- **Responsibility:** This looks into who shall be involved in carrying out the monitoring and corrective action. This is very important to ensure stakeholders to the project are conscientious of their roles for ease of implementation of the EMP.

Table 7.2: Environment Monitoring Plan

ENVIRONMENTAL OBJECTIVE.	PARAMETER	LOCALITY	MONITORING METHOD	MONITORING FREQUENCY	COST (USD)/ QUARTER	RESPONSIBILITY.
Prevention of water pollution by oil spillages.	Noticeable presence of oils in water and laboratory results	All areas with potential to spill	Lab analysis results	Quarterly	500.00	Proponent implements. ZINWA and EMA monitors.
Prevention of soil Erosion.	Presence of gullies and rills at construction area	Excavated area	Visual	Weekly during rainy seasons and construction periods	0.00	The proponent implements this while EMA monitors
Noise.	Audible sounds from construction sites	Work stations	Use of noise meter	Weekly	800.00	The proponent implements this while NSSA monitors
Management of potential SF 6 gas leaks.	State of switchgear in the switching station.	Switch station	Visual	Continuous during the operation period	0.00	The proponent implements this while EMA monitors
Birds and wild animals interaction with the line	Birds and wildlife fatalities associated with the line	Entire route	Visual	Quarterly	0.00	The proponent implements this while EMA monitors

ENVIRONMENTAL OBJECTIVE.	PARAMETER	LOCALITY	MONITORING METHOD	MONITORING FREQUENCY	COST (USD)/ QUARTER	RESPONSIBILITY.
Effects of periodic clearing of Wayleave.	Confinement to wayleave	Entire route	Visual	Once per year	0.00	The proponent implements this while EMA monitors
Prevention of illegal dumping of solid and liquid waste	Presence of waste stockpiles and patches of contamination on soils	All waste dumped illegally should be collected Contaminated soils should be rehabilitated	Visual and lab analysis	Quarterly	0.00	The proponent implements this while EMA monitors
Prevention of Soil contamination by chemical spillages	Workshop will be concretised to avoid contamination of the soil. Possible spillages of hazardous substances such as chemicals and acids	-Hazardous substances to be kept safe and secured with limited access to workers on the site so as to reduce the chances of unauthorised use and reckless spillages. For accidental spillages,	Lab analysis results	Quarterly	2,000.00	The proponent shall ensure that the contractor implements this and make sure that all contaminated land is rehabilitated.
Combating Air pollution from vehicle and construction equipment fumes	Vehicle fumes	-Use efficient vehicles and machinery to limit exhaust fumes. -Vehicle servicing records	Visual	Weekly during construction phase	2,500.00	The proponent implements while EMA monitors

ENVIRONMENTAL OBJECTIVE.	PARAMETER	LOCALITY	MONITORING METHOD	MONITORING FREQUENCY	COST (USD)/ QUARTER	RESPONSIBILITY.
Eliminate dust in work environment and community public places.	Dust particulates	Presence of dust Humps and low speed limits installed.	Visual	Weekly during construction phase	5,250.00	The proponent implements while RDC's Environment Health Officer and NSSA monitors
Putting in place of an effective fire management system.	Install fire guard around the contractor camps.	Way-leaves	Visual	Weekly	0.00	The proponent implements while EMA monitors.
Elimination of Occupational Health and Safety Hazards. (Hazard Elimination, Engineering, Education, Administrative control & Protection PPE)	Safe work environment and procedures continually.	Work stations	Inspection and audits	Quarterly	0.00	The proponent implements while NSSA and EMA monitor.
	Adequate and appropriate personal protective equipment to employees.	Work stations			8,300.00	Proponent implements. NSSA and EMA monitor.
	Adequate water and sanitation provisions.	Work stations			0.00	Proponent implements while council, Ministry of Health and EMA monitor.

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ENVIRONMENTAL OBJECTIVE.	PARAMETER	LOCALITY	MONITORING METHOD	MONITORING FREQUENCY	COST (USD)/ QUARTER	RESPONSIBILITY.
	Maintain a documented OHS system (including HIV and AIDS, Work nutrition and stress management).	Work stations			0.00	The proponent implements while the consultant audits and NSSA monitors.
Emergency preparedness Plan on; 1. Fires 2. Road Accidents 3. Communicable diseases.	-Training of all personnel on safety and first aid -Create emergency assembly points -Safety briefs and inspections before any work commences	Work stations	Inspection and audits	Quarterly	0.00	Proponent implements while NSSA and EMA implements.
	-Safety checks all around the site -Safety briefs before every shift -Clearly marked points for fire extinguishers and sand buckets	Work stations	Inspection and audits	Quarterly	0.00	
	-Driving safety awareness -Discipline any negligence matters with heavy penalties such as fines -Servicing of vehicles and vehicle inspections every morning	Working areas			0.00	

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ENVIRONMENTAL OBJECTIVE.	PARAMETER	LOCALITY	MONITORING METHOD	MONITORING FREQUENCY	COST (USD)/ QUARTER	RESPONSIBILITY.
	Awareness campaigns on hygiene -Train people about the diseases -Take affected patient to the nearest clinics or hospitals	Work stations			4,000.00	Consultant in liaison with the contractor.
Cooperate with local leadership and avoid conflict.	Pay courtesy visit to relevant authorities before the project team starts work.	Work station	Audits	Quarterly	0.00	Proponent and consultant implement while EMA monitor.
	Recruit locals through local leadership.	Work station	Record inspection	Quarterly	0.00	Proponent implements. While local leaders monitor.
Monitoring and Evaluation	Conduct quarterly stakeholder consultation meetings.	Work station	Assessment of records of meetings	Quarterly	500,00	The proponent with the help of consultant implements while EMA monitors.
	Submit quarterly environment report to EMA.	Work station	Review of records	Quarterly	1,400.00	The consultant in conjunction with proponent implement while EMA monitors.

ENVIRONMENTAL OBJECTIVE.	PARAMETER	LOCALITY	MONITORING METHOD	MONITORING FREQUENCY	COST (USD)/ QUARTER	RESPONSIBILITY.
	Biannual environment audit. Environment audit report submitted to EMA.	Work station	Review of audit records	Biannually	0.00	EMA audits while the ministry of Environment monitors.
Regular environment quality monitoring	Ambient water quality monitoring within the micro catchment of the project areas.	Project area	Lab analysis	Quarterly for the duration of the project.	2,000.00	The proponent implements while EMA monitors.
Monitoring of the decommissioning plan	Quarterly air, water quality, scenic quality monitoring within the project site.	Project site	Lab analysis and visual assessment	Quarterly till the environment fully returns to its original state.	0.00	The proponent implements while EMA monitors.

CHAPTER 8: CONCLUSIONS AND RECOMMENDATIONS

8.1 CONCLUSION

This ESIA report has identified positive economic impacts that will improve the well-being of the people and other negative impacts and has thus recommended mitigatory steps. It is anticipated that if appropriate actions are carried out in accordance with the Environmental & Social Management Plan (ESMP) the project will have socio-economic benefit with minimal environmental damage. The project will have minimal negative impact as the proposed project will be done according to best environmental practices.

The inherent minimal risks associated with the project will further be mitigated through proper execution of the proposed mitigation measures (of a house-keeping nature) and monitoring plan alongside proper maintenance as presented in the environmental & social management plan. The project design has been scrutinized and discussed with the professionals and has been found to integrate appropriate mitigation measures with a view to ensuring compliance with all the applicable laws and procedures as well as coexistence with the host community. A comprehensive environmental management program has been presented in this report with appropriate measures and action plans through the project construction, occupancy and decommissioning of the proposed development. Relevant documentation has also been annexed to this report for ease of reference.

8.2 RECOMMENDATIONS

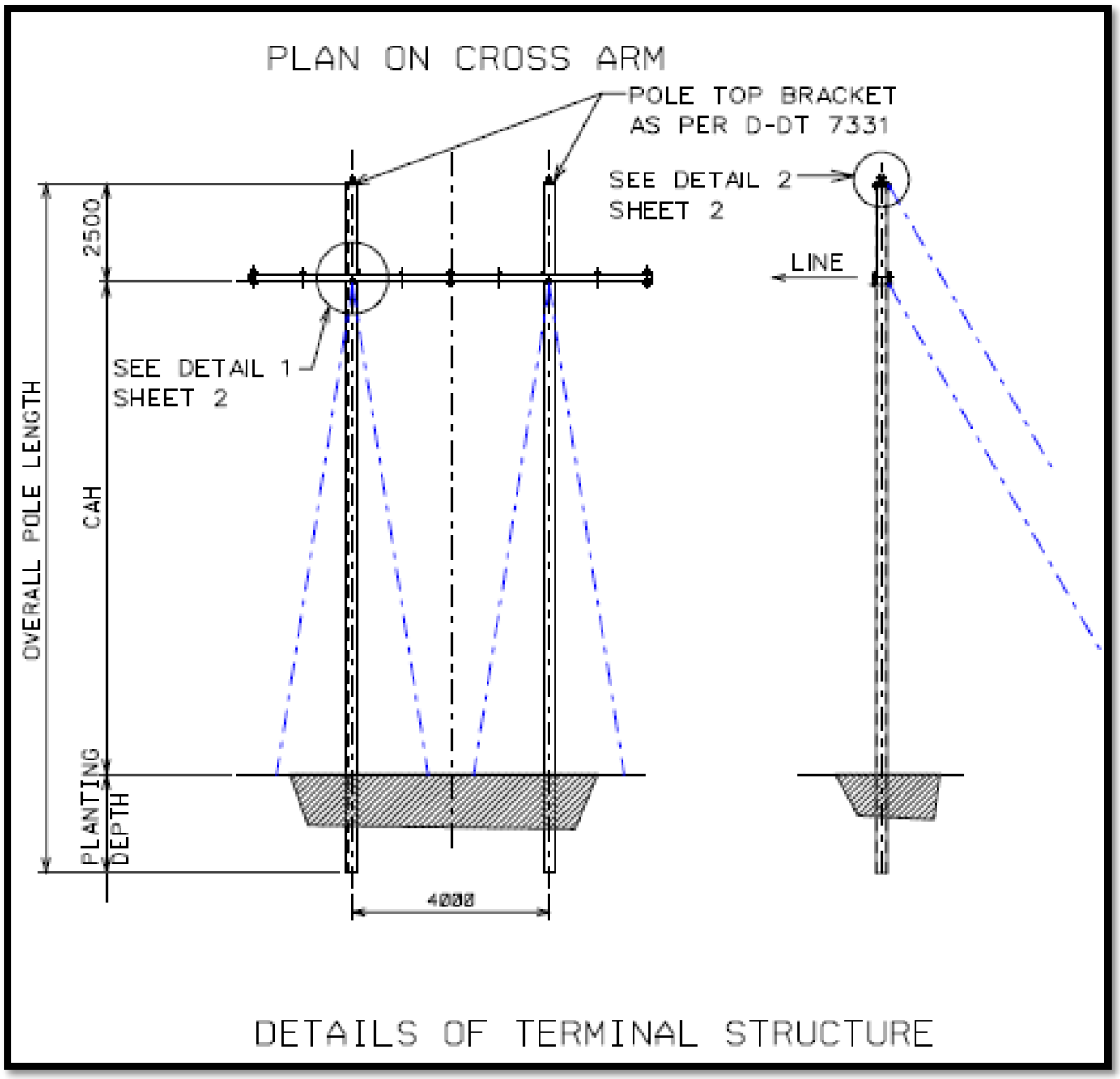
In view of the above observation, it is recommended that the proponent take all possible measures to prevent any adverse impacts relating to the project. On the basis of the study finding, the following are recommended;

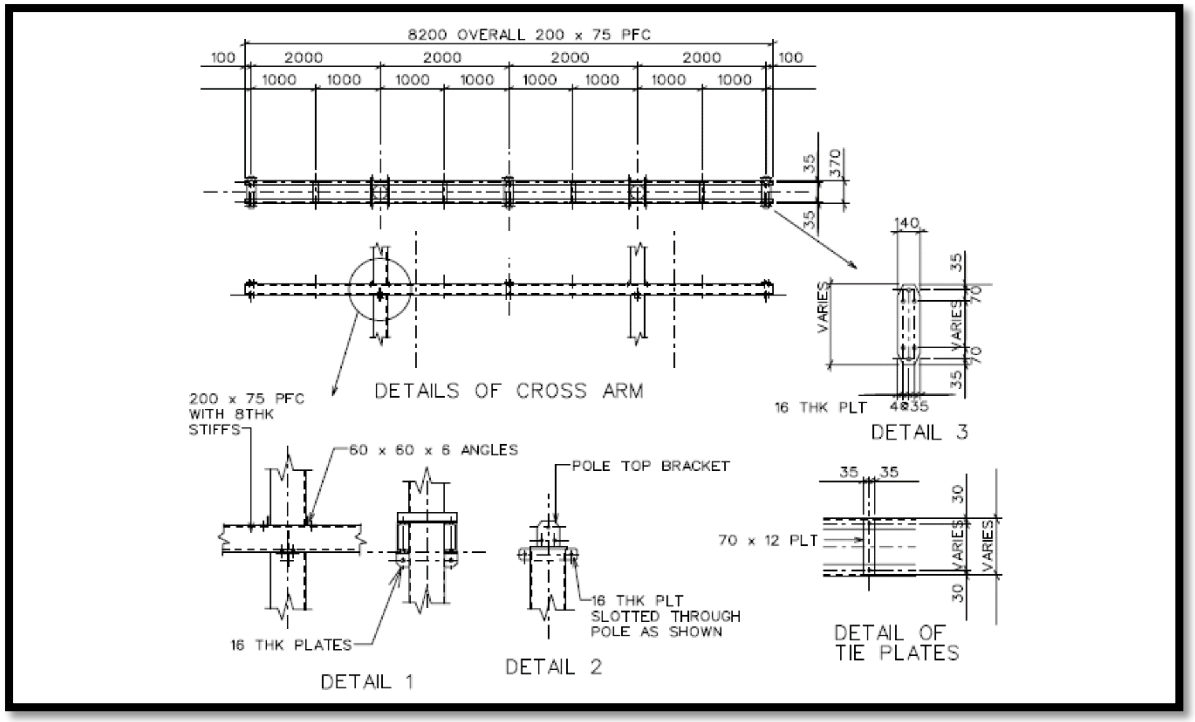
1) Transform the ESMP into an action plan for development, rollout and implementation,
2) Develop, rollout, and implement Occupational Safety, various Legal Notices in order for the Proponent to be in compliance with local SHE related laws and regulation requirements,
3) Undertake a SHE training needs analysis for the building staff and once concluded, arrange to provide relevant SHE training to foster their commitment to the facility's HSE standards and regulations.
4) In a move to mitigate unforeseeable impacts that are caused by the project, the proponent should put in place and maintain an open door policy so as to ensure flowing in and out of ideas between proponent and the host community.
5) The proponent should unveil equipment that ensures sustainable transmission with little or zero harm to employees.
6) The proponent should adhere to the CSR promises and requirements that are documented in this report to ensure sustainable operation of the proposed project. This approach is what the local stakeholders are in quest of after bad precedence that have been set in the community by other foreign business people.

When taken together with the above enlisted recommendations, it is anticipated that the project will have more positive impacts than negative. The consultant believes that a closer adherence to the requirements of the ESMP premised in this report is the best way to ensure sustainable development.

APPENDICES

APPENDIX A: DESIGNS





DESIGN CRITERIA:

ALL STEEL GRADE 300W
ALL BOLTS GRADE 8.8 BOLTS
POLES AND CROSS ARMS TO BE SUPPLIED WITH FIXING BOLTS

POLES USED FOR H-POLE	OVERALL HEIGHT	PLANTING DEPTH	CROSS ARM ATT HEIGHT AGL	SHIELD WIRE ATT HEIGHT AGL	CONDUCTOR ATT HEIGHT AGL
219 x 4,5 THK CHS	15.1	2.0	10.6	13.1	10.6
219 x 4,5 THK CHS	16.1	2.0	11.6	14.1	11.6
219 x 4,5 THK CHS	17.1	2.0	12.6	15.1	12.6
219 x 6,0 THK CHS	18.2	2.0	13.7	16.2	13.7
219 x 6,0 THK CHS	19.2	2.0	14.7	17.2	14.7
324 x 4,5 THK CHS	20.1	2.0	15.6	18.1	15.6

	70 TO 120kN UTS CONDUCTORS		
POLES USED FOR H-POLE	WIND SPAN	WEIGHT SPAN	ELECTRICAL SPAN
15.1	350	455	460
16.1	350	455	460
17.1	350	455	460
18.2	350	455	460
19.2	350	455	460
20.1	350	455	460

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APPENDIX B: POWER TRANSMISSION LINE ROUTE COORDINATES.

REFERENCE POINT	LATITUDE	LONGITUDE	ALTITUDE (m)
1	-18.344636°	26.527355°	766
2	-18.337407	26.429168	707
3	-18.338001	26.431184	727
4	-18.342735	26.447311	727
5	-18.360084	26.446299	753
6	-18.362301	26.482133	751
7	-18.382187	26.482011	817
8	-18.382377	26.482909	822
9	-18.382739	26.484630	814
10	-18.383120	26.486438	834
11	-18.384393	26.492461	835
12	-18.385916	26.499712	823
13	-18.369684	26.520861	792
14	-18.356291	26.545723	763
15	-18.352124	26.544928	750
16	-18.351242	26.550510	763
17	-18.349766	26.559836	740
18	-18.345628	26.569547	734
19	-18.356118	26.612720	709
20	-18.356964	26.615731	743
21	-18.358773	26.620391	705
22	-18.359317	26.624112	700
23	-18.361306	26.632618	693
24	-18.361927	26.633917	697
25	-18.363395	26.636944	740
26	-18.365474	26.641250	698
27	-18.366377	26.644715	739
28	-18.366825	26.646446	742
29	-18.367273	26.648175	707
30	-18.369974	26.658566	714
31	-18.370718	26.672521	723
32	-18.379196	26.687130	742
33	-18.377588	26.697581	839
34	-18.373832	26.721974	788
35	-18.378745	26.749040	785
36	-18.385031	26.781672	846
37	-18.387698	26.795331	901
38	-18.394231	26.814888	880
39	-18.395227	26.819327	828
40	-18.396540	26.823526	831
41	-18.397243	26.828881	842
42	-18.398227	26.836366	871
43	-18.398367	26.837431	895
44	-18.398509	26.838500	885
45	-18.398650	26.839568	860
46	-18.398958	26.841880	853

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REFERENCE POINT	LATITUDE	LONGITUDE	ALTITUDE (m)
47	-18.399349	26.844915	833
48	-18.368939	26.906861	909
49	-18.350926	26.936753	934
50	-18.359861	26.921932	945
51	-18.350926	26.936756	934
52	-18.349034	26.943162	958
53	-18.347198	26.958337	954
54	-18.350208	26.961769	921
55	-18.350038	26.967228	901
56	-18.349903	26.971671	897
57	-18.348606	26.980018	943
58	-18.355712	26.990546	833
59	-18.355169	26.993734	869
60	-18.354420	26.998141	851
61	-18.356772	27.001832	802
62	-18.359131	27.005529	873
63	-18.354562	27.019078	788
64	-18.350818	27.030171	780
65	-18.344607	27.033532	707
66	-18.341299	27.036287	843
67	-18.339094	27.032539	885
68	-18.336238	27.031794	928
69	-18.330811	27.036616	881
70	-18.330396	27.041377	882
71	-18.328506	27.045811	886
72	-18.329255	27.050857	883
73	-18.326581	27.053336	911
Substation	-18.330326°	27.047746°	929

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APPENDIX C: ABREVIATED RESETTLEMENT ACTION PLAN (ARAP)

This report details the findings of a Resettlement Action Plan (RAP) Report for the Kamativi 88kV Transmission Line, as it aims to identify families who will be affected by the proposed line development based on the proposed line route. It should be considered with the aim to meet both national and international standards, in particular, the Constitution of Zimbabwe. The RAP was prepared following a number of steps which started with a socio-economic survey and survey of assets that will be lost in the event of resettlement. The methodology included a desktop review of existing literature and household census of affected families. The fieldwork was carried out over a two-week period. The major economic activities in the proposed project area are agriculture and artisanal miners. Agricultural production is dominated by cropping and livestock. Average maize yield is three (3) tonnes per hectare.

Based on the findings of this RAP study, no one shall be resettled to pave way for the transmission project because the routing exercise deliberately followed areas where there are no settlements**.**

The purpose of this initial Resettlement Action Plan Report is to:

- Identify and compile a list of all the people who are likely to be affected by the project;
- Identify all the households whose homesteads will need to be moved away to make way for the line and associated infrastructure;
- Undertake an assessment of arable and grazing land that will be affected by the power line and associated infrastructure;
- Present recommendations on resettlement and compensation activities to be undertaken by the project to ensure equitable resettlement and compensation for the affected families;
- Present any other recommendations that will ensure a successful and fair compensation and resettlement programme for those affected by the power line

2.1 LOCAL LEGISLATIVE FRAMEWORK

There is no consolidated piece of legislation in Zimbabwe with respect to resettlement of people displaced by development projects and their compensation. These matters are handled piecemeal in a number of different acts of parliament. These are:

- The Constitution of the Republic of Zimbabwe, 2012;
- The Land Acquisition Act, Chapter 20:10 of 1992;
- The Communal Land Act, Chapter 20:04 of 1992;
- The Regional Town and Country and Planning Act, Chapter 29:12 of 1996; · The Rural District Councils Act, Chapter 29:13; and
- The Mines and Minerals Act Chapter 21:05.

The legal prescriptions for resettlement in each of these acts are discussed below.

2.1.1 THE CONSTITUTION OF THE REPUBLIC OF ZIMBABWE

Sections 15, 71-72, 77 and chapter 16. Under these sections issues of land definition, acquisition and appropriation, use, tenure, and general guiding policy is given. It is important to note that a number of laws which were enacted before the new Constitution's enactment are being re-aligned and therefore a continuous process /of review has to be undertaken to see relevance as the project unfolds.

Section 71(2) reads" Every person has the right, in any part of Zimbabwe to acquire, hold, occupy, use, transfer, hypothecate, lease or dispose of all forms of property, either individually or in association with others.

Subsection 3 goes further to point out that a person shall only be compulsorily deprived of their property if conditions set out in the constitution of Zimbabwe 2013 are met.

2.1.2 THE LAND ACQUISITION ACT, CHAPTER 20:10

This legislation was passed mainly to facilitate the transfer of land from the commercial farming sector to the communal sector. With respect to non-designated land, section 16(b) of the Land Acquisition Act requires that the acquiring authority shall pay "*fair compensation within a reasonable time to the owner of any land which is not designated rural land and to any other person who suffers loss or deprivation of rights as a result of any action taken by the acquiring authority in respect of the acquisition of that land in terms of this Act".*

In section 17, the Act prescribes that a Compensation Committee should be established and called "the Compensation Committee". The composition of the Committee is specified in this section as well and includes representation from all ministries whose mandate relates to land acquisition. In section 20, the Act describes in detail the terms under which the Compensation Committee will determine the level of Compensation for non-designated land.

In section 21, the Act presents general considerations regarding the assessment of compensation. Of interest in section 21 is the statement that "*in the assessment of compensation regard shall be had to the value of any other property or rights of the claimant, and to any other benefit which the claimant will receive, due to any works undertaken by the acquiring authority in connection with the acquisition of the land"* This statement indicates that the level of compensation goes beyond the direct losses of e.g. physical infrastructure. According to this Act, the level of compensation will be determined by the Compensation Committee. However, if there is a dispute with respect to the level of compensation, section 24 states that such disputes will be settled by the Administrative Court.

2.1.3 THE COMMUNAL LAND ACT, CHAPTER 20:04

The purpose of this Act is to define communal land in law and to prescribe how this land will be managed and governed. Section 10 of this act discusses situations where communal land is set aside for "certain purposes" such as townships, business centres, irrigation schemes or industrial areas". A project such as the Power line Project, in a communal land would presumably fall into this category of industrial areas. In such cases, the rural district council as the administrator of the communal land will make requests to the Minister for the land to be set aside for the particular purpose. The Minister will publish a statutory instrument for this matter, details for which are presented in section10 subsection (3) and (4).

Section 12 of this Act deals with the issue of compensation for any land set aside for specific purposes. The rural district council will compensate any displaced person with land if possible. Where this is not possible, the compensation will be carried out according to the prescriptions of the Land Acquisition Act discussed earlier. The majority of the power line stretch area falls within state land, without any private land noted.

2.1.4 THE REGIONAL TOWN AND COUNTRY AND PLANNING ACT, CHAPTER 29:12

This Act provides for the planning of regions, districts, and local areas. Some areas under the jurisdiction of rural district councils are subject to this law. The project area falls within the area of jurisdiction of the Lukosi Rural District Council could be considered as a local area and subject to this Act if the Minister of Local Government should decide to designate the area as a local planning area.

Section 45 of this Act deals with the issue of acquiring land by a planning authority "*for the implementation of any proposal, including development, redevelopment or improvement, contained in an operative master plan or local plan or an approved scheme".* Part VIII, section 50 of the Act deals with the determination of compensation claims. For all issues relating to compensation, this act states that these will be determined and settled either by mutual agreement or by the Administrative Court.

2.1.5 THE RURAL DISTRICT COUNCILS ACT, CHAPTER 29:13 OF 1996

This Act provides for the establishment of Rural District Councils (RDCs) and for their management of their areas. Section 86 of this Act on the issue of estate development is relevant to the Power line project. According to this section, the RDC may "sell, let or otherwise dispose of such land, building or improvements for residential commercial or industrial purposes" Where this land falls in a local or master plan, the Act refers to the Regional Town, Country Planning Act Chapter 29:12. If the area is not subject to any plan, then section 86 states that the RDC will need to submit a proposal to the Minister. However, before the council submits its proposal to the Minister, it must publish a notice in two issues of a newspaper circulating in the area:

- Outlining the proposal;
- Stating the place and where details of the proposals may be inspected; giving any further information;
- Stating any objections that may have been made to the proposal,
- After receiving the proposal, the Minister would consider it and if he approves, he would require that land be acquired and reserved for this purpose.

This Act however is silent on the matter of compensation for loss of land to estate development. Presumably, this would be covered under the Communal Land Act Chapter 20:04 or the Land Acquisition Act, Chapter 20:10.

2.2 INTERNATIONAL INVOLUNTARY RESETTLEMENT AND COMPENSATION GUIDELINES

2.2.1 WORLD BANK GUIDELINES ON INVOLUNTARY RESETTLEMENT

The World Bank has been involved in many large development projects worldwide in the last 50 years of its existence. A large number of these projects, such as dam construction, irrigation and road construction projects have led to the involuntary displacement of rural people who were resident in the designated project areas. In the course of these projects, the Bank has gained a large volume of experience on involuntary resettlement. In fact, as one of the main funding agencies for many of these projects that led to involuntary resettlement, the Bank has been the target of widespread criticism in situations where the involuntary resettlement was deemed to have been prejudicial to the affected people.

The Bank has developed comprehensive policies and operational guidelines for involuntary resettlement. Although these policies and guidelines were originally intended for use on World Bank funded projects, they have now grown to be something of a world standard on involuntary resettlement. Both private and public sector institutions worldwide refer to these World Bank policies

and guidelines whenever their projects lead to involuntary resettlement. All documents relating to the bank's policies and guidelines on involuntary resettlement are posted on the Bank's website. The World Bank Operational Manual OP 4.12 on Resettlement comprises operational policies as well as Bank Procedures on the management of involuntary resettlement.

The World Bank's policies on involuntary resettlement are predicated on the observation that development projects that displace people involuntarily generally give rise to severe social, economic and environmental problems, and that involuntary resettlement may cause long term hardships, impoverishment and environmental damage if appropriate measures are not incorporated in the project at the design stage. Thus, the bank policies on involuntary resettlement are intended to ensure that people who are displaced by a project (a) benefit from it, and (b) that they are better off after resettlement compared to their situation before resettlement.

The World Bank policies are captured in the following five key considerations:

- That involuntary resettlement should be avoided or minimised where feasible. All possible alternative project designs that can minimise displacement of people must be investigated and considered
- That where displacement is unavoidable, resettlement plans should be developed, with the affected people being given a chance to participate in the planning of the resettlement exercise. The displaced persons should be (a) Be given an opportunity to share in the project benefits; (b) Compensated for their losses at full replacement cost prior to their move; (c) assisted with the move and supported during their time of settlement in their new site; (d) assisted in their efforts to improve their former living standards, incomes, earning capacity, and production levels. Particular attention should be given to the poorest groups among the displaced since they are the most vulnerable;
- That community participation in the planning and in implementation of the resettlement programme should be encouraged;
- That resettled persons should be integrated socially and economically into the host community at their new settlement site;
- That land, housing, infrastructure and other compensation should be provided to the displaced persons especially those whose livelihood is land based. The land compensation is to be provided even in cases where the displaced persons do not have title to land. The absence of legal title by such persons prior to resettlement should not be a bar to such compensation.

By way of operational guidelines, the World Bank has listed 12 key issues that need to be considered in a resettlement plan as: a clear definition of the organisations who will be involved in the planning and implementation of the resettlement programme. The Bank emphasizes that the ultimate responsibility for the resettlement plan rests with the project developer. However, the developer may, by mutual agreement, delegate this responsibility to a local authority that is more familiar with the local community;

- Community participation in the planning and implementation of the resettlement programme;
- That the resettlement plan should be based on a recent socio-economic survey of the affected people;

- That the resettlement plan should take into consideration the legal framework in the county of the project;
- That all alternative sites for resettlement should be identified and demarcated to provide an opportunity for the selection of the most suitable site. In cases involving people whose whole livelihoods are land based, the productive potential and locational advantages of the selected must be equivalent or better than the original site. As a general rule, the bank encourages "land for land" compensation;
- That valuation of assets should be at replacement cost;
- That the land tenure arrangements before and after resettlement need to be thoroughly examined in the plan to ensure that the displaced people are not prejudice
- That the settlers must be provided with training, employment and credit to ensure that they will be economically well established in their new area of settlement;
- That the settlers need to be provided with shelter, infrastructure and social services to a standard that is, as a minimum, equivalent to, but preferably better than their area of origin.

That the resettlement plan should be prepared in coordination with the environmental impact assessment to ensure that any negative environmental impacts arising from the resettlement are taken into account in the development of the environmental management plan and a clear implementation schedule should be developed for the resettlement programme, with practical target dates and implementation milestones.

In summary, the World Bank policies and guidelines on involuntary resettlement place the responsibility on the project developer to ensure fairness on the affected persons. In addition, the policies are aimed at ensuring that the affected persons are at least better off in their new area of settlement than they were prior to displacement. Lastly, the policies encourage developers to view affected persons as partners in the project and to ensure that they derive meaningful benefits from the project.

2.2.2 EQUATOR PRINCIPLES

The Equator Principles (EPs) is a risk management framework, adopted by financial institutions, for determining, assessing and managing environmental and social risk in projects and is primarily intended to provide a minimum standard for due diligence to support responsible risk decision making. It comprises a set of principles adopted by the Equator Principles Financial Institutions (EPFIs) to ensure that the projects they finance are developed and implemented in a manner that is socially responsible and environmentally sound. These principles apply to all project-financing with total project capital costs of US$10 million or more, and across all industry sectors.

The EP applies globally, to all industry sectors and to four financial products:

1. Project Finance Advisory Services;
2. Project Finance;
3. Project Related Corporate Loans; and
4. Bridging Loans.

Currently 84 EPFIs in 35 countries have officially adopted the EPs, and these cover over 70 percent of international Project Finance debt in emerging markets. EPFIs commit to implementing the EP in their internal environmental and social policies, procedures and standards for financing projects and will

not provide Project Finance or Project-Related Corporate Loans to projects where the client will not, or is unable to, comply with the EP.

Among other principles the main applicable principles to the proposed project are

- **Equator Principle 3:** "Applicable Social and Environmental Standards" requires that, for all projects located in non-OECD6 countries, project sponsors must adhere to the International Finance Corporation (IFC) Performance Standards".
- **Principle 5: Stakeholder Engagement** "For Projects with potentially significant adverse impacts on Affected Communities, the client will conduct an Informed Consultation and Participation process. The client will tailor its consultation process to: the risks and impacts of the Project";
- **Principle 6: Grievance Mechanism**. "The EPFI will require the client, as part of the Environmental Social Managed Systems (ESMS), to establish a grievance mechanism designed to receive and facilitate resolution of concerns and grievances about the Project's environmental and social performance. The grievance mechanism is required to be scaled to the risks and impacts of the Project and have Affected Communities as its primary user. It will seek to resolve concerns promptly, using an understandable and transparent consultative process that is culturally appropriate, readily accessible, at no cost, and without retribution to the party that originated the issue or concern".

It is expected that the proponent will abide by the provisions of the EP for the purposes of international reputation and risk management.

2.2.3 IFC PERFORMANCE STANDARD 5

DISCO will follow the requirements of IFC Performance Standard (PS) 5 "Land Acquisition and Involuntary Resettlement". This PS describes involuntary resettlement as both physical displacement (resettlement or loss of shelter) and economic displacement (loss of assets, or access to assets, that leads to loss of income sources and/or other means of livelihood), as a result of project-related land acquisition and/or restrictions on land use. Resettlement is considered involuntary when affected persons or communities do not have the right to refuse land acquisition or restrictions on land use that result in physical or economic displacement.

The primary objectives of IFC PS5 are to:

1. Avoid, and when avoidance is not possible, minimise displacement by exploring alternative project designs;
2. Avoid forced eviction;
3. Anticipate and avoid, or where avoidance is not possible, minimise adverse social and economic impacts from land acquisition and/or restrictions on land use by:
    - Providing compensation for loss of assets at replacement cost and
    - Ensuring that all resettlement activities are implemented with appropriate disclosure of information, consultation, and the informed participation of those affected;
4. Improve, or restore, the livelihoods and standards of living of displaced persons;
5. Improve living conditions among physically displaced persons through the provision of adequate housing with security of tenure at resettlement sites

6. Provide opportunities to displaced people to derive appropriate development benefits from the project; and where land is collectively owned, land-based compensation should be offered, where possible.

Involuntary resettlement refers both to physical displacement (resettlement or loss of shelter) and economic displacement (loss of assets, or access to assets, that leads to loss of income sources and/or other means of livelihood), as a result of project-related land acquisition and/or restrictions on land use. Resettlement is considered involuntary when affected persons or communities do not have the right to refuse land acquisition and restrictions on land use that result in physical or economic displacement. This occurs in cases of lawful expropriation, or restrictions on land use, or in negotiated settlements in which the buyer/developer can resort to expropriation or impose legal restrictions on land use if negotiations with the seller fail. Performance Standard 5 applies to all physical and/or economic displacement resulting from the following types of land related transactions:

a) Land rights, or land use rights, acquired through expropriation or other compulsory procedures in accordance with Zimbabwean legal system;
b) Land rights, or land use rights, acquired through negotiated settlements with property owners or those with legal rights to the land if failure to reach a negotiated settlement would have resulted in expropriation or other compulsory procedures;
c) Project situations where involuntary restrictions on land use and existing access to natural resources, cause a community, or groups within a community, to lose access to resource usage where they have traditional or recognisable usage rights;
d) Certain project situations requiring evictions of people occupying land without formal, traditional, or recognisable usage rights;
e) Restriction on access to land, or use of other resources including communal property and natural resources.

According to IFC PS5, preference should be given to land-based resettlement strategies for displaced persons whose livelihoods are land-based. Strategies may include resettlement on public land with the agreement of the government, or on private land acquired or purchased for resettlement. Whenever replacement land is offered, it should provide for land that is at least equivalent to that of the old site. DISCO intends to abide by this standard in the relocation process.

Performance Standard 5 further requires that a RAP shall be developed and implemented. The RAP must provide a comprehensive action plan for addressing resettlement impacts. It should describe the procedures and activities that will be taken to mitigate adverse project impacts, compensate for all losses, and provide development benefits to those who will be resettled or displaced as a result of the project. The project sponsor shall be fully responsible for the resettlement process. In order to comply with the above requirements, the project sponsor will carry out a census with appropriate socio-economic baseline data to identify the people, who will be displaced by the project, and to determine who will be eligible for compensation and/or resettlement assistance, as well as to discourage inflow of people who are ineligible for these benefits. In the absence of government resettlement procedures, the project sponsor shall establish a cut-off date for eligibility under the proposed project. Information on the cut-off date shall be well documented and disseminated throughout the project area.

IFC PS5 requires that the RAP is accepted by the relevant authorities and affected parties prior to implementing resettlement. Provision of compensation and restoration of livelihoods of those affected by the project shall be ensured prior to any actual resettlement. Possession of land for project activities should take place only after compensation has been paid, or alternatively, if suitable guarantees of compensation have been made to the affected parties 'satisfaction. Compensation payments must not be delayed once physical resettlement has taken place. Resettlement housing and related public infrastructure and services and moving allowances must be provided to affected persons in accordance with the RAP provisions.

IFC PS5 further requires that particular attention be given to the needs of vulnerable persons and groups. These are defined as those below a defined poverty line, the landless, the elderly, women and children, indigenous groups and ethnic minorities, the disabled, orphans, and otherwise disadvantaged persons. In particular, the RAP must provide:· Additional targeted assistance (e.g. credit facilities, training, job opportunities) and opportunities to improve or at least restore their income-earning capacity, production levels and standard of living to economically displaced persons whose livelihoods or income levels are adversely affected; and Transitional support to economically displaced persons where necessary, based on a reasonable estimate of the time required to restore their income-earning capacity, production levels, and standards of living.

2.3 DISPLACEMENT

2.3.1 PHYSICAL DISPLACEMENT

In the case of physical displacement, the Borrower will develop a plan that covers, at a minimum, the applicable requirements of this ESS regardless of the number of people affected. The plan will be designed to mitigate the negative impacts of displacement and, as warranted, to identify development opportunities. It will include a resettlement budget and implementation schedule, and establish the entitlements of all categories of affected persons (including host communities). Particular attention will be paid to gender aspects and the needs of the poor and the vulnerable. The Borrower will document all transactions to acquire land rights, provision of compensation and other assistance associated with relocation activities. If people living in the project area are required to move to another location, the Borrower will:

a) offer displaced persons choices among feasible resettlement options, including adequate replacement housing or cash compensation; and
b) Provide relocation assistance suited to the needs of each group of displaced persons. New resettlement sites will offer living conditions at least equivalent to those previously enjoyed, or consistent with prevailing minimum codes or standards, whichever set of standards is higher. If new resettlement sites are to be prepared, host communities will be consulted regarding planning options, and resettlement plans will ensure continued access, at least at existing levels or standards, for host communities to facilities and services. The displaced persons' preferences with respect to relocating in preexisting communities and groups will be respected wherever possible. Existing social and cultural institutions of the displaced persons and any host communities will be respected. In the case of physically displaced persons under paragraph 10 (a) or (b), the Borrower will offer the choice of replacement property of equal or higher value, with security of tenure, equivalent or better characteristics, and advantages of location, or cash compensation at replacement cost. Compensation in kind should be considered in lieu of cash.

In the case of physically displaced persons under paragraph 10 (c), the Borrower will provide arrangements to allow them to obtain adequate housing with security of tenure. Where these displaced persons own structures, the Borrower will compensate them for the loss of assets other than land, such as dwellings and other improvements to the land, at replacement cost. Based on consultation with such displaced persons, the Borrower will provide relocation assistance in lieu of compensation for land sufficient for them to restore their standards of living at an adequate alternative site. The Borrower is not required to compensate or assist those who encroach on the project area after the cutoff date for eligibility, provided the cut-off date has been clearly established and made public.

Payment of cash compensation for lost land and other assets may be appropriate where livelihoods are not land-based;
(b) Livelihoods are land-based but the land taken for the project is a small fraction of the affected asset and the residual land is economically viable; or
(c) Active markets for land, housing, and labor exist, displaced persons use such markets, there is sufficient supply of land and housing, and the Borrower has demonstrated to the satisfaction of the Bank that insufficient replacement land is available.

Where the Borrower demonstrates that an affected person derives substantial income from multiple illegal rental units, the compensation and other assistance that would otherwise be available to such person for non-land assets and livelihood restoration under this paragraph may be reduced with the prior agreement of the Bank, to better reflect the objectives of this ESS. Relocation of informal settlers in urban areas may involve trade-offs. For example, the relocated families may gain security of tenure, but they may lose locational advantages that may be essential to livelihoods, especially among the poor or vulnerable. Changes in location that may affect livelihood opportunities should be addressed in accordance with the relevant provisions of this ESS (see in particular paragraph 34 (c)). The Borrower will not resort to forced evictions of affected persons. “Forced eviction” is defined as the permanent or temporary removal against the will of individuals, families, and/or communities from the homes and/or land which they occupy without the provision of, and access to, appropriate forms of legal and other protection, including all applicable procedures and principles in this ESS.

The exercise of eminent domain, compulsory acquisition or similar powers by a Borrower will not be considered to be forced eviction providing it complies with the requirements of national law and the provisions of this ESS, and is conducted in a manner consistent with basic principles of due process (including provision of adequate advance notice, meaningful opportunities to lodge grievances and appeals, and avoidance of the use of unnecessary, disproportionate or excessive force). As an alternative to displacement, the Borrower may consider negotiating *in situ* land development arrangements by which those to be affected may elect to accept a partial loss of land or localized relocation in return for improvements that will increase the value of their property after development. Any person not wishing to participate will be allowed to opt instead for full compensation and other assistance as required in this ESS.

2.3.2 ECONOMIC DISPLACEMENT

In the case of projects affecting livelihoods or income generation, the Borrower’s plan will include measures to allow affected persons to improve, or at least restore, their incomes or livelihoods. The plan will establish the entitlements of affected persons and/or communities, paying particular

attention to gender aspects and the needs of vulnerable segments of communities, and will ensure that these are provided in a transparent, consistent, and equitable manner. The plan will incorporate arrangements to monitor the effectiveness of livelihood measures during implementation, as well as evaluation once implementation is completed. The mitigation of economic displacement will be considered complete when the completion audit concludes that affected persons or communities have received all of the assistance for which they are eligible, and have been provided with adequate opportunity to re-establish their livelihoods. Economically displaced persons who face loss of assets or access to assets will be compensated for such loss at replacement cost:

a) In cases where land acquisition or restrictions on land use affect commercial enterprises, This includes shops, restaurants, services, manufacturing facilities and other enterprises, regardless of size and whether licensed or unlicensed. Affected business owners will be compensated for the cost of identifying a viable alternative location; for lost net income during the period of transition; for the cost of the transfer and reinstallation of the plant, machinery, or other equipment; and for re-establishing commercial activities. Affected employees will receive assistance for temporary loss of wages and, if necessary, assistance in identifying alternative employment opportunities;
b) In cases affecting persons with legal rights or claims to land that are recognized or recognizable under national law (see paragraph 10 (a) and (b)), replacement property (e.g., agricultural or commercial sites) of equal or greater value will be provided, or, where appropriate, cash compensation at replacement cost; and
c) Economically displaced persons who are without legally recognizable claims to land (see paragraph 10 (c)) will be compensated for lost assets other than land (such as crops, irrigation infrastructure and other improvements made to the land), at replacement cost. Additionally, the Borrower will provide assistance in lieu of land compensation sufficient to provide such persons with an opportunity to re-establish livelihoods elsewhere. The Borrower is not required to compensate or assist persons who encroach on the project area after the cut-off date for eligibility.

Economically displaced persons will be provided opportunities to improve, or at least restore, their means of income-earning capacity, production levels, and standards of living:

a) For persons whose livelihoods are land-based, replacement land that has a combination of productive potential, locational advantages, and other factors at least equivalent to that being lost will be offered where feasible;
b) For persons whose livelihoods are natural resource-based and where project-related restrictions on access envisaged in paragraph 4 apply, measures will be implemented to either allow continued access to affected resources or to provide access to alternative resources with equivalent livelihood-earning potential and accessibility. Where common property resources are affected, benefits and compensation associated with restrictions on natural resource usage may be collective in nature; and
c) If it is demonstrated that replacement land or resources are unavailable, the Borrower will offer economically displaced persons options for alternative income earning opportunities, such as credit facilities, skills training, business start-up assistance, employment opportunities, or cash assistance additional to compensation for assets. Cash assistance alone, however, frequently fails to provide affected persons with the productive means or skills to restore livelihoods. Transitional support will be provided as necessary to all economically

displaced persons, based on a reasonable estimate of the time required to restore their income-earning capacity, production levels, and standards of living.

2.3.3 GRIEVENCES REDRESS MECHANISM (GRM)

In line with Handbook for Preparing a Resettlement Action Plan by IFC it is stated that regardless of its scale, involuntary resettlement inevitably gives rise to grievances among the affected population over issues ranging from rates of compensation and eligibility criteria to the location of resettlement sites and the quality of services at those sites. The redress of such grievances is vital and should be timely and to the satisfactory implementation of resettlement and to completion of the project on schedule. The project sponsor must ensure that procedures are in place to allow affected people to lodge a complaint or a claim (including claims that derive from customary law and usage) without cost and with the assurance of a timely and satisfactory resolution of that complaint or claim. In addition, the project may have to make special accommodations for women and members of vulnerable groups to ensure that they have equal access to grievance redress procedures.

Such accommodation may include employment of women or members of vulnerable groups to facilitate the grievance redress process or to ensure that groups representing the interests of women and other vulnerable groups take part in the process. Grievances are best redressed through project management, local civil administration, or other channels of mediation acceptable to all parties. Such channels of mediation may involve customary and traditional institutions of dispute resolution. The project management should make every effort to resolve grievances at the community level. Recourse to the legal system should be avoided except as a last resort.

The purpose of the GRM is to record and address any complaints that may arise during the implementation phase of the project and/or any future operational issues that have the potential to be designed out during implementation phase. The GRM is designed to address concerns and complaints promptly and transparently with no impacts (cost, discrimination) for any reports made by project affected people (PAPs). The GRM works within existing legal and cultural frameworks, providing an additional opportunity to resolve grievances at the local, project level. The key objectives of the GRM are:

- Record, categorize and prioritize the grievances;
- Settle the grievances via consultation with all stakeholders (and inform those stakeholders of the solutions)
- Forward any unresolved cases to ZETDC the ultimate owner of the line after the proponent hand-over the line.

As the GRM works within existing legal and cultural frameworks, it is recognized that the GRM will comprise community level, project level and judiciary level redress mechanisms. The steps below form the framework through which the GRM will be implemented.

Grievance related to any aspect of the project will be handled through negotiations, which will be aimed at achieving consensus following the procedures outlined below:

1. Grievances will be filed by the person affected by the project with the project manager of Kamativi Lithium Mine, which will act within 15 days on receipt thereof.
2. If no understanding or amicable solution can be reached, or if the affected person does not receive a response from Kamativi Lithium Mine within 15 days of the registry of the complaint, he/she can appeal to the ZETDC environmental office, which should act on the complaint/grievance within 15 days of the day of its filing.
3. If the affected person is not satisfied with the decision of the ZETDC, he/she, as a last resort, may submit the complaint to a court of law.

Affected persons will be exempt from all administrative and legal fees incurred pursuant to the grievance redress procedures. All complaints received in writing (or written when received verbally) will be documented.

3.1 ELIGIBILITY AND ENTITLEMNTS

This RAP addresses the physical and economic resettlement of property owners and assets falling within the project way leave**.** Its aim is to set out the principles, policies, procedures and actions through which the proponent will manage and mitigate resettlement impacts associated with the development of the project. The RAP is based on the findings of the stakeholder engagement process and asset surveys undertaken by Sustiglobal, an Environmental Consultancy Firm fully registered in Zimbabwe.

3.1.1 CUT OFF DATE FOR ELIGIBILITY

A cut-off date is usually the date that the first inventory survey is completed. The IFC Principle on the cut-off date which the proponent is expected to follow is given in the text.

- **Beneficiary Capping**—The completion of the census represents a provisional cut-off date for eligibility for resettlement assistance. This makes it essential that planners ensure sufficient public awareness of the cut-off date. Census-takers should provide affected people documentation that confirms their enumeration (identity cards or a witnessed copy of the survey endorsed by the household head). Proof of enumeration precludes an influx of people into the project area after the cut-off date. Although concessions should be made for enumerator errors and omissions, as a rule **people moving into the project area after the cut-off date should not be entitled to assistance**. Planners must nevertheless accommodate individuals or groups who are not present at the time of registration but who have a legitimate claim to membership in the affected community. Such groups might include absent family members engaged in migrant wage labour or nomadic pastoralists who use local resources on a seasonal basis. If there is a significant time lag between the completion of the census and implementation of the RAP, resettlement planners should make provision for population movements as well as natural population increase and expansion of households, which may include a repeat census signed off and witnessed" IFC principles 2012.
- **Cut-off Date Explanation -** Sustiglobal has taken the cut off to be the 31st of August 2021, which was the point at which all the asset inventories and mapping of affected families was undertaken.

3.2 SURVEY FINDINGS

The transmission line route was carefully selected to deliberately avoid private land and, in most areas, it follows through forests were they the project unlikely affect the local communities. However, in Chilanga Village about twenty two (22 km) kilometres from the Hwange Local substation via the line route, there are economic displacement that are mainly once-off disturbances on gardens if the construction works shall be conducted when there are crops in the gardens. The following are the affected stakeholders and their corresponding expected compensations.

Table 3.1: The compensation matrix

	PROPOPERTY OWNER'S DETAILS			
	NAME	**ID No./CELL**	**PROPERTY TO BE AFFECTED**	**ESTIMATED VALUE (USD)**

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1	Willimon Dube	79-109796 H 06	Garden that falls partly within the way leave	100.00
2			Granary (storehouse for threshed grain) that falls partly within the way leave	50.00
3	Erneress Shoko	0778659933	Small garden with vegetables	100.00
4	Annah Shoko	79-014507 H 79	Garden that is owned by 20 plot holders. The garden simply needs to be destroyed and re-established somewhere outside the way leave.	1,500.00
			A bush-pump powered borehole should be moved closer to the garden or it should be fitted with a pump, solar panels and a pipe that would connect water to the new garden.	2,000.00
		TOTAL BUDGET		**3,750.00**

The proponent is therefore bound to accept the budget proposed by the affected parties to prevent likely grievances that may undermine progress of the proposed project. The proponent also confirmed and vowed to abide by the expectations that were presented in form of the budget above and thus promises to settle the payments soon before the construction of the affected part of the transmission line starts. The figures below show gardens and borehole that shall be negatively affected by the proposed project.



Figure 3.1a: Willimon Dube's garden

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Figure 3.2a: Willison Dube's garden



Figure 3.3a: Willison Dube's granary

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Figure 3.4a: Eneress Shoko's garden



Figure 3.5a: Community garden



Figure 3.6a: Community borehole



Figure 3.7a: Chilanga Village (showing affected gardens and bush pump)

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3.3 SURVEY QUESTIONNAIRES

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RESETTLEMENT ACTION PLAN AFFECTED PARTY QUESTIONNAIRE

PART A: AFFECTED PERSON'S SECTION

1.	Name of affected party	Eneres Shoko			ID No.		
2.	Age of participant	82	Contacts (phone, email)	0778 65 99 33 (Village Head's R. Nyoni)			
3.	Sex (tick)		✓	Occupation	Farming		
4.	Physical address	last house along the line		Plot No.	Chilonga Village		
5.	Location (coordinates)				Ward		
6.	No of persons/ household?	Under 18 years	Male 0 / Female 0	Over 18 years (able bodied)	Male 1 / Female 1	Over 18 years (dependency)	Male 0 / Female 0
7.	Have you understood the project's scope?	Yes	✓	No			
8.	Where is your plot in relation to the project site	Outside		Wholly within		Partly within	✓
9.	If you are partly within, explain	owns a small garden next to a borehole.					
10.	If you are outside, how far are you from the project site?	N/A					
11.	Source of water	Borehole		Distance from source	300 m		
12.	Immovable possessions the affected person has, and estimate value (USD)	Item	Garden	Quantity		Combined Value	100-00
13.	Sources of livelihoods	Item	Cropping • mhunga and Sorghum	Area covered or quantity	N/A	Income	N/A

14.	Land tenue type (tick)	Communal	✓	Reset A1		Reset A2	
15.	Size of area (specify units)	Arable:	N/A	Non-arable	N/A		
16.	Estimate crop yield per year and cost (specify units)	Yield	N/A	Cost ($)	N/A		
17.	Key natural resources that you value most in the area	Munyi, Munyi Tshuvu, mukwakwa					
18.	Average distances (km) to nearest social service centers	1 School 4km 2. Clinic 18.1km 3. Shopping centre 10km 4.					
19.	Presence of graves and quantity (specify quantity)	Presence?	N/A	Quantity?			
20.	Are you agreeable to being relocated and compensated	Yes	N/A	No.	N/A		
21.	Are there areas of cultural significance within your property? (tick)	Yes	N/A	No	N/A		
22.	On relocation of cultural areas (graves) what do you favor? (tick)	Facing them off	N/A	Relocation (e.g. exhumation)	N/A		
23.	In the event of relocation, which area would you want to be relocated to?						
24.	Overall description on how the person is affected	Loss of livlihood through a garden that shall be permanently removed from the way leave					
25.	Other general comments	N/A					
26.	Date	29/09/2023		Designation	owner		
27.	Signature	X		Witness' Signature			
PART B: FOR OFFICIAL USE							
28.	Date			Designation			
29.	Signature			Name			

We sincerely appreaciate your participation !!! Thank you!!!

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RESETTLEMENT ACTION PLAN AFFECTED PARTY QUESTIONNAIRE

PART A: AFFECTED PERSON'S SECTION

1.	Name of affected party	Willman Dube			ID No.	79-109796 H06	
2.	Age of participant	43	Contacts (phone, email)	0788259565			
3.	Sex (tick)	Male ✓	Female	Occupation	Farming		
4.	Physical address	Chilanga			Plot No.	N/A	
5.	Location (coordinates)	18.2466236	26.3530477°		Ward	20	
6.	No of persons/ household?	Under 18 years	Boys 2 / Girls 1	Over 18 years (able bodied)	Male 2 / Female 2	Over 18 years (dependency)	Male Nil / Female Nil
7.	Have you understood the project's scope?	Yes	yes	No			
8.	Where is your plot in relation to the project site	Outside		Wholly within		Partly within	✓
9.	If you are partly within, explain	The gardens fall within the wayleave					
10.	If you are outside, how far are you from the project site?	N/A					
11.	Source of water	Borehole 200 m (Bush pump)			Distance from source	200 m	

12.	Immovable possessions the affected person has, and estimate value (USD)	Item	Quantity	Combined Value
		* Garden (To call the owner)	-	-
		* Granary house this is affected	-	
13.	Sources of livelihoods	Item	Area covered or quantity	Income
		Growing maize and Sorghum.	500sqm	

14.	Land tenue type (tick)	Communal	✓	Reset A1		Reset A2	
15.	Size of area (specify units)	Arable:	500 m²	Non-arable	N/A		
16.	Estimate crop yield per year and cost (specify units)	Yield	-	Cost ($)	-		
17.	Key natural resources that you value most in the area	Mushi, Mango					
18.	Average distances (km) to nearest social service centers	1 School 4 km 2. Clinic 18 km 3. Shopping centre 10km 4.					
19.	Presence of graves and quantity (specify quantity)	Presence?	6 graves	Quantity?			
20.	Are you agreeable to being relocated and compensated	Yes	-	No.	-		
21.	Are there areas of cultural significance within your property? (tick)	Yes	N/A	No	N/A		
22.	On relocation of cultural areas (graves) what do you favor? (tick)	Facing them off	N/A	Relocation (e.g. exhumation)	N/A		
23.	In the event of relocation, which area would you want to be relocated to?	N/A					
24.	Overall description on how the person is affected	Once off disturbance of Crops in the garden.					
25.	Other general comments	N/A					
26.	Date	29/09/2023		Designation	Child		
27.	Signature	W. Dube		Witness' Signature			
PART B: FOR OFFICIAL USE							
28.	Date			Designation			
29.	Signature			Name			

We sincerely appreaciate your participation !!! Thank you!!!

Main Garden

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(22 lines) in the Garden

RESETTLEMENT ACTION PLAN AFFECTED PARTY QUESTIONNAIRE

PART A: AFFECTED PERSON'S SECTION

1.	Name of affected party	Anna Shoko	ID No.	79-014507H79	
2.	Age of participant	~~48~~ 70	Contacts (phone, email)	~~48~~	
3.	Sex (tick)	Male ✓	Occupation	Ass	
4.	Physical address		Plot No.		
5.	Location (coordinates)	Chilanga	Ward	20	
6.	No of persons/ household?	Under 18 years: Boys / Girls	Over 18 years (able bodied): Male / Female	Over 18 years (dependency): Male / Female	
7.	Have you understood the project's scope?	Yes ✓	No		
8.	Where is your plot in relation to the project site	Outside	Wholly within	Partly within ✓	
9.	If you are partly within, explain	half affected of the garden shall be			
10.	If you are outside, how far are you from the project site?	N/A			
11.	Source of water	Borehole	Distance from source	200m	

12.	Immovable possessions the affected person has, and estimate value (USD)	Item	Quantity	Combined Value
		Garden only	–	1,500-00
		Borehole (New)	–	2000-00
13.	Sources of livelihoods	Item	Area covered or quantity	Income
		vegetables	1000 m²	

14.	Land tenue type (tick)	Communal	✓	Reset A1		Reset A2	
15.	Size of area (specify units)	Arable:	1000 m²	Non-arable			
16.	Estimate crop yield per year and cost (specify units)	Yield	N/A	Cost ($)			
17.	Key natural resources that you value most in the area	wild fruits					
18.	Average distances (km) to nearest social service centers	1 School 4 km 2. Clinic 18 km 3. Shopping centre 13 km 4.					
19.	Presence of graves and quantity (specify quantity)	Presence?	N/A	Quantity?	N/A		
20.	Are you agreeable to being relocated and compensated	Yes	N/A	No.	N/A		
21.	Are there areas of cultural significance within your property? (tick)	Yes	N/A	No	N/A		
22.	On relocation of cultural areas (graves) what do you favor? (tick)	Facing them off	N/A	Relocation (e.g. exhumation)	N/A		
23.	In the event of relocation, which area would you want to be relocated to?						
24.	Overall description on how the person is affected	Loss of livelihoods as a result of the garden that shall be permanently deprived.					
25.	Other general comments	The garden should be relocated. And close to the the borehole or another borehole that shall be drilled					
26.	Date	29/09/2023		Designation	Representative of Proponent		
27.	Signature	X		Witness' Signature			
PART B: FOR OFFICIAL USE							
28.	Date			Designation			
29.	Signature			Name			

We sincerely appreaciate your participation !!! Thank you!!!

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APPENDIX D: ARCHAEOLOGICAL & CULTURAL IMPACT ASSESSMENT

ARCHAEOLOGICAL AND CULTURAL IMPACT ASSESSMENT REPORT

FOR

KAMATIVI MINING COMPANY POWERLINE

Prepared by

Dr Senzeni Khumalo

Cell no.: 0772315794

Email Address: Senzenikhumalo2013@gmail.com

1.0 Introduction

This report is an Archaeological Impact Assessment for Kamativi A subsidiary of the Tsingashan Group of China (Pvt) Ltd. who intends to undertake install an 88kv power transmission line in Kamativi Mine area of Hwange District, Matabeleland North Province. This archaeological impact assessment report describes the archaeological resource found in the proposed mining area and discusses the possible major impacts (positive and negative) envisaged and the measures that will be taken to mitigate the negative impacts to the archaeological heritage.

This report has been prompted by a need to adhere to the laws governing the conduct of mining operations in relation to the management of the archaeological heritage of this country.

1.1 Terms of Reference

An Archaeological Impact Assessment is done to establish quantitatively and qualitatively, the archaeological heritage resource within and around a project area. This Archaeological report was compiled on the basis of the following terms of reference:

- To describe the pertinent legislation relating to the archaeological heritage material of Zimbabwe
- To establish whether there are any sites or objects of archaeological, cultural and historic interest in the specified area which, may be affected by the proposed 88kv power transmission line project.
- To assess the impact of the disturbance and suggest mitigation measures to be put in place by the project proponent.

2.0 Pertinent Legislation

2.1 National Museums and Monuments Act Chapter 25:11

It protects the archaeological heritage of Zimbabwe. Section 4 Subsection 2 (e), requires NMMZ to "initiate, participate and monitor scientific research into any matter pertaining to Zimbabwe's cultural, historic and natural heritage. Section 20 (c) requires all commercial developers to carry out an archaeological impact assessment before any development takes place, and send the report to the Executive Director.

2.2 *Archaeological Impact Assessments – Guidelines for planning authorities and developers*

The guidelines were published in 1998 to reinforce the NMMZ Act (Chapter 25:11) in its endeavour to protect Zimbabwe's archaeological heritage against destruction in the name of development. The NMMZ Act is explicit that an Archaeological Impact Assessment (AIA) must be carried out prior to any

development of an area. The Guidelines for Planning Authorities and Developers spell out the need to investigate a site before the intended development commences. It also spells out the technical details of how an archaeological impact assessment is to be carried out. The investigation should reveal the archaeological resource in the project area, if any, and what mitigation measures are to be put in place to avoid destruction of the heritage.

Key concepts and terms

Periodisation: Archaeologists divide the different cultural eras according to the dominant material finds for the different time periods. This periodisation is usually region-specific, such that the same label can have different dates for different areas. This makes it important to clarify and declare the periodisation of the area one is studying. These periods are nothing a little more than convenient time brackets because their terminal and commencement are not absolute and there are several instances of overlap. In the present study, relevant archaeological periods are given below;

- Early Stone Age (~ 2.6 million to 250 000 years ago)
- Middle Stone Age (~ 250 000 to 40-25 000 years ago)
- Later Stone Age (~ 40-25 000, to recently, 100 years ago)
- Early Iron Age (~ AD 200 to 1000)
- Late Iron Age (~ AD1100-1840)
- Historic (~ AD 1840 to 1950, but a Historic building is classified as over 60 years old)

Definition of terms

Just like periodization, it is also critical to define key terms employed in this study. Most of these terms derive from National Museums and Monuments Act chapter 25:11 and its ancillary laws, as well as international regulations and norms of best-practice. The following aspects have a direct bearing on the investigation and the resulting report:

Cultural (heritage) resources are all non-physical and physical human-made occurrences, and natural features that are associated with human activity. These can be singular or in groups and include significant sites, structures, features, ecofacts and artefacts of importance associated with the history, architecture or archaeology of human development.

Cultural significance is determined by means of aesthetic, historic, scientific, social or spiritual values for past, present or future generations.

Value is related to concepts such as worth, merit, attraction or appeal, concepts that are associated with the (current) usefulness and condition of a place or an object. Although significance and value are not mutually exclusive, in some cases the place may have a high level of significance but a lower level of value. Often, the evaluation of any feature is based on a combination or balance between the two.

Isolated finds *are* occurrences of artefacts or other remains that are not in-situ or are located apart from archaeological sites. Although these are noted and recorded, but do not usually constitute the core of an impact assessment, unless if they have intrinsic cultural significance and value.

In-situ refers to material culture and surrounding deposits in their original location and context, for example an archaeological site that has not been disturbed by farming.

Archaeological site/materials are remains or traces of human activity that are in a state of disuse and are in, or on, land and which are older than 100 years, including artefacts, human and hominid remains, and artificial features and structures. According to the NMMZ Act (Act No. 25:11 of 1999), no archaeological artefact, assemblage or settlement (site) and no historical building or structure older than 60 years may be altered, moved or destroyed without the necessary authorisation from the NMMZ or a provincial heritage resources authority.

Historic material are remains resulting from human activities, which are younger than 100 years, but no longer in use, including artefacts, human remains and artificial features and structures.

Chance finds means archaeological artefacts, features, structures or historical remains accidentally found during development.

A grave is a place of interment (variably referred to as burial) and includes the contents, headstone or other marker of such a place, and any other structure on or associated with such place. A grave may occur in isolation or in association with others where upon it is referred to as being situated in a cemetery (contemporary) or burial ground (historic).

A site is a distinct spatial cluster of artefacts, structures, organic and environmental remains, as residues of past human activity.

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Heritage Impact Assessment (HIA) refers to the process of identifying, predicting and assessing the potential positive and negative cultural, social, economic and biophysical impacts of any proposed project which requires authorisation of permission by law and which may significantly affect the cultural and natural heritage resources. Accordingly, an HIA must include recommendations for appropriate mitigation measures for minimising or circumventing negative impacts, measures enhancing the positive aspects of the proposal and heritage management and monitoring measures.

Impact is the positive or negative effects on human well-being and / or on the environment.

Mitigation is the implementation of practical measures to reduce and circumvent adverse impacts or enhance beneficial impacts of an action.

Mining heritage sites refer to old, abandoned mining activities, underground or on the surface, which may date from the pre-historical, historical or the relatively recent past.

Study area or '**project area'** refers to the area where the developer wants to focus its development activities (refer to Map 4.1).

Phase I studies refer to surveys using various sources of data and limited field walking in order to establish the presence of all possible types of heritage resources in any given area.

3.0 Methodology

Methods which were employed in investigating the archaeological potential of the area include literature review, interviews and field survey. A literature survey covering published and unpublished material – maps, photographs, books, journals on the area under consideration and north western Zimbabwe in general, addressing the archaeology and history of the area was undertaken. Analysis of the archaeological records at the Natural History Museum in Bulawayo was done. Field survey involved systematic coverage of the proposed area and its environs noting any visible archaeological, historical and cultural sites and objects. Oral interviews were held with local residents in order to gain an understanding of historical and cultural sites and objects within the project area.

4.0 Description of the Project Area

The proposed 88kv power transmission line will run from Hwange to Kamativi. Kamativi Mine is located on map sheet number 1827A3 in Matabeleland North Province. The Kamativi mine is one of the largest tin mines in Zimbabwe.

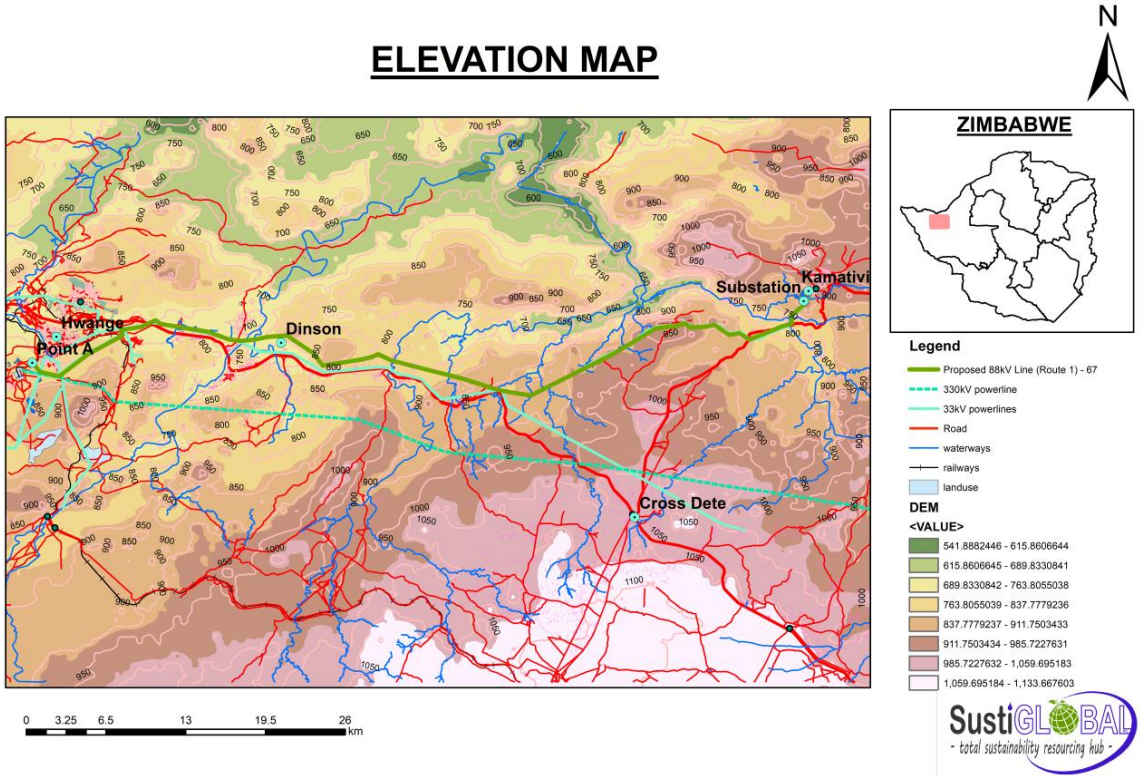


Figure 4. 1: Map showing Kamativi powerline (adapted from Sustiglobal, 2023)

5.0 General Archaeology of Hwange District

The western parts of Zimbabwe are rich in archaeological resources basing on evidence from past researches (Summers 1957, Jones 1948). These vary from Stone Age sites, which are mainly found along rivers to Iron Age sites, which exhibit characteristics of Zimbabwe type sites found in other parts of the country. There is also evidence of Stone Age settlements in the form of rock art sites and rock engraved sites.

5.1 Stone Age

A number of Stone Age sites have been recorded in the Hwange area. The sites do not stretch into the project area though some are very close. The sites range from the Early Stone Age (ESA) to Late Stone Age (L.S.A). The sites as recorded in the Archaeological Survey at the Natural History Museum are presented below.

Table 5. 1: List and location of Stone Age sites around the Hwange area

Name of site	Location (map sheet)	Grid reference	Site period
Bumbuzi Ridge	1826 C1	MK156-531	L.S.A

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Deteema River	1826 C1	MK092-333	L.S.A / Rock Art
Bumbuzi Cave	1826 C1	MK 14-54	L.S.A, L.I.A
Wankie Game Reserve	1826 C1	MK 20-60	L.S.A
Bumbuzi Ruins	1826 C1	MK 142-533	M.S.A
Chaba 88kv power transmission line Area	1826 A4	MK 459-596	M.S.A

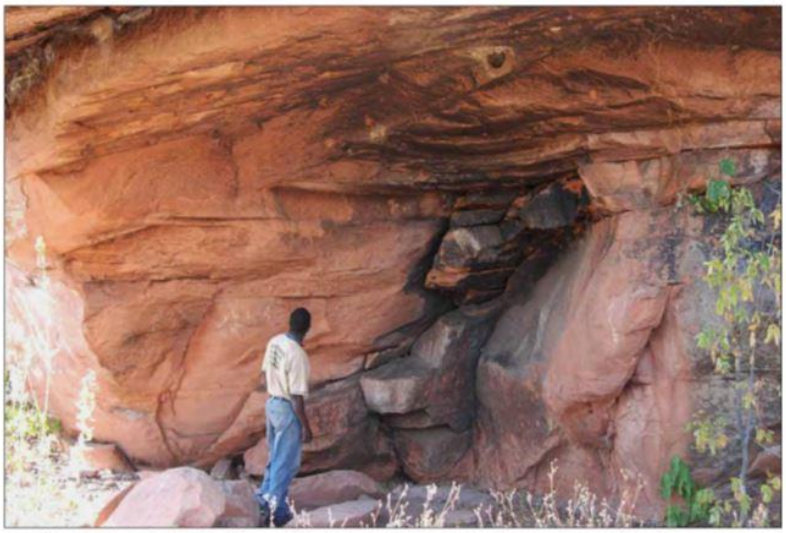


Figure 11: Archeologist Simon Makuvaza standing under the overhang at Ngabaa Rockshelter, Bumbusi. Magnetic North is to the left. A rock panel densely carved with spoor is to the right, facing north.

Figure 5. 1: Bumbusi rockshelter with engravings

5.2 *Iron Age*

Various Iron Age sites have been recorded at various places in the Hwange area. These include the Bumbuzi ruins, a Khami phase site where remains of stone structures, house floors and pottery remains have been recorded. Bumbuzi Ruins are also a national monument. Other stone structures include Kamandama Ruins, Mandavu Dam, Mtoa and Chakula Ruins. Details of these sites are presented in the table below.

Bumbusi National Monument (GPS reference: 18°30'52.42"S 26°11'05.85"E)

Name of site	**Location (map sheet)**	**Grid reference**	**Site period**
Bumbuzi Hill	1826 C1	MK 188-481	L.I.A
Bumbuzi Ruins	1826 C1	MK 142-533	L.I.A

Wankie Colliery	1826 A4	MK 47-69	L.I.A
Kamandama Ruin	1826 A4	MK 430-612	L.I.A
Wankie National Park	1826 C1	MK 145-410	L.I.A
Mtoa Ruins	1826 D1	MK 666-361	L.I.A
Dema River	1826 C1	MK 090-350	L.I.A
Bumbuzi River	1826 C1	MK 147-383	L.I.A
Chakula Ruin	1826 D2	MK 958-499	M.S.A, L.I.A

Bumbusi (Fig. 5.3) a Khami-type site is situated approximately 71 km southwest of the 88kv power transmission line -mining town of Hwange, in the northern Sinamatella area below a sandstone ridge in the north western corner of the park. The site is located in the northern drainage of the national park, which is separated by a low watershed from the Kalahari drainage and active under present climatic conditions and directed towards the Makgadikgadi basin in Botswana in a south western direction (Bond 1969; Klimowicz & Haynes 1996; Locket 1979). In 2008 the floors of 18 dwellings were carefully exposed, some of them had little cavities built into them for the well-known Zimbabwean game of Tsoro. There are seven built up platforms and raised enclosures that were identified. At Bumbusi, the platform retaining walls have been noted at the Hill Complex, the east and upper section of the South-East Enclosures and the east and upper section of the Lower Enclosure. In each of these cases houses were built on the flat surface of the platform retaining walls similar to what is found at Khami, and at its phase sites. The dominance of Q and PQ building styles and the absence of the P style reflect that the Nambya people may have perfected the skill of constructing settlements using dry stones. The platform type of walls and the building styles found at Bumbusi is accepted to describe and identify this site as a Khami phase site.



Figure 5. 2: Bumbusi National Monument

6.0 Archaeology of the Project Area

The archaeological survey did not yield any archaeological remains but during explorations in the early 1950s pottery belonging to Zhizo and Khami communities was discovered near Kamativi in the Hojobwe area.

6.1 Suggested Mitigation Measures

Whilst no archaeological material was recovered during the field walking exercise it is also recommended that in the event that archaeological material or findings are discovered or exposed during mining and other related construction processes, an archaeologist from the National Museums and Monuments of Zimbabwe should be called in to assess the significance of the findings and make appropriate suggestions.

7.0 Conclusion

This Archaeological Impact Assessment report was carried out for the proposed 88kv power transmission line exploration project's life. The impact appears to be largely short term and localized.

The archaeological sites and national monuments recorded in the archaeological survey record are about 50-100km away from the project area and are not in any way threatened by the mining development.

8.0 References

Jones, N. 1948. *The Prehistory of Southern Rhodesia*. Oxford: Oxford University Press.

National Museums and Monuments of Zimbabwe Act Cap 25/11.

Summers, R. 1957. Archaeology in Southern Rhodesia, in J. D. Clark (ed), *Prehistory Pan African Congress, Livingstone 1955.* London: Chatto and Windus.

APPENDIX E: STAKEHOLDERS CONSULTATION INPUT

ZIMBABWE ELECTRICITY TRANSMISSION & DISTRIBUTION COMPANY

HEAD OFFICE
ELECTRICITY CENTRE,
25 SAMORA MACHEL AVENUE,
HARARE
P.O. BOX 377, HARARE
TELEPHONE: 774491/9,

OUR REF: SP/vc
YOUR REF
WHEN CALLING WITH REFERENCE TO THIS LETTER PLEASE ASK FOR

Ms. S Pedzisai (CEP)

12 October 2023

Sustiglobal (Pvt) Ltd
No. 80 Central Avenue
Harare, Zimbabwe

ATT: Hon. Mutasa

REF: HWANGE-KAMATIVI 88kV LINE ROUTE REVIEW

The above subject matter refers. The Zimbabwe Electricity and Distribution Company (ZETDC) acknowledges receipt of the resubmitted ESIA dated 6 October 2023. Kamativi Mining Company proposes to transmit electrical power to Kamativi Mine from Hwange ZPC Power Station through cutting-in and cutting-out of 88kV line from Zimbabwe Zhingxin Electrical Energy (ZZEE) to Hwange ZPC Power Station. The line shall mainly follow 33kV lines from Hwange to Kamativi; via St Mary's, Mpongola, Dete and other villages in Ward 14 (Hwange Local Board), Ward 7, Ward 20, Ward 13, Ward 14, Ward 16 and Ward 11 of Lukosi Rural District.

However, the consultant should consider the commentary attached separately and incorporate these additional comments into the ESIA.

The project proponent should comply with the provisions of the Electricity Act (CAP 13:19) as read with its requisite ancillary legislation, Electricity (Public Safety) Regulations, SI 177 of 2018. The proponent should adhere to wayleave restrictions of any existing and proposed electricity transmission and distribution lines, which stipulate that the proponent should not place any object, or carry on any business or activity, farm or erect a structure within the prescribed wayleave clearance distances from either side of the outermost conductor. Furthermore, during the site development, heavy machinery equipment including but not limited to excavators and graders shall be prohibited to work under existing transmission lines without getting written prior authorization from ZETDC.

We remain available should you require any further assistance regarding this matter.

Yours Faithfully,

pp

Chief Environmental Planner

RECEIVED

DIRECTORS: Eng H. Choga (A/ Managing Director), E.T. Chikwenhere (Group Financial Controller), F Mazana (A/ Finance Director)

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	ENVIRONMENTAL AND SOCIAL MANAGEMENT UNIT			
	Document Type: Report	**Document Level:** 2	**Issue Number:** 01	**Effective Date:** 29.06.2023
	Document Number: Comments 001/23	**Prepared by:** V. Chikepe		
	Title: ESIA Matrix of Comments for HWANGE KAMATIVI Power Transmission Line			

1. Introduction

Kamativi Mining Company proposes to transmit electrical power to Kamativi Mine from Hwange ZPC Power Station through cutting-in and cutting-out of 88kV line from Zimbabwe Zhingxin Electrical Energy (ZZEE) to Hwange ZPC Power Station. The line shall mainly follow 33kV lines from Hwange to Kamativi; via St Mary's, Mpongola, Dete and other villages in Ward 14 (Hwange Local Board), Ward 7, Ward 20, Ward 13, Ward 14, Ward 16 and Ward 11 of Lukosi Rural District. The ESIA consultant submitted the first draft of the ESIA for review on the 21st of September 2023. A field visit was conducted from the 27th to 30th of September 2023 for ground verification. A resubmission of the ESIA was then made on the 6th of October 2023. This report details the additional information that is required to submit a comprehensive ESIA to the regulatory authority that meets ZETDC ESMS standards.

2. Matrix of Comments

CHAPTER	COMMENTS
Chapter 2 Project Description	➢ There is need to discuss the transmission line connection point, how it will run in the property of ZETDC to avoid Swift homestead.
Chapter 5 Stakeholder Consultation	➢ The Project Affected Parties need to be mentioned as a general overview. ➢ A summary of the Abbreviated Resettlement Action Plan may be included in this chapter. ➢ A Grievance Redress Mechanism needs to be included and may be represented by a flow chart for easy implementation.
Chapter 7 Environment & Social Management Plan	➢ Need for careful consideration of water sources since there is an alternative to use dams and rivers. There is need to make sure the water remains potable for the locals and the water sources are not perennial hence might pose a challenge for the local community that depends on the waters sources in the project area. ➢ Need for integrating even the skilled workers from the project areas to enhance community participation and economic benefits locally. ➢ Need for clear waste management plan for wastes during the project implementation and after the project is completed.

3. Way forward

➢ Submission of the ESIA to the regulatory authority with additional information.

Page **1** of **1**

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KAMATIVI MINING COMPANY 88kV POWER TRANSMISSION LINE ESIA STAKEHOLDER QUESTIONNAIRE

Stakeholder: Zambezi Gas and Coal mine **,Name:** ANESU KARADZA

ID No. : 63-2633376 Y11 **,Contacts (Phone, E-mail or Address):** karadzaanesu@gmail.com

Kamativi Mining Company P/L commissioned SustiGlobal to conduct an Environmental & Social Impact Assesment (ESIA) for the proposed ±80km, 88kV power transmission line from Zimbabwe Zhong Xin Electrical Energy (ZZEE) to Kamativi Mining Company, via a route that generally passes through; Ward 1, Ward 11, Ward 9, Ward 8, Ward 14, Ward 7, Ward 20, Ward 13 and Ward 16 of Hwange District. This proposed powerline will generally run parallel to the existing Power Lines along the same route. The project scope covers: creation of access routes, 30m wide way-leave clearing leaving 15m from each side, excavation & installation of steel H-poles, construction of a substation at the Kamativi Mining Company and periodic maintenance of the power line by ZETDC.

You or your organization has been identified as a key stakeholder in this project. May you kindly assist SustiGlobal Consultancy to identify potential environmental, social, economic & health impacts and suggest mitigation or enhancement measures for the proposed project by participating in the stakeholder consultation process through this questionnaire? You may use a separate sheet of paper where you feel the space below is not adequate or you have other issues outside the scope of the provided questions. Attached papers should bear your official letterhead.

1. **What positive (environmental, social, economic or biophysical) impacts may result from the project?**

Facilitating rural electrification
Renewable energy Integration
Economic growth and job creation

2. **(a) What negative (environmental, social, economic or biophysical) impacts may result from the project?**

Habitat disruption affecting flora and fauna
Property devaluation
Land use restrictions

(b) How do you think these negative impacts can be mitigated?

Public consultation, route selection, Maintenance and monitoring

3. **What local Corporate Social Responsibility (CSR) initiatives may the developer invest in?**

Environmental Conservation
Social welfare programs e.g. Orphanages, care centres e.t.c.

Stakeholder Signature:

Designation: SHE ATTACHÉ

ZAMBEZI GAS ZIMBABWE (PVT) LTD
11 SINAMATELA ROAD HWANGE
06

We sincerely appreaciate your participation !!!

Introducing a new 88kV power transmission line can have several positive impacts on the environment, society, economy, and biophysical aspects. Here are some potential benefits:

1. Renewable Energy Integration: The new transmission line can facilitate the integration of renewable energy sources, such as wind farms or solar power plants, into the electrical grid. This can help reduce greenhouse gas emissions by displacing fossil fuel-based power generation.

2. Improved Grid Reliability: The new transmission line can enhance the overall reliability and stability of the electrical grid. It can provide an additional pathway for electricity to flow, reducing the risk of blackouts and power outages. This
reliability is crucial for supporting critical infrastructure, businesses, and households.

3. Facilitating Rural Electrification: The transmission line can enable the extension of electricity to rural and remote areas. By connecting these communities to the grid, it can improve their quality of life, support economic development, and provide opportunities for education, healthcare, and communication.

4. Economic Growth and Job Creation: The construction and maintenance of the transmission line can stimulate economic growth and create employment opportunities. It requires skilled labour, engineering expertise, and materials, all of which contribute to local and regional economies.

5. Increased Energy Access: The new transmission line can help expand energy access to underserved populations. It enables the efficient transfer of electricity over long distances, allowing power generated in one region to be transported to areas with high energy demand, improving access to reliable electricity for businesses and households.

6. Reduced Transmission Losses: The new transmission line can minimize transmission losses that occur when electricity travels long distances. By reducing these losses, more electricity is delivered to end-users, resulting in improved efficiency and reduced energy waste.

7. Support for Industrial Development: The availability of reliable and affordable
electricity through the transmission line can attract new industries and support existing ones. It provides a stable power supply necessary for industrial processes, manufacturing, and technological advancements.

8. Environmental Benefits: By facilitating the integration of renewable energy sources and reducing the reliance on fossil fuels, the new transmission line can contribute to the reduction of air pollution and carbon emissions. This can help mitigate climate change, improve air quality, and protect public health.

9. Improved Resilience: The new transmission line can enhance the resilience of the electrical grid against natural disasters and other disruptions. It can provide redundancy and alternative routes for electricity transmission, enabling faster recovery and response during emergencies.

It's important to note that the specific impacts may vary depending on the local context, project design, and environmental and social considerations taken into account during planning and implementation.

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The introduction of a new 88kV power transmission line may have several negative environmental, social, economic, and biophysical impacts. Here are some potential impacts to consider:

1. Environmental Impact:

- Habitat Disruption: Construction activities, such as clearing land and installing transmission towers, may lead to habitat destruction and fragmentation, affecting local flora and fauna.
- Vegetation Loss: Trees and vegetation along the transmission line route may need to be cleared, resulting in the loss of important green cover and potential impacts on local ecosystems.
- Wildlife Disturbance: The construction and operation of the transmission line can disrupt wildlife habitats, migration routes, and breeding patterns, leading to changes in animal behaviour and population dynamics.
- Visual Impact: Transmission towers and power lines can alter the visual landscape, particularly in scenic or natural areas, diminishing their aesthetic value.

2. Social Impact.

- Property Devaluation: The presence of power transmission lines near residential areas can lead to decreased property values due to perceived health risks, visual intrusion, and noise concerns.
- Health Concerns: Some individuals may have concerns about potential health effects associated with exposure to electromagnetic fields (EMFs) generated by high-voltage power lines, although scientific evidence on this matter remains inconclusive.
- Community Disruption: Construction activities and associated infrastructure may temporarily disrupt local communities, causing noise, dust, and traffic congestion, and potentially straining local resources and services.

3. Economic Impact:

- Land Use restrictions: The transmission line may require acquiring rights-of-way or easements, potentially limiting land use options for property owners and affecting agricultural or commercial activities.
- Tourism and Recreation: In areas where tourism and recreational activities are important economic drivers, the visual impact and perceived negative effects of the transmission line may deter visitors and result in economic losses for local businesses.
- Maintenance Costs: Transmission lines require regular maintenance and inspection, which can result in ongoing costs for utility companies, potentially impacting electricity rates for consumers.

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4. Biophysical Impact:

- Electromagnetic Interference: High-voltage transmission lines can generate electromagnetic fields that may interfere with sensitive electronic equipment, such as communication systems or medical devices, if located in close proximity.
- Electromagnetic Pollution: Electromagnetic fields generated by power lines can extend beyond the immediate vicinity, potentially affecting nearby ecosystems and wildlife.

It is important to note that the specific impacts of a new transmission line depend on the local context, including the route, location, and existing environmental and social conditions. Conducting thorough environmental impact assessments, engaging with local communities, and implementing mitigation measures can help minimize these potential negative impacts.

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Mitigating the negative impacts of an 88kV power transmission line on the environment, society, economy, and biophysical aspects requires careful planning, design, and implementation. Here are some measures that can be taken to minimize these impacts:

Environmental Mitigation:

1. Route Selection: Choose transmission line routes that avoid sensitive environmental areas such as protected habitats, wetlands, and ecologically important areas.
2. Vegetation Management: Implement regular vegetation management along the transmission line corridor to prevent tree encroachment and maintain appropriate clearance.
3. Wildlife Protection: Adopt measures to protect wildlife, such as constructing

wildlife crossings or modifying tower designs to reduce the risk of bird collisions.

4. Erosion and Sediment Control: Implement erosion and sediment control measures during construction to prevent soil erosion and sedimentation in nearby water bodies.

Social Mitigation:

1. Public Consultation: Involve local communities and stakeholders in the decision-making process and seek their input on route selection, design, and mitigation measures.

2. Landowner Compensation: Provide fair compensation to landowners affected by the transmission line, considering any land acquisition or easement requirements.

3. Visual Impact Mitigation: Employ visual mitigation techniques such as using appropriate tower designs, landscaping, or undergrounding in scenic or residential areas to reduce the visual impact.

4. Noise Reduction: Implement noise reduction measures during construction and operation, especially in areas close to residential or sensitive locations.

Economic Mitigation:

1. Job Creation and Local Benefits: Prioritize local employment opportunities during construction and operation to provide economic benefits to the surrounding communities.

2. Infrastructure Sharing: Explore opportunities for sharing infrastructure with existing linear infrastructure, such as roads or railways, to minimize costs and environmental impacts.

3. Maintenance and Monitoring: Develop a comprehensive maintenance and monitoring plan to ensure the longevity and optimal performance of the transmission line, reducing the need for costly repairs or replacements.

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Biophysical Mitigation:

1. Electromagnetic Field (EMF) Management: Adopt EMF mitigation measures such as optimizing tower design and conductor configuration to minimize the electromagnetic field exposure in nearby areas.
2. Environmental Monitoring: Establish monitoring programs to assess potential impacts on soil, air quality, and water bodies during construction and operation.
3. Restoration and Rehabilitation: Implement appropriate restoration and rehabilitation measures in the transmission line corridor after construction to promote ecological recovery and habitat enhancement.

It is important to note that the specific mitigation measures required may vary depending on the local context, regulations, and stakeholder requirements. Engaging with experts in the field and conducting environmental and social impact assessments can help identify the most effective mitigation strategies for a particular project.

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The developer of an 88kV power transmission line can invest in several local corporate social responsibility (CSR) initiatives. Here are a few possible options:

1. Infrastructure Development: The developer can invest in improving local infrastructure, such as constructing or repairing roads, bridges, or community facilities. This will help enhance connectivity and accessibility for the local communities.

2. Education and Skill Development: The developer can focus on supporting education initiatives, such as funding the construction of schools or providing scholarships, grants, or vocational training programs. This will help improve literacy rates and enhance employability.

3. Environmental Conservation: As power transmission lines often pass through natural habitats, the developer can invest in initiatives to protect and preserve the environment. This can include undertaking reforestation activities, creating green spaces, or supporting wildlife conservation efforts.

4. Community Health and Safety: The developer can contribute to local healthcare facilities, clinics, or hospitals, providing necessary equipment, funding medical camps, or supporting health awareness programs. Additionally, they can invest in safety measures like erecting warning signs, providing emergency response training, or installing firefighting equipment.

5. Economic Empowerment: The developer can support local entrepreneurship by providing financial support, business development training, or mentorship programs. This will help create employment opportunities and boost the local economy.

6. Renewable Energy Initiatives: In conjunction with the transmission line project, the developer can invest in renewable energy sources such as solar panels or wind turbines. This will promote sustainability, reduce greenhouse gas emissions, and contribute to clean energy generation.

7. Social Welfare Programs: The developer can invest in various social welfare programs tailored to the needs of the local community, such as supporting orphanages, elderly care centres, or providing aid during natural disasters.

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ZAMBEZI GAS & COAL MINE

These are just a few examples, and the specific CSR initiatives will depend on the developer's objectives, community needs, and stakeholder engagement. It is essential to collaborate with local organizations, governments, and community leaders to identify and prioritize the most impactful initiatives.

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KAMATIVI MINING COMPANY 88kV POWER TRANSMISSION LINE ESIA STAKEHOLDER QUESTIONNAIRE

Stakeholder: ZAMBEZI GAS AND COAL MINE **,Name:** TATENDA E SITHOYI

ID No. : 67-2008405 S 12 **,Contacts (Phone, E-mail or Address):** 0774793951

Kamativi Mining Company P/L commissioned SustiGlobal to conduct an Environmental & Social Impact Assesment (ESIA) for the proposed ±80km, 88kV power transmission line from Zimbabwe Zhong Xin Electrical Energy (ZZEE) to Kamativi Mining Company, via a route that generally passes through; Ward 1, Ward 11, Ward 9, Ward 8, Ward 14, Ward 7, Ward 20, Ward 13 and Ward 16 of Hwange District. This proposed powerline will generally run parallel to the existing Power Lines along the same route. The project scope covers: creation of access routes, 30m wide way-leave clearing leaving 15m from each side, excavation & installation of steel H-poles, construction of a substation at he Kamativi Mining Company and periodic maintenance of the power line by ZETDC.

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1. **What positive (environmental, social, economic or biophysical) impacts may result from the project?**

Environmental Impacts: Preservation of natural landscapes, Promotion of renewable energy.
Social Impacts: Enhanced reliability and grid stability.
Economic Impacts: Increased energy market efficiency, facilitation of industrial growth
Biophysical Impacts: Improved grid connectivity.

2. **(a) What negative (environmental, social, economic or biophysical) impacts may result from the project?**

Environmental Impacts: Visual and aesthetic impacts, Potential for EMF.
Social Impacts: Negative perception and public opposition, Cultural and historical sites
Economic Impacts: Property devaluation, Potential for higher electricity rates.
Biophysical Impacts: Electromagnetic interference.

(b) How do you think these negative impacts can be mitigated?

- Implement measures that are wildlife friendly, that minimize habitat
- fragmentation, that explore innovative financing mechanisms.

3. **What local Corporate Social Responsibility (CSR) initiatives may the developer invest in?**

Community development eg schools, healthcare facilities and Environmental Conservation programs, Job creation and Economic development.

Stakeholder Signature: [signature]

Designation: SHE Attache

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We sincerely appreaciate your participation !!!

1. What positive (environmental, social, economic or biophysical) impacts may result from the project?

1.1 Environmental Impacts:

- Preservation of natural landscapes: Compared to higher voltage transmission lines, an 88kV line may have narrower rights-of-way, requiring less land disturbance and minimizing the impact on natural habitats.

- Promotion of renewable energy: Installing an 88kV transmission line can enable the transmission of electricity generated from renewable energy sources, such as wind or solar farms, which can contribute to a cleaner and more sustainable energy mix.

1.2 Social Impacts:

- Enhanced reliability and grid stability: Upgrading transmission infrastructure can improve the overall reliability of the power grid, reducing the occurrence of blackouts or brownouts and ensuring a stable electricity supply for residential, commercial, and industrial consumers.

1.3 Economic Impacts:

- Increased energy market efficiency: The transmission of electricity over long distances allows the integration of diverse energy sources and promotes competition in the energy market, potentially leading to lower energy prices for consumers.

- Facilitation of industrial growth: Reliable and efficient power transmission infrastructure can attract new businesses and industries to an area, stimulating economic growth and creating investment opportunities.

1.4 Biophysical Impacts:

- Improved grid connectivity: The installation of an 88kV transmission line can enhance the overall connectivity of the power grid, enabling the integration of renewable energy projects and improving the overall resilience and adaptability of the energy system.

2a. What negative (environmental, social, economic or biophysical) impacts may result from the project?

2a.1 Environmental Impacts:

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- Visual and aesthetic impacts: Transmission lines, especially if they pass through scenic or protected areas, can have visual and aesthetic impacts, altering the landscape and potentially affecting tourism or recreational activities.

- Potential for electromagnetic fields (EMF): Transmission lines generate electromagnetic fields, and while the health effects of EMF are still debated, there may be concerns about potential impacts on human and animal health.

2a.2 Social Impacts:

- Negative perception and public opposition: Transmission lines can be subject to public opposition due to concerns about visual impacts, health risks, or property devaluation, which can lead to conflicts and delays in project implementation.

- Cultural and historical heritage impacts: Transmission lines may pass through culturally or historically significant areas, potentially impacting cultural heritage sites or traditional lands of indigenous communities.

2a.3 Economic Impacts:

- Property devaluation: The presence of transmission lines can lead to property devaluation in nearby areas due to perceived negative impacts, potentially affecting property owners' investments and financial well-being.

- Potential for higher electricity rates: While transmission lines can increase energy market efficiency, there may be costs associated with the construction, operation, and maintenance of the infrastructure, which could potentially translate into higher electricity rates for consumers.

2a.4 Biophysical Impacts:

- Electromagnetic interference: Transmission lines can cause electromagnetic interference, potentially affecting nearby electronic equipment or communication systems.

2b. How do you think these negative impacts can be mitigated?

2b.1 Environmental Mitigation:

- Implement measures to minimize habitat fragmentation, such as designing transmission line routes to avoid sensitive areas or utilizing existing infrastructure corridors.

L

- Implement wildlife-friendly measures, such as bird diverters or underground cabling, to reduce the risk of wildlife collisions or electrocutions.

- Employ best practices for vegetation management to minimize impacts on trees and vegetation along the transmission line corridor.

- Monitor and manage electromagnetic fields (EMF) to ensure compliance with regulations and address any potential health concerns.

2b.2 Social Mitigation:

- Develop compensation and resettlement programs to address any potential displacement or disruption of communities, ensuring fair and equitable outcomes.

- Implement effective communication and public consultation strategies to address concerns, provide accurate information, and build trust with affected communities.

- Consider alternative route options that minimize impacts on cultural heritage sites or traditional lands of indigenous communities.

- Provide opportunities for local employment and skills development during the construction and maintenance phases to maximize the positive economic impacts for local communities.

2b.3 Economic Mitigation:

- Implement transparent pricing mechanisms to minimize the potential for higher electricity rates for consumers.

- Explore innovative financing mechanisms, such as public-private partnerships or green bonds, to optimize project funding while minimizing financial risks.

2b.4 Biophysical Mitigation:

Employ technologies and practices that minimize electromagnetic interference, such as proper grounding and shielding of equipment.

3. What local Corporate Social Responsibility (CSR) initiatives may the developer invest in?

3.1 Community Development:

- Support infrastructure development projects, such as schools, healthcare facilities, or community centers, to address essential needs and promote social well-being.

- Provide scholarships or grants for students from disadvantaged backgrounds to support their education and skill development.

3.2 Environmental Conservation:

- Support community-led sustainable agriculture or organic farming initiatives to promote environmentally friendly practices and enhance food security.

- Engage in environmental awareness campaigns or educational programs to promote sustainable practices and conservation among community members.

3.3 Renewable Energy and Energy Efficiency:

- Promote energy efficiency initiatives within the community, such as providing energy-efficient appliances or conducting energy audits to help reduce energy consumption and costs for residents and businesses.

3.4 Job Creation and Economic Development:

- Foster entrepreneurship and small business development through grants, mentorship programs, or access to microfinance to stimulate local economic activity and create job opportunities.

- Collaborate with local suppliers and contractors for project-related activities, boosting local businesses and creating a positive economic impact.

4.5 Stakeholder Engagement and Consultation:

- Establish regular communication channels and forums to engage with local communities, address concerns, and gather feedback throughout the project lifecycle.

- Support community-based organizations or initiatives that promote dialogue and participation among stakeholders, ensuring their voices are heard and considered in decision-making processes.

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KAMATIVI MINING COMPANY 88kV POWER TRANSMISSION LINE ESIA STAKEHOLDER QUESTIONNAIRE

Stakeholder: Kamalala Village head (Ward 16) **,Name:** Amon B Sibanda

ID No. : 79-016009B79 **,Contacts (Phone, E-mail or Address):** 0774965391

Kamativi Mining Company P/L commissioned SustiGlobal to conduct an Environmental & Social Impact Assesment (ESIA) for the proposed ±80km, 88kV power transmission line from Zimbabwe Zhong Xin Electrical Energy (ZZEE) to Kamativi Mining Company, via a route that generally passes through; Ward 1, Ward 11, Ward 9, Ward 8, Ward 14, Ward 7, Ward 20, Ward 13 and Ward 16 of Hwange District. This proposed powerline will generally run parallel to the existing Power Lines along the same route. The project scope covers: creation of access routes, 30m wide way-leave clearing leaving 15m from each side, excavation & installation of steel H-poles, construction of a substation at the Kamativi Mining Company and periodic maintenance of the power line by ZETDC.

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1. **What positive (environmental, social, economic or biophysical) impacts may result from the project?**
   Employment Creation

2. **(a) What negative (environmental, social, economic or biophysical) impacts may result from the project?**

   (b) How do you think these negative impacts can be mitigated?

3. **What local Corporate Social Responsibility (CSR) initiatives may the developer invest in?**

Stakeholder Signature: AR D 05/07/23

Designation:

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KAMATIVI MINING COMPANY 88kV POWER TRANSMISSION LINE ESIA STAKEHOLDER QUESTIONNAIRE

Stakeholder: Household (Village Ward 14 Lambo) **Name:** Mr Joshua MPala

ID No.: 79-045611R79 **Contacts (Phone, E-mail or Address):** 0775387186

Kamativi Mining Company P/L commissioned SustiGlobal to conduct an Environmental & Social Impact Assesment (ESIA) for the proposed ±80km, 88kV power transmission line from Zimbabwe Zhong Xin Electrical Energy (ZZEE) to Kamativi Mining Company, via a route that generally passes through; Ward 1, Ward 11, Ward 9, Ward 8, Ward 14, Ward 7, Ward 20, Ward 13 and Ward 16 of Hwange District. This proposed powerline will generally run parallel to the existing Power Lines along the same route. The project scope covers: creation of access routes, 30m wide way-leave clearing leaving 15m from each side, excavation & installation of steel H-poles, construction of a substation at the Kamativi Mining Company and periodic maintenance of the power line by ZETDC.

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1. **What positive (environmental, social, economic or biophysical) impacts may result from the project?**

Employment Creation
Periodic wayleave clearance opportunities

2. **(a) What negative (environmental, social, economic or biophysical) impacts may result from the project?**

(b) How do you think these negative impacts can be mitigated?

3. **What local Corporate Social Responsibility (CSR) initiatives may the developer invest in?**

Stakeholder Signature: JB MPala

Designation:

02/07/23

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KAMATIVI MINING COMPANY 88kV POWER TRANSMISSION LINE ESIA STAKEHOLDER QUESTIONNAIRE

Stakeholder: Chilanga Village (Ward 20) **,Name:** Shiyani Ngwenya

ID No. : 79-107496H79 **,Contacts (Phone, E-mail or Address):** 0787259565

Kamativi Mining Company P/L commissioned SustiGlobal to conduct an Environmental & Social Impact Assesment (ESIA) for the proposed ±80km, 88kV power transmission line from Zimbabwe Zhong Xin Electrical Energy (ZZEE) to Kamativi Mining Company, via a route that generally passes through; Ward 1, Ward 11, Ward 9, Ward 8, Ward 14, Ward 7, Ward 20, Ward 13 and Ward 16 of Hwange District. This proposed powerline will generally run parallel to the existing Power Lines along the same route. The project scope covers: creation of access routes, 30m wide way-leave clearing leaving 15m from each side, excavation & installation of steel H-poles, construction of a substation at the Kamativi Mining Company and periodic maintenance of the power line by ZETDC.

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1. **What positive (environmental, social, economic or biophysical) impacts may result from the project?**

Employment creation
After wayleave clearance we can do farming under the line.

2. **(a) What negative (environmental, social, economic or biophysical) impacts may result from the project?**

(b) How do you think these negative impacts can be mitigated?

3. **What local Corporate Social Responsibility (CSR) initiatives may the developer invest in?**

Stakeholder Signature: S Ngwenya

Designation: 08/07/25

DATE STAMP

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KAMATIVI MINING COMPANY 88kV POWER TRANSMISSION LINE ESIA STAKEHOLDER QUESTIONNAIRE

Stakeholder: Villager Chilanga **,Name:** Sondo Nyathi

ID No. : 41-012050P79 **,Contacts (Phone, E-mail or Address):** _____

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1. **What positive (environmental, social, economic or biophysical) impacts may result from the project?**
   - Boosting production at Kamativi Mine
   - Improved electrification in Kamativi

2. **(a) What negative (environmental, social, economic or biophysical) impacts may result from the project?**
   - loss of vegetation

   (b) How do you think these negative impacts can be mitigated?

3. **What local Corporate Social Responsibility (CSR) initiatives may the developer invest in?**
   - Replanting of trees

Stakeholder Signature: _____ 15/07/23 DATE STAMP

Designation: _____

We sincerely appreaciate your participation !!!

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KAMATIVI MINING COMPANY 88kV POWER TRANSMISSION LINE ESIA STAKEHOLDER QUESTIONNAIRE

Stakeholder: ZIMPARKS ,**Name:** Madhlamoto Doziwe

ID No. : 63-139146 H63 ,**Contacts (Phone, E-mail or Address):** dmadhlamoto@zimparks.org

Kamativi Mining Company P/L commissioned SustiGlobal to conduct an Environmental & Social Impact Assesment (ESIA) for the proposed ±80km, 88kV power transmission line from Zimbabwe Zhong Xin Electrical Energy (ZZEE) to Kamativi Mining Company, via a route that generally passes through; Ward 1, Ward 11, Ward 9, Ward 8, Ward 14, Ward 7, Ward 20, Ward 13 and Ward 16 of Hwange District. This proposed powerline will generally run parallel to the existing Power Lines along the same route. The project scope covers: creation of access routes, 30m wide way-leave clearing leaving 15m from each side, excavation & installation of steel H-poles, construction of a substation at the Kamativi Mining Company and periodic maintenance of the power line by ZETDC.

You or your organization has been identified as a key stakeholder in this project. May you kindly assist SustiGlobal Consultancy to identify potential environmental, social, economic & health impacts and suggest mitigation or enhancement measures for the proposed project by participating in the stakeholder consultation process through this questionnaire? You may use a separate sheet of paper where you feel the space below is not adequate or you have other issues outside the scope of the provided questions. Attached papers should bear your official letterhead.

1. **What positive (environmental, social, economic or biophysical) impacts may result from the project?**

2. **(a) What negative (environmental, social, economic or biophysical) impacts may result from the project?**

   (b) How do you think these negative impacts can be mitigated?

3. **What local Corporate Social Responsibility (CSR) initiatives may the developer invest in?**

Stakeholder Signature: _____

Designation: Principal Ecologist

DATE STAMP

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KAMATIVI MINING COMPANY 88kV POWER TRANSMISSION LINE ESIA STAKEHOLDER QUESTIONNAIRE

Stakeholder: Villager Chilenga **,Name:** Discover Naube

ID No. : 79-147473 L 79 **,Contacts (Phone, E-mail or Address):** 0771273313

Kamativi Mining Company P/L commissioned SustiGlobal to conduct an Environmental & Social Impact Assesment (ESIA) for the proposed ±80km, 88kV power transmission line from Zimbabwe Zhong Xin Electrical Energy (ZZEE) to Kamativi Mining Company, via a route that generally passes through; Ward 1, Ward 11, Ward 9, Ward 8, Ward 14, Ward 7, Ward 20, Ward 13 and Ward 16 of Hwange District. This proposed powerline will generally run parallel to the existing Power Lines along the same route. The project scope covers: creation of access routes, 30m wide way-leave clearing leaving 15m from each side, excavation & installation of steel H-poles, construction of a substation at the Kamativi Mining Company and periodic maintenance of the power line by ZETDC.

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1. **What positive (environmental, social, economic or biophysical) impacts may result from the project?**

Employment Opportunities

2. **(a) What negative (environmental, social, economic or biophysical) impacts may result from the project?**

(b) How do you think these negative impacts can be mitigated?

3. **What local Corporate Social Responsibility (CSR) initiatives may the developer invest in?**

Stakeholder Signature: D Naube

Designation:

DATE STAMP

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KAMATIVI MINING COMPANY 88kV POWER TRANSMISSION LINE ESIA STAKEHOLDER QUESTIONNAIRE

Stakeholder: Valleger Chilanga **,Name:** Anna Shoko

ID No. : 79-014507 H 79 **,Contacts (Phone, E-mail or Address):** 0771370923

Kamativi Mining Company P/L commissioned SustiGlobal to conduct an Environmental & Social Impact Assesment (ESIA) for the proposed ±80km, 88kV power transmission line from Zimbabwe Zhong Xin Electrical Energy (ZZEE) to Kamativi Mining Company, via a route that generally passes through; Ward 1, Ward 11, Ward 9, Ward 8, Ward 14, Ward 7, Ward 20, Ward 13 and Ward 16 of Hwange District. This proposed powerline will generally run parallel to the existing Power Lines along the same route. The project scope covers: creation of access routes, 30m wide way-leave clearing leaving 15m from each side, excavation & installation of steel H-poles, construction of a substation at the Kamativi Mining Company and periodic maintenance of the power line by ZETDC.

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1. **What positive (environmental, social, economic or biophysical) impacts may result from the project?**

- Improved electrification of the Kamativi area.
- Boosting of lithium production in Kamativi

2. **(a) What negative (environmental, social, economic or biophysical) impacts may result from the project?**

(b) How do you think these negative impacts can be mitigated?

3. **What local Corporate Social Responsibility (CSR) initiatives may the developer invest in?**

Stakeholder Signature: A. Sholco 21/07/23 DATE STAMP

Designation:

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KAMATIVI MINING COMPANY 88kV POWER TRANSMISSION LINE ESIA STAKEHOLDER QUESTIONNAIRE

Stakeholder: ZAMBEZI GAS AND COAL MINE **,Name:** PRAISE MHONDERA

ID No. : 44-124895R44 **,Contacts (Phone, E-mail or Address):** 0771937 515

Kamativi Mining Company P/L commissioned SustiGlobal to conduct an Environmental & Social Impact Assesment (ESIA) for the proposed ±80km, 88kV power transmission line from Zimbabwe Zhong Xin Electrical Energy (ZZEE) to Kamativi Mining Company, via a route that generally passes through; Ward 1, Ward 11, Ward 9, Ward 8, Ward 14, Ward 7, Ward 20, Ward 13 and Ward 16 of Hwange District. This proposed powerline will generally run parallel to the existing Power Lines along the same route. The project scope covers: creation of access routes, 30m wide way-leave clearing leaving 15m from each side, excavation & installation of steel H-poles, construction of a substation at the Kamativi Mining Company and periodic maintenance of the power line by ZETDC.

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1. **What positive (environmental, social, economic or biophysical) impacts may result from the project?**

Reduced GHG emissions as electricity will substitute use of fossil fuels
Social – Improved access to electricity as installation of the line can extend electricity to remote area
Economic – Job creation during the construction and maintenance of the transmission line

2. **(a) What negative (environmental, social, economic or biophysical) impacts may result from the project?**

Biodiversity loss and habitat fragmentation during construction of the transmission line
Social – construction of the line may lead to displacement of communities and disruption of livelihoods
Biophysical – noise pollution from machinery or equipment may impact sensitive animals
Property devaluation due to perceived negative impacts affecting investments & financial well being.

(b) How do you think these negative impacts can be mitigated?

Maintain appropriate clearance during construction to minimise biodiversity loss.
Noise reduction measures should be implemented during construction of transmission line.

3. **What local Corporate Social Responsibility (CSR) initiatives may the developer invest in?**

The dereloper may invest in supporting infrastructure development projects such as healthcare facilities, community centres and schools to address essential needs.

Stakeholder Signature: Mhondera

Designation: SHE ATTACHE

DATE STAMP
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11 SINAMATELA ROAD HWANGE
06
+263 772 276 118
+263 772 600 982
+263 778 125 700

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KAMATIVI MINING COMPANY 88kV POWER TRANSMISSION LINE ESIA STAKEHOLDER QUESTIONNAIRE

Stakeholder: Chilanga Village (Ward 20) **,Name:** Witness Zulu/Mina Ndlovu

ID No. : 79-003839 M 79 **,Contacts (Phone, E-mail or Address):** 0775511556

Kamativi Mining Company P/L commissioned SustiGlobal to conduct an Environmental & Social Impact Assesment (ESIA) for the proposed ±80km, 88kV power transmission line from Zimbabwe Zhong Xin Electrical Energy (ZZEE) to Kamativi Mining Company, via a route that generally passes through; Ward 1, Ward 11, Ward 9, Ward 8, Ward 14, Ward 7, Ward 20, Ward 13 and Ward 16 of Hwange District. This proposed powerline will generally run parallel to the existing Power Lines along the same route. The project scope covers: creation of access routes, 30m wide way-leave clearing leaving 15m from each side, excavation & installation of steel H-poles, construction of a substation at the Kamativi Mining Company and periodic maintenance of the power line by ZETDC.

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1. **What positive (environmental, social, economic or biophysical) impacts may result from the project?**

Employment Creation
It Creates land for farming after land Clearing

2. **(a) What negative (environmental, social, economic or biophysical) impacts may result from the project?**

(b) How do you think these negative impacts can be mitigated?

3. **What local Corporate Social Responsibility (CSR) initiatives may the developer invest in?**

Stakeholder Signature: wiTECNS ZPW 18.412300 $
26.657640 ZiG

Designation: 05/07/23

DATE STAMP

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KAMATIVI MINING COMPANY 88kV POWER TRANSMISSION LINE ESIA STAKEHOLDER QUESTIONNAIRE

Stakeholder: Zambezi Gas and Coal mine **,Name:** ANESU KARADZA

ID No. : 63-2633376 Y11 **,Contacts (Phone, E-mail or Address):** karadzaanesu@gmail.com

Kamativi Mining Company P/L commissioned SustiGlobal to conduct an Environmental & Social Impact Assesment (ESIA) for the proposed ±80km, 88kV power transmission line from Zimbabwe Zhong Xin Electrical Energy (ZZEE) to Kamativi Mining Company, via a route that generally passes through; Ward 1, Ward 11, Ward 9, Ward 8, Ward 14, Ward 7, Ward 20, Ward 13 and Ward 16 of Hwange District. This proposed powerline will generally run parallel to the existing Power Lines along the same route. The project scope covers: creation of access routes, 30m wide way-leave clearing leaving 15m from each side, excavation & installation of steel H-poles, construction of a substation at the Kamativi Mining Company and periodic maintenance of the power line by ZETDC.

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1. **What positive (environmental, social, economic or biophysical) impacts may result from the project?**

Facilitating rural electrification
Renewable energy Integration
Economic growth and job creation

2. **(a) What negative (environmental, social, economic or biophysical) impacts may result from the project?**

Habitat disruption affecting flora and fauna
Property devaluation
Land use restrictions

(b) How do you think these negative impacts can be mitigated?

Public consultation, route selection, Maintenance and monitoring

3. **What local Corporate Social Responsibility (CSR) initiatives may the developer invest in?**

Environmental Conservation
Social welfare programs e.g. Orphanage, care centres e.t.c.

Stakeholder Signature:

Designation: SHE ATTACHÉ

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11 SINAMATELA ROAD HWANGE
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KAMATIVI MINING COMPANY 88kV POWER TRANSMISSION LINE ESIA STAKEHOLDER QUESTIONNAIRE

Stakeholder:HWANGE RDC **,Name:** NXOLELANI NCUBE

ID No. : 63-1034044 T 73 **Contacts (Phone, E-mail or Address):** nxolelani77@gmail.com

Kamativi Mining Company P/L commissioned SustiGlobal to conduct an Environmental & Social Impact Assesment (ESIA) for the proposed ±80km, 88kV power transmission line fed by cutting in and out the existing Zimbabwe Zhongxin Electrical Energy (ZZEE) – Hwange Power Station (HPS) (132)88kV line before it proceeds to Kamativi Mining Company, via a route that generally passes through; Ward 14 (Hwange Local Board), Ward 7, Ward 20, Ward 13, Ward 14, Ward 16 and Ward 11 of Hwange Rural District. This proposed powerline will generally run parallel to the existing Power Lines along the same route. The project scope covers: creation of access routes, 30m wide way-leave clearing leaving 15m from each side, excavation & installation of steel H-poles, construction of a substation at the Kamativi Mining Company and periodic maintenance of the power line by ZETDC.

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1. **What positive (environmental, social, economic or biophysical) impacts may result from the project?**
There shall be employment opportunities for the local communities,

2. **(a) What negative (environmental, social, economic or biophysical) impacts may result from the project?**
The activity shall see the destruction of various trees and vegetation along the long power line,
Disturbance or removal removal of certain infrastructure from the main line route.

(b) How do you think these negative impacts can be mitigated?
Removal of trees only on the powerline mains
Try by all means to avoid lines running into already established infrastructure

3. **What local Corporate Social Responsibility (CSR) initiatives may the developer invest in?**
The company should sponsor women and girls as well as youth groups to engage in livelihoods projects 5 of such groups in communitie to sponsor infrastructure (fowl runs and procurement of first batch of chickens

Stakeholder Signature:

Designation: ENVIRONMENTAL & NATURAL RESOURCES OFFICER

HWANGE RURAL DISTRICT COUNCIL
NATURAL RESOURCE &
18 MAY 2023
ENVIRONMENTAL OFFICER
PO BOX 165 HWANGE
TEL 08128 22541

We sincerely appreaciate your participation !!!

ZINWA
For Communities For Development

Project Details

KAMATIVI MINING COMPANY

88kV POWER TRANSMISSION LINE project

Date of Assessment .....

Official pre assessment

Prospectus approved by EMA..... Yes

Map(s) ..... Submitted Site plan ..... Submitted

If the project relates to property development extra submissions required are:

Water Supply Proposal ..... Boreholes and designated water abstraction points

Sewage/ Waste Management Proposal ..... Onsite facilities

Certified letter from council .....

Submission & Onsite Assessment:

Description of processes/ activities .....

Kamativi Mining Company P/L proposes a ±80km, 88kV power transmission line fed by cutting in and out the existing Zimbabwe Zhongxin Electrical Energy (ZZEE) – Hwange Power Station (HPS) (132)88kV line before it proceeds to Kamativi Mining Company, via Ward 14 (Hwange Local Board), Ward 7, Ward 20, Ward 13, Ward 14, Ward 16 and Ward 11 of Hwange Rural District. This proposed powerline will generally run parallel to the existing Power Lines along the same route.

Site Description and Activities consistent with the approved prospectus proposal submitted to ZINWA .....Consistent

Anticipated type of waste .....

Leachate of asphalt and tar, wastewater, waste rock, oils and lubricants, Dust

Description of the pristine environment .....Existing road

If the operations are in a public stream, marshes, swamps or vleis input from Catchment Council required (Water Act Cap 20:24 Section 46) .....N/A

ZIMBABWE NATIONAL WATER AUTHORITY
P.O. BOX CY 617, CAUSEWAY, HARARE
07 APR 2023
GROUNDWATER DEPARTMENT
SIGNATURE :.....

Water resources requirements

Source of water ..... N/A

Name of river/ dam .....

Catchment / Sub-catchment's input were necessary ..... N/A

Page **1** of **2**

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Volumes required (ML) .....TBA..... **Pump rate (where applicable)**

If groundwater (specify details) .....Apply for water permit from Gwayi Catchment Council

Surface water	.....Minimal risk
Riverbed	.....N/A
Groundwater	...Groundwater & surface water contamination from leachate & domestic waste .
Soil	...erosion of soil into the nearby River
Vegetation/Flora	...N/A
Animals/Fauna	...Habitat loss
Air	Dust will be generated from crushing activities

ZIMBABWE NATIONAL WATER AUTHORITY
P.O. BOX CY 617, CAUSEWAY, HARARE
07 APR 2023
GROUNDWATER DEPARTMENT

Comment on anticipated social and economic impacts including impacts on gender and vulnerable groups. ..... Employment creation and improved standards of living for locals.

Proponent's proposed mitigation measures .....Maintain buffer zones water bodies

Hydrologist / Hydrogeologist comments .....

Assessor's General Recommendations .....

Operations should be carried out in an environmentally sustainable manner and minimize siltation and water pollution of Rivers.

Special recommendations for vulnerable ecosystems like wetlands .....

Comment on anticipated social and economic impacts including impacts on gender and vulnerable groups. ..... Employment during construction phase to prioritize engagement of vulnerable groups

Proponent's proposed mitigation measures ..... Localised waste management systems Wastewater management and recycling system

Hydrologist / Hydrogeologist comments ..... Water abstraction to be approved by GwayiCatchment Council

Assessor's General Recommendations .....

Name of Assessor	...T.Nherera/ T Tashaya.....
Title	**Quality Assurance Scientist**
Date	...07/04/2023.....
Signature	.....

Page **2** of **2**

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KAMATIVI MINING COMPANY 88kV POWER TRANSMISSION LINE ESIA STAKEHOLDER QUESTIONNAIRE

Stakeholder: Secretary Admin Ward 11 **Name:** MATHIAS SIBANDA

ID No.: 79-052587-Z26 **Contacts (Phone, E-mail or Address):** 0777704494

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1. **What positive (environmental, social, economic or biophysical) impacts may result from the project?**
   - Employment
   - Water
   - Electricity
   - Improved social life

2. **(a) What negative (environmental, social, economic or biophysical) impacts may result from the project?**
   N/A

   (b) How do you think these negative impacts can be mitigated?
   N/A

3. **What local Corporate Social Responsibility (CSR) initiatives may the developer invest in?**
   Employment creation, Recreational places, grand fields Scholarships.

Stakeholder Signature:

Designation: Admin (ZHPC-KAMATIVI) Ward 11 13/04/2023

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KAMATIVI MINING COMPANY 88kV POWER TRANSMISSION LINE ESIA STAKEHOLDER QUESTIONNAIRE

Stakeholder: ZZ BP **Name:** C. Goverai

ID No. : 29-099847 E27 **Contacts (Phone, E-mail or Address):** 0772573282

Kamativi Mining Company P/L commissioned SustiGlobal to conduct an Environmental & Social Impact Assesment (ESIA) for the proposed ±80km, 88kV power transmission line from Zimbabwe Zhong Xin Electrical Energy (ZZEE) to Kamativi Mining Company, via a route that generally passes through; Ward 1, Ward 11, Ward 9, Ward 8, Ward 14, Ward 7, Ward 20, Ward 13 and Ward 16 of Hwange District. This proposed powerline will generally run parallel to the existing Power Lines along the same route. The project scope covers: creation of access routes, 30m wide way-leave clearing leaving 15m from each side, excavation & installation of steel H-poles, construction of a substation at the Kamativi Mining Company and periodic maintenance of the power line by ZETDC.

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1. **What positive (environmental, social, economic or biophysical) impacts may result from the project?**

- Employment creation

2. **(a) What negative (environmental, social, economic or biophysical) impacts may result from the project?**

- If the line interfees with our premises

(b) How do you think these negative impacts can be mitigated?

divert from our premises

3. **What local Corporate Social Responsibility (CSR) initiatives may the developer invest in?**

- Borehole

Stakeholder Signature:

Designation: Manager ZZBP

ZIMBABWE HONGXIN ... LTD
NEKATWA ROAD LOCKED
HWANGE MAT-NORTH
DATE 12/04/2023

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KAMATIVI MINING COMPANY 88kV POWER TRANSMISSION LINE ESIA STAKEHOLDER QUESTIONNAIRE

Stakeholder: Headman (Mafimba) **,Name:** R. Ncube

ID No. : + **,Contacts (Phone, E-mail or Address):** 0779239794

Kamativi Mining Company P/L commissioned SustiGlobal to conduct an Environmental & Social Impact Assesment (FSIA) for the proposed ±80km, 88kV power transmission line from Zimbabwe Zhong Xin Electrical Energy (ZXE) to Kamativi Mining Company, via a route that generally passes through; Ward 1, Ward 11, Ward 9, Ward 8, Ward 14, Ward 7, Ward 20, Ward 13 and Ward 16 of Hwange District. This proposed powerline will generally run parallel to the existing Power Lines along the same route. The project scope covers: creation of access routes, 30m wide way-leave clearing leaving 15m from each side, excavation & installation of steel H-poles, construction of a substation at the Kamativi Mining Company and periodic maintenance of the power line by ZETDC.

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1. **What positive (environmental, social, economic or biophysical) impacts may result from the project?**

- Economic development enhancement
- Employment Creation

2. **(a) What negative (environmental, social, economic or biophysical) impacts may result from the project?**

N/A

(b) How do you think these negative impacts can be mitigated?

N/A

3. **What local Corporate Social Responsibility (CSR) initiatives may the developer invest in?**

- Infrastructure development e.g Roads

Stakeholder Signature:

Designation: Headman. Ward 13

DATE STAMP
CHIEF/HEADMAN LUTALO D.
HWANGE DISTRICT
WARD 13
DATE 11-4-2023
SIGN

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KAMATIVI MINING COMPANY 88kV POWER TRANSMISSION LINE ESIA STAKEHOLDER QUESTIONNAIRE

Stakeholder: Village - (Dinde Village) **Name:** Emma Ncube

ID No. : 79-014384279 **Contacts (Phone, E-mail or Address):** 0783027838

Kamativi Mining Company P/L commissioned SustiGlobal to conduct an Environmental & Social Impact Assesment (ESIA) for the proposed ±80km, 88kV power transmission line from Zimbabwe Zhong Xin Electrical Energy (ZZEE) to Kamativi Mining Company, via a route that generally passes through; Ward 1, Ward 11, Ward 9, Ward 8, Ward 14, Ward 7, Ward 20, Ward 13 and Ward 16 of Hwange District. This proposed powerline will generally run parallel to the existing Power Lines along the same route. The project scope covers: creation of access routes, 30m wide way-leave clearing leaving 15m from each side, excavation & installation of steel H-poles, construction of a substation at the Kamativi Mining Company and periodic maintenance of the power line by ZETDC.

You or your organization has been identified as a key stakeholder in this project. May you kindly assist SustiGlobal Consultancy to identify potential environmental, social, economic & health impacts and suggest mitigation or enhancement measures for the proposed project by participating in the stakeholder consultation process through this questionnaire? You may use a separate sheet of paper where you feel the space below is not adequate or you have other issues outside the scope of the provided questions. Attached papers should bear your official letterhead.

1. **What positive (environmental, social, economic or biophysical) impacts may result from the project?**

- Employment creation

2. **(a) What negative (environmental, social, economic or biophysical) impacts may result from the project?**

- Electrocution of people and livestock incase there be fallen poles with live wires

(b) How do you think these negative impacts can be mitigated?

- Use steel poles for durability

3. **What local Corporate Social Responsibility (CSR) initiatives may the developer invest in?**

- drill more borehole because water is scarse.

Stakeholder Signature:

Designation: Villager, Dinde - Ward 13

We sincerely appreaciate your participation !!!

PARKS AND WILDLIFE MANAGEMENT AUTHORITY

NORTH WEST MATABELELAND REGION

'All correspondence to be directed to the Regional Manager'

Ref: .....

1. Positive impacts which may result from the project:

i) Provision of electrical power supply to a mining company which benefits national economy

ii) Provision of electrical power supply to local communities in surrounding areas to the Kamativi Mining Company and other sectors

iii) Employment creation of skilled and unskilled personnel from the local communities during the course of the project

iv) Increased security in the area

2. a) Negative impact which may result from the project:

i) Loss of biodiversity (flora and fauna) during land clearance and maintenance of access routes

ii) Habitat fragmentation for certain species and bird strikes

iii) Pollution during installations of the transmission power lines i.e., dust and noise

iv) Soil erosion from land clearance

v) Powerlines may result in land use restrictions along access routes

vi) Dangers of electrostatic and electromagnetic fields

b) Proposed mitigation methods for the impacts

i. Planning and careful placement of the transmission steel H Poles and installing markings to reduce risk of bird collision

ii. A Monitoring Plan can be developed for periodic monitoring of environmental performance indicators during operational and maintenance activities

3. CSR initiative the developer may invest in

i) Given water challenges faced in the Matebeleland Region the investor may look into providing artificial water sources or water points for the communities e.g. boreholes

ii) Develop project that ensure the inclusion of women and youths that create positive impact in sustaining their livelihoods.

REGIONAL OFFICE

Parks & Wildlife Management Authority
5 and Nos 704
Bobobo Shopping Centre
Hwange

CONTACT DETAILS

Tel: +263 773 507 436

nechaster@zimparks.org.zw

BOARD MEMBERS

Dr. Aggrippa Golden Sara (Chairman)
Mr. Tonyoradzwa Mundoga (Vice Chairman)
Prof. Prisca Mugabe
Mr. Khumbula T. Moyo
Mr. Fortune Sambo
Mrs. Sithembile Ncube
Ms. Mabel Buzuzi
Miss. Gionel Mabiza
Mr. Nkosiyabo Sibanda
Dr. Miamuleli Mhlanga
Prof. Lindah Mhlanga
Dr F.U. Mangwanya (ex-Officio)

MISSION

To conserve Zimbabwe's wildlife heritage through protection and sustainable utilization of natural resources for the benefit of the present and future generations.

VISION

To be the world leader in sustainable conservation.

CORE VALUES

- Integrity
- Accountability
- Commitment
- Teamwork
- Innovation

ZIMPARKS OFFICIAL

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Emails: oliver@sustiglobal.com **or** oliver.sustiglobal@gmail.com **Website:** www.sustiglobal.com

KAMATIVI MINING COMPANY 88kV POWER TRANSMISSION LINE ESIA STAKEHOLDER QUESTIONNAIRE

Stakeholder: Villager **,Name:** Bernard Ndube

ID No. : ← **,Contacts (Phone, E-mail or Address):** 0718150671

Kamativi Mining Company P/L commissioned SustiGlobal to conduct an Environmental & Social Impact Assesment (ESIA) for the proposed ±80km, 88kV power transmission line from Zimbabwe Zhong Xin Electrical Energy (ZZEE) to Kamativi Mining Company, via a route that generally passes through; Ward 1, Ward 11, Ward 9, Ward 8, Ward 14, Ward 7, Ward 20, Ward 13 and Ward 16 of Hwange District. This proposed powerline will generally run parallel to the existing Power Lines along the same route. The project scope covers: creation of access routes, 30m wide way-leave clearing leaving 15m from each side, excavation & installation of steel H-poles, construction of a substation at the Kamativi Mining Company and periodic maintenance of the power line by ZETDC.

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1. **What positive (environmental, social, economic or biophysical) impacts may result from the project?**
- Boosting of production at Kamativi lithium

2. **(a) What negative (environmental, social, economic or biophysical) impacts may result from the project?**
- Noise pollution during construction work

(b) How do you think these negative impacts can be mitigated?

3. **What local Corporate Social Responsibility (CSR) initiatives may the developer invest in?**

Stakeholder Signature: BDM

Designation:

DATE STAMP

We sincerely appreaciate your participation !!!

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KAMATIVI MINING COMPANY 88kV POWER TRANSMISSION LINE ESIA STAKEHOLDER QUESTIONNAIRE

Stakeholder: Kamalala Village head (Ward 16) **,Name:** Amon B Sibanda

ID No. : 79-0160090 79 **,Contacts (Phone, E-mail or Address):** 0774965391

Kamativi Mining Company P/L commissioned SustiGlobal to conduct an Environmental & Social Impact Assesment (ESIA) for the proposed ±80km, 88kV power transmission line from Zimbabwe Zhong Xin Electrical Energy (ZZEE) to Kamativi Mining Company, via a route that generally passes through; Ward 1, Ward 11, Ward 9, Ward 8, Ward 14, Ward 7, Ward 20, Ward 13 and Ward 16 of Hwange District. This proposed powerline will generally run parallel to the existing Power Lines along the same route. The project scope covers: creation of access routes, 30m wide way-leave clearing leaving 15m from each side, excavation & installation of steel H-poles, construction of a substation at the Kamativi Mining Company and periodic maintenance of the power line by ZETDC.

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1. **What positive (environmental, social, economic or biophysical) impacts may result from the project?**
   Employment Creation

2. **(a) What negative (environmental, social, economic or biophysical) impacts may result from the project?**

   (b) How do you think these negative impacts can be mitigated?

3. **What local Corporate Social Responsibility (CSR) initiatives may the developer invest in?**

Stakeholder Signature: AR O

Designation:

05/07/23 DATE STAMP

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KAMATIVI MINING COMPANY 88kV POWER TRANSMISSION LINE ESIA STAKEHOLDER QUESTIONNAIRE

Stakeholder: Household (Village Isambo) Ward 14 **,Name:** Mr Joshua MPala

ID No. : 79-045611R79 **,Contacts (Phone, E-mail or Address):** 0775387186

Kamativi Mining Company P/L commissioned SustiGlobal to conduct an Environmental & Social Impact Assesment (ESIA) for the proposed ±80km, 88kV power transmission line from Zimbabwe Zhong Xin Electrical Energy (ZZEE) to Kamativi Mining Company, via a route that generally passes through; Ward 1, Ward 11, Ward 9, Ward 8, Ward 14, Ward 7, Ward 20, Ward 13 and Ward 16 of Hwange District. This proposed powerline will generally run parallel to the existing Power Lines along the same route. The project scope covers: creation of access routes, 30m wide way-leave clearing leaving 15m from each side, excavation & installation of steel H-poles, construction of a substation at the Kamativi Mining Company and periodic maintenance of the power line by ZETDC.

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1. **What positive (environmental, social, economic or biophysical) impacts may result from the project?**

Employment Creation
Periodic wayleave clearance opportunities

2. **(a) What negative (environmental, social, economic or biophysical) impacts may result from the project?**

(b) How do you think these negative impacts can be mitigated?

3. **What local Corporate Social Responsibility (CSR) initiatives may the developer invest in?**

Stakeholder Signature: JB MPala

Designation:

02/07/23

DATE STAMP

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KAMATIVI MINING COMPANY 88kV POWER TRANSMISSION LINE ESIA STAKEHOLDER QUESTIONNAIRE

Stakeholder: Business Person N. 11 **Name:** Jasper Zvikonyaukwa

ID No. : 37-026728J38 **Contacts (Phone, E-mail or Address):** jasperzvi ko @gmail. com

Kamativi Mining Company P/L commissioned SustiGlobal to conduct an Environmental & Social Impact Assesment (ESIA) for the proposed ±80km, 88kV power transmission line from Zimbabwe Zhong Xin Electrical Energy (ZZEE) to Kamativi Mining Company, via a route that generally passes through; Ward 1, Ward 11, Ward 9, Ward 8, Ward 14, Ward 7, Ward 20, Ward 13 and Ward 16 of Hwange District. This proposed powerline will generally run parallel to the existing Power Lines along the same route. The project scope covers: creation of access routes, 30m wide way-leave clearing leaving 15m from each side, excavation & installation of steel H-poles, construction of a substation at the Kamativi Mining Company and periodic maintenance of the power line by ZETDC.

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1. **What positive (environmental, social, economic or biophysical) impacts may result from the project?**
   - We create self help Projects.
   - Will Boost Business
   - Will help learners immensely

2. **(a) What negative (environmental, social, economic or biophysical) impacts may result from the project?**
   - Environment (Trees, Bushes) will be destroyed
   -

   (b) How do you think these negative impacts can be mitigated?
   Re-plant ~~att~~ destroyed environment

3. **What local Corporate Social Responsibility (CSR) initiatives may the developer invest in?**
   - To Employment part-time workers from the local Community

Stakeholder Signature:

Designation: Business Person Ward 11

DATE STAMP

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KAMATIVI MINING COMPANY 88kV POWER TRANSMISSION LINE ESIA STAKEHOLDER QUESTIONNAIRE

Stakeholder: COUNCILLOR Ward 11 **,Name:** JACOB NYONI

ID No. : 29-015504A79 **,Contacts (Phone, E-mail or Address):** 0778626939

Kamativi Mining Company P/L commissioned SustiGlobal to conduct an Environmental & Social Impact Assesment (ESIA) for the proposed ±80km, 88kV power transmission line from Zimbabwe Zhong Xin Electrical Energy (ZZEE) to Kamativi Mining Company, via a route that generally passes through; Ward 1, Ward 11, Ward 9, Ward 8, Ward 14, Ward 7, Ward 20, Ward 13 and Ward 16 of Hwange District. This proposed powerline will generally run parallel to the existing Power Lines along the same route. The project scope covers: creation of access routes, 30m wide way-leave clearing leaving 15m from each side, excavation & installation of steel H-poles, construction of a substation at the Kamativi Mining Company and periodic maintenance of the power line by ZETDC.

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1. **What positive (environmental, social, economic or biophysical) impacts may result from the project?**

This project will improve business, Institutions like hospital, Schools etc. As a Community we invite this project like yesterday

2. **(a) What negative (environmental, social, economic or biophysical) impacts may result from the project?**

The project has no negative environmental impact but has more positive results in term of developmental impact

(b) How do you think these negative impacts can be mitigated?

No negative impact not mitigation process required

3. **What local Corporate Social Responsibility (CSR) initiatives may the developer invest in?**

Maybe connecting power into the Community or residentials

Stakeholder Signature: [signature]

Designation: COUNCILLOR Ward 11

HWANGE
RURAL DISTRICT COUNCIL
DATE STAMP
COUNCILLOR J NYONI
WARD KAMATIVI
DATE 13/04/23
SIGNATURE [signature]

We sincerely appreaciate your participation !!!

0778626939
0715270999

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KAMATIVI MINING COMPANY 88kV POWER TRANSMISSION LINE ESIA STAKEHOLDER QUESTIONNAIRE

Stakeholder: Councillor Ward 14 **Name:** Themba Sibanda

ID No. : 79-076509B79 **Contacts (Phone, E-mail or Address):** 0776081813

Kamativi Mining Company P/L commissioned SustiGlobal to conduct an Environmental & Social Impact Assesment (ESIA) for the proposed ±80km, 88kV power transmission line from Zimbabwe Zhong Xin Electrical Energy (ZZEE) to Kamativi Mining Company, via a route that generally passes through; Ward 1, Ward 11, Ward 9, Ward 8, Ward 14, Ward 7, Ward 20, Ward 13 and Ward 16 of Hwange District. This proposed powerline will generally run parallel to the existing Power Lines along the same route. The project scope covers: creation of access routes, 30m wide way-leave clearing leaving 15m from each side, excavation & installation of steel H-poles, construction of a substation at the Kamativi Mining Company and periodic maintenance of the power line by ZETDC.

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1. **What positive (environmental, social, economic or biophysical) impacts may result from the project?**

- Employment Creation
- It boosts Lithium mining in KMC

2. **(a) What negative (environmental, social, economic or biophysical) impacts may result from the project?**

- N/A

(b) How do you think these negative impacts can be mitigated?

N/A

3. **What local Corporate Social Responsibility (CSR) initiatives may the developer invest in?**

- To fence Grazing Chentali Irrigation Scheme
- To establish a Pre-School, boreholes

Stakeholder Signature:

Designation: Councillor Ward 14

HWANGE
RURAL DISTRICT COUNCIL
COUNCILLOR.....
WARD 14 MAKWANDARA
DATE 12/04/2023
SIGNATURE.....
0776081813

We sincerely appreaciate your participation !!!

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KAMATIVI MINING COMPANY 88kV POWER TRANSMISSION LINE ESIA STAKEHOLDER QUESTIONNAIRE

Stakeholder: Dinson Colliery Company **Name:** Steven

ID No. : N/A **Contacts (Phone, E-mail or Address):** 0786698999

Kamativi Mining Company P/L commissioned SustiGlobal to conduct an Environmental & Social Impact Assesment (ESIA) for the proposed ±80km, 88kV power transmission line from Zimbabwe Zhong Xin Electrical Energy (ZZEE) Inc to Kamativi Mining Company, via a route that generally passes through; Ward 1, Ward 11, Ward 9, Ward 8, Ward 14, Ward 7, Ward 20, Ward 13 and Ward 16 of Hwange District. This proposed powerline will generally run parallel to the existing Power Lines along the same route. The project scope covers: creation of access routes, 30m wide way-leave clearing leaving 15m from each side, excavation & installation of steel H-poles, construction of a substation at ie Kamativi Mining Company and periodic maintenance of the power line by ZETDC.

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1. **What positive (environmental, social, economic or biophysical) impacts may result from the project?**

- Potential by Dinson to also tap into the line in future

2. **(a) What negative (environmental, social, economic or biophysical) impacts may result from the project?**

- Massive loss of vegetation due to land-clearing

(b) How do you think these negative impacts can be mitigated?

- Compensatory planting of trees

3. **What local Corporate Social Responsibility (CSR) initiatives may the developer invest in?**

- Rehabilitation of Roads

Stakeholder Signature:

Designation: Admin Director

DATE STAMP

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KAMATIVI MINING COMPANY 88kV POWER TRANSMISSION LINE ESIA STAKEHOLDER QUESTIONNAIRE

Stakeholder: Headman Lukosi **,Name:** Joseph Change

ID No. : 79-003591 A79 **,Contacts (Phone, E-mail or Address):** 0776900717

Kamativi Mining Company P/L commissioned SustiGlobal to conduct an Environmental & Social Impact Assesment (ESIA) for the proposed ±80km, 88kV power transmission line from Zimbabwe Zhong Xin Electrical Energy (ZZEE) to Kamativi Mining Company, via a route that generally passes through; Ward 1, Ward 11, Ward 9, Ward 8, Ward 14, Ward 7, Ward 20, Ward 13 and Ward 16 of Hwange District. This proposed powerline will generally run parallel to the existing Power Lines along the same route. The project scope covers: creation of access routes, 30m wide way-leave clearing leaving 15m from each side, excavation & installation of steel H-poles, construction of a substation at the Kamativi Mining Company and periodic maintenance of the power line by ZETDC.

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1. **What positive (environmental, social, economic or biophysical) impacts may result from the project?**

- Employment
- boosts KMC production

2. **(a) What negative (environmental, social, economic or biophysical) impacts may result from the project?**

- employing non-locals will lead to cultural dilution

(b) How do you think these negative impacts can be mitigated?

- Employ locals by all means

3. **What local Corporate Social Responsibility (CSR) initiatives may the developer invest in?**

Palisade Fence 1,8 height for school, textbooks F1-4, desks and computers (20) - Lukosi High School

Stakeholder Signature:

Designation: Headman Lukosi Ward 20

(HEADMAN) CHANGE
HWANGE DISTRICT
WARD 20
DATE 13/04/2023
SIGN

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KAMATIVI MINING COMPANY 88kV POWER TRANSMISSION LINE ESIA STAKEHOLDER QUESTIONNAIRE

Stakeholder: LOCAL GOVERNMENT **,Name:** MAGOTA NYARADZO

ID No. : 24-173686R43 **,Contacts (Phone, E-mail or Address):** _____

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1. **What positive (environmental, social, economic or biophysical) impacts may result from the project?**
- More electricity to the locals thereby reducing power cuts / loadshedding

2. **(a) What negative (environmental, social, economic or biophysical) impacts may result from the project?**

(b) How do you think these negative impacts can be mitigated?

3. **What local Corporate Social Responsibility (CSR) initiatives may the developer invest in?**
Electrify rural schools within the area

Stakeholder Signature: _____

Designation: Administration Officer

DISTRICT ADMINISTRATOR
MINISTRY OF LOCAL GOVERNMENT PUBLIC WORKS AND NATIONAL HOUSING
DATE STAMP
13 APR 2023
P.O. BOX 121, HWANGE
ZIMBABWE TEL: 0281-22245-6

We sincerely appreciate your participation !!!

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KAMATIVI MINING COMPANY 88kV POWER TRANSMISSION LINE ESIA STAKEHOLDER QUESTIONNAIRE

Stakeholder: PETERSON NCUBE **,Name:** ZANU PF DCC SEC BUSINESS AFFAIRS

ID No. : 79-096552 M79 **,Contacts (Phone, E-mail or Address):** 0773721525

Kamativi Mining Company P/L commissioned SustiGlobal to conduct an Environmental & Social Impact Assesment (ESIA) for the proposed ±80km, 88kV power transmission line from Zimbabwe Zhong Xin Electrical Energy (ZZEE) to Kamativi Mining Company, via a route that generally passes through; Ward 1, Ward 11, Ward 9, Ward 8, Ward 14, Ward 7, Ward 20, Ward 13 and Ward 16 of Hwange District. This proposed powerline will generally run parallel to the existing Power Lines along the same route. The project scope covers: creation of access routes, 30m wide way-leave clearing leaving 15m from each side, excavation & installation of steel H-poles, construction of a substation at e Kamativi Mining Company and periodic maintenance of the power line by ZETDC.

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1. **What positive (environmental, social, economic or biophysical) impacts may result from the project?**
   - EMPLOYMENT OF LOCALS TO CLEAR THE ROUTE AND MANN STATIONS
   - POWERING OF HOMES, INDUSTRIES AND BUSINESS CENTRES ALONG THE WAY.
   - CONSTRUCTION OF ROADS, SCHOOLS & CLINICS
2. **(a) What negative (environmental, social, economic or biophysical) impacts may result from the project?**
   - DISTRUCTION OF TREES
   - RUNNING OVER SACRED PLACES
   - DISPLACEMENT OF SETTLEMENTS

   (b) How do you think these negative impacts can be mitigated?
   - SPONSOR AND ENCOURAGE TREE PLANTING, ESTABLISH REHABILITATING
   - CONSULT AND COMPENSATE AFFECTED COMMUNITIES
3. **What local Corporate Social Responsibility (CSR) initiatives may the developer invest in?**
   - CONSTRUCT ACCESS ROADS (GRADER TARRED ROADS BUILD SCHOOLS, CLINICS, IRRIGATION SCHEMES, SPONSOR SPORTS

Stakeholder Signature:

Designation: ZANU PF DCC SEC FOR BUSINESS AFFAIRS

FINANCIAL CONTROLLER
ESTATES
14 APR 2023
HCCL BOX
HWANGE

We sincerely appreaciate your participation !!!

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KAMATIVI MINING COMPANY 88kV POWER TRANSMISSION LINE ESIA STAKEHOLDER QUESTIONNAIRE

Stakeholder: Dpt of Lands **,Name:** Maroch M

ID No. : 26-049247 R 26 **,Contacts (Phone, E-mail or Address):** mambom236@gmail.com

Karnativi Mining Company P/L commissioned SustiGlobal to conduct an Environmental & Social Impact Assesment (ESIA) for the proposed ±80km, 88kV power transmission line from Zimbabwe Zhong Xin Electrical Energy (ZZEE) to Kamativi Mining Company, via a route that generally passes through; Ward 1, Ward 11, Ward 9, Ward 8, Ward 14, Ward 7, Ward 20, Ward 13 and Ward 16 of Hwange District. This proposed powerline will generally run parallel to the existing Power Lines along the same route. The project scope covers: creation of access routes, 30m wide way-leave clearing leaving 15m from each side, excavation & installation of steel H-poles, construction of a substation at the Kamativi Mining Company and periodic maintenance of the power line by ZETDC.

You or your organization has been identified as a key stakeholder in this project. May you kindly assist SustiGlobal Consultancy to identify potential environmental, social, economic & health impacts and suggest mitigation or enhancement measures for the proposed project by participating in the stakeholder consultation process through this questionnaire? You may use a separate sheet of paper where you feel the space below is not adequate or you have other issues outside the scope of the provided questions. Attached papers should bear your official letterhead.

1. **What positive (environmental, social, economic or biophysical) impacts may result from the project?**
Obviously activation of the whole mining process, Employment Creation and Creation of access routes to remote areas due to Construction

2. **(a) What negative (environmental, social, economic or biophysical) impacts may result from the project?**
Generally no negative impacts until lines go thru people's homesteads overhead which should be avoided.

(b) How do you think these negative impacts can be mitigated? Precise location of power line.

3. **What local Corporate Social Responsibility (CSR) initiatives may the developer invest in?**
Employ as much local people as possible.

Stakeholder Signature:

Designation: District Lands Officer

LAND MANAGEMENT AND ADMINISTRATION DEPARTMENT
HWANGE DISTRICT OFFICE
14 APR 2023
DDC COMPLEX OFFICE No. 4
P.O. BOX 121, HWANGE
TEL: +263 817 870 661

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Emails: oliver@sustiglobal.com **or** oliver.sustiglobal@gmail.com **Website:** www.sustiglobal.com

KAMATIVI MINING COMPANY 88kV POWER TRANSMISSION LINE ESIA STAKEHOLDER QUESTIONNAIRE

Stakeholder: ZRP **Name:** [illegible]

ID No. : 07717[illegible] **Contacts (Phone, E-mail or Address):** N/A

Kamativi Mining Company P/L commissioned SustiGlobal to conduct an Environmental & Social Impact Assesment (ESIA) for the proposed ±80km, 88kV power transmission line from Zimbabwe Zhong Xin Electrical Energy (ZZEE) to Kamativi Mining Company, via a route that generally passes through; Ward 1, Ward 11, Ward 9, Ward 8, Ward 14, Ward 7, Ward 20, Ward 13 and Ward 16 of Hwange District. This proposed powerline will generally run parallel to the existing Power Lines along the same route. The project scope covers: creation of access routes, 30m wide way-leave clearing leaving 15m from each side, excavation & installation of steel H-poles, construction of a substation at the Kamativi Mining Company and periodic maintenance of the power line by ZETDC.

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1. **What positive (environmental, social, economic or biophysical) impacts may result from the project?**

THE PROJECT WILL SURELY COME WITH EMPLOYMENT TO THE LOCAL COMMUNITIES AND MINIMISE CRIME COMMISSION TIMES.

2. **(a) What negative (environmental, social, economic or biophysical) impacts may result from the project?**

THE POWER LINE WILL OBVIOUSLY PASS THROUGH LOCAL COMMUNITY PROPERTIES THAT IS HOMESTEADS AND FIELDS CAUSING DISRUNTLEMENT AMONGST THOSE AFFECTED.

(b) How do you think these negative impacts can be mitigated?

THERE IS NEED FOR COMMUNITY ENGAGEMENT ESPECIALLY LEADERSHIP AND THOSE TO BE SPECIFICALLY AFFECTED BY THE PROJECT.

3. **What local Corporate Social Responsibility (CSR) initiatives may the developer invest in?**

THE PROJECT SHOULD CONSIDER DRILLING BOREHOLES FOR THE COMMUNITY AND OFFERING ALTENATIVE SOLUTIONS FOR THOSE AFFECTED

Stakeholder Signature: [signature]

Designation: [illegible]

11/9/2023

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KAMATIVI MINING COMPANY 88kV POWER TRANSMISSION LINE ESIA STAKEHOLDER QUESTIONNAIRE

Stakeholder: MINISTRY OF YOUTH **,Name:** TOKONYE JOSPHINE

ID No. : 79-119185N79 **,Contacts (Phone, E-mail or Address):** 0784 491 838

Kamativi Mining Company P/L commissioned SustiGlobal to conduct an Environmental & Social Impact Assesment (ESIA) for the proposed ±80km, 88kV power transmission line from Zimbabwe Zhong Xin Electrical Energy (ZZEE) to Kamativi Mining Company, via a route that generally passes through; Ward 1, Ward 11, Ward 9, Ward 8, Ward 14, Ward 7, Ward 20, Ward 13 and Ward 16 of Hwange District. This proposed powerline will generally run parallel to the existing Power Lines along the same route. The project scope covers: creation of access routes, 30m wide way-leave clearing leaving 15m from each side, excavation & installation of steel H-poles, construction of a substation at ...e Kamativi Mining Company and periodic maintenance of the power line by ZETDC.

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1. **What positive (environmental, social, economic or biophysical) impacts may result from the project?**

- Creation of employment
- Poverty reduction
- Infrastructure development

2. **(a) What negative (environmental, social, economic or biophysical) impacts may result from the project?**

- land degradation
- Air pollution
- deforestation

(b) How do you think these negative impacts can be mitigated?

- Rehabilitation
- Afforestation

3. **What local Corporate Social Responsibility (CSR) initiatives may the developer invest in?**

- Building of schools and installation of water sources
- Clinics and roads

Stakeholder Signature: Otokonye

Designation: Arts and Culture Officer

DISTRICT DEVELOPMENT OFFICER
MINISTRY OF YOUTH SPORT, ARTS & RECREATION
14 APR 2023
HWANGE DISTRICT
P.O BOX 215, HWANGE
TEL: 08128-32652, 32543

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KAMATIVI MINING COMPANY 88kV POWER TRANSMISSION LINE ESIA STAKEHOLDER QUESTIONNAIRE

Stakeholder: Forestry Commission **,Name:** Obedience Magarda

ID No. : 27-2000 356 K12 **,Contacts (Phone, E-mail or Address):** 0771473001 omagarda46@gmail.com

Kamativi Mining Company P/L commissioned SustiGlobal to conduct an Environmental & Social Impact Assesment (ESIA) for the proposed ±80km, 88kV power transmission line from Zimbabwe Zhong Xin Electrical Energy (ZZEE) to Kamativi Mining Company, via a route that generally passes through; Ward 1, Ward 11, Ward 9, Ward 8, Ward 14, Ward 7, Ward 20, Ward 13 and Ward 16 of Hwange District. This proposed powerline will generally run parallel to the existing Power Lines along the same route. The project scope covers: creation of access routes, 30m wide way-leave clearing leaving 15m from each side, excavation & installation of steel H-poles, construction of a substation at ne Kamativi Mining Company and periodic maintenance of the power line by ZETDC.

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1. What positive (environmental, social, economic or biophysical) impacts may result from the project?

1. Infrastructure development
2. Employment creation
3. Power supply improvement

2. (a) What negative (environmental, social, economic or biophysical) impacts may result from the project?

1. Cutting down of trees
2. Distruction of ground cover

(b) How do you think these negative impacts can be mitigated?

Planting trees and ornamentals in the District to replace the destroyed ~~flora~~ Obedience flora.

3. What local Corporate Social Responsibility (CSR) initiatives may the developer invest in?

Make sure the destroyed carbon stocks are replaced since Hwange have a lot of mining activities which need those stocks.

Stakeholder Signature: Magarda

Designation: F.E.O Hwange

FORESTRY COMMISSION
FOR (T)
SIGN
DATE 14/04/2023
HWANGE DISTRICT

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KAMATIVI MINING COMPANY 88kV POWER TRANSMISSION LINE ESIA STAKEHOLDER QUESTIONNAIRE

Stakeholder: MINISTRY OF HEALTH **,Name:** MERIA KALIBO

ID No. : 06-033110C06 **,Contacts (Phone, E-mail or Address):** 0772918405

Kamativi Mining Company P/L commissioned SustiGlobal to conduct an Environmental & Social Impact Assesment (ESIA) for the proposed ±80km, 88kV power transmission line from Zimbabwe Zhong Xin Electrical Energy (ZZEE) to Kamativi Mining Company, via a route that generally passes through; Ward 1, Ward 11, Ward 9, Ward 8, Ward 14, Ward 7, Ward 20, Ward 13 and Ward 16 of Hwange District. This proposed powerline will generally run parallel to the existing Power Lines along the same route. The project scope covers: creation of access routes, 30m wide way-leave clearing leaving 15m from each side, excavation & installation of steel H-poles, construction of a substation at ne Kamativi Mining Company and periodic maintenance of the power line by ZETDC.

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1. **What positive (environmental, social, economic or biophysical) impacts may result from the project?**

(a) employment creation.
(b) Boost production at kamativi mining company

2. **(a) What negative (environmental, social, economic or biophysical) impacts may result from the project?**

(a) loss of vegetation during clearance.
(b) possible displacement of people.

(b) How do you think these negative impacts can be mitigated?

(a) dirvete from homesteads / or compensation.

3. **What local Corporate Social Responsibility (CSR) initiatives may the developer invest in?**

(a) installation of boholes to the Community.

Stakeholder Signature: [signature]

Designation: Nurse Aide (EPI)

MINISTRY OF HEALTH
ENVIRONMENTAL HEALTH OFFICER
14 APR 2023

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KAMATIVI MINING COMPANY 88kV POWER TRANSMISSION LINE ESIA STAKEHOLDER QUESTIONNAIRE

Stakeholder: MINISTRY OF WOMEN AFFAIRS **,Name:** KASANGA TABITHA

ID No. : 79-131265T79 **,Contacts (Phone, E-mail or Address):** 0773665510

Kamativi Mining Company P/L commissioned SustiGlobal to conduct an Environmental & Social Impact Assesment (ESIA) for the proposed ±80km, 88kV power transmission line from Zimbabwe Zhong Xin Electrical Energy (ZZEE) to Kamativi Mining Company, via a route that generally passes through; Ward 1, Ward 11, Ward 9, Ward 8, Ward 14, Ward 7, Ward 20, Ward 13 and Ward 16 of Hwange District. This proposed powerline will generally run parallel to the existing Power Lines along the same route. The project scope covers: creation of access routes, 30m wide way-leave clearing leaving 15m from each side, excavation & installation of steel H-poles, construction of a substation at ıe Kamativi Mining Company and periodic maintenance of the power line by ZETDC.

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1. **What positive (environmental, social, economic or biophysical) impacts may result from the project?**

- It increases power efficiency at high voltage level
- It also reduces the power losses (especially line losses)

2. **(a) What negative (environmental, social, economic or biophysical) impacts may result from the project?**

- Transmission line construction causes disturbance of raw soils and vegetation through the movement of people & vehicles along the row, roads and lay down areas.
-

(b) How do you think these negative impacts can be mitigated?

- Can plant vegetative plants to block views of the line leaving the row in a natural state and so to provide wildlife habitat.

3. **What local Corporate Social Responsibility (CSR) initiatives may the developer invest in?**

Gravity work, ethical labour practises and Volunteer projects

Stakeholder Signature:

Designation:

Min. of Women Affairs, Community, Small and Medium Enterprise Dev.
District Community Dev. Officer
13 APR 2023
HWANGE DISTRICT
TEL: 0812-856357

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KAMATIVI MINING COMPANY 88kV POWER TRANSMISSION LINE ESIA STAKEHOLDER QUESTIONNAIRE

Stakeholder: Village head Kunjulu (Ward 14) **,Name:** Mbandi Ngwenya

ID No. : 08-326837 J 79 **,Contacts (Phone, E-mail or Address):** 0779940665

Kamativi Mining Company P/L commissioned SustiGlobal to conduct an Environmental & Social Impact Assesment (ESIA) for the proposed ±80km, 88kV power transmission line fed by cutting in and out the existing Zimbabwe Zhongxin Electrical Energy (ZZEE) – Hwange Power Station (HPS) (132)88kV line before it proceeds to Kamativi Mining Company, via a route that generally passes through; Ward 14 (Hwange Local Board), Ward 7, Ward 20, Ward 13, Ward 14, Ward 16 and Ward 11 of Hwange Rural District. This proposed powerline will generally run parallel to the existing Power Lines along the same route. The project scope covers: creation of access routes, 30m wide way-leave clearing leaving 5m from each side, excavation & installation of steel H-poles, construction of a substation at the Kamativi Mining Company and periodic maintenance of the power line by ZETDC.

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1. **What positive (environmental, social, economic or biophysical) impacts may result from the project?**
   - employment creation
   - transmission of electricity to remote areas

2. **(a) What negative (environmental, social, economic or biophysical) impacts may result from the project?**

   (b) How do you think these negative impacts can be mitigated?

3. ***What local Corporate Social Responsibility (CSR) initiatives may the developer invest in?***

Stakeholder Signature: C. Ngwenya

Designation:

08/07/23 DATE STAMP

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KAMATIVI MINING COMPANY 88kV POWER TRANSMISSION LINE ESIA STAKEHOLDER QUESTIONNAIRE

Stakeholder: CHAIRPERSON K.A.R.A. **,Name:** TIMOTHY MYULA.

ID No. : 79-050702-A79 **,Contacts (Phone, E-mail or Address):** 0782089895

Kamativi Mining Company P/L commissioned SustiGlobal to conduct an Environmental & Social Impact Assesment (ESIA) for the proposed ±80km, 88kV power transmission line from Zimbabwe Zhong Xin Electrical Energy (ZZEE) to Kamativi Mining Company, via a route that generally passes through; Ward 1, Ward 11, Ward 9, Ward 8, Ward 14, Ward 7, Ward 20, Ward 13 and Ward 16 of Hwange District. This proposed powerline will generally run parallel to the existing Power Lines along the same route. The project scope covers: creation of access routes, 30m wide way-leave clearing leaving 15m from each side, excavation & installation of steel H-poles, construction of a substation at the Kamativi Mining Company and periodic maintenance of the power line by ZETDC.

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1. **What positive (environmental, social, economic or biophysical) impacts may result from the project?**

BUSINESS WILL BE ~~HA~~ GOOD.
SCHOOLS TO HAVE LIGHT

2. **(a) What negative (environmental, social, economic or biophysical) impacts may result from the project?**

N/A

(b) How do you think these negative impacts can be mitigated?

N/A

3. **What local Corporate Social Responsibility (CSR) initiatives may the developer invest in?**

Stakeholder Signature: MYULA.

Designation: CHAIRPERSON K.A.R.A WARD 11

DATE STAMP

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KAMATIVI MINING COMPANY 88kV POWER TRANSMISSION LINE ESIA STAKEHOLDER QUESTIONNAIRE

Stakeholder: ward 11 RESIDENT **,Name:** VELAPHI MAUNDYRA

ID No. : 08-552379N26 **,Contacts (Phone, E-mail or Address):** 0774083816

Kamativi Mining Company P/L commissioned SustiGlobal to conduct an Environmental & Social Impact Assesment (ESIA) for the proposed ±80km, 88kV power transmission line from Zimbabwe Zhong Xin Electrical Energy (ZZEE) to Kamativi Mining Company, via a route that generally passes through; Ward 1, Ward 11, Ward 9, Ward 8, Ward 14, Ward 7, Ward 20, Ward 13 and Ward 16 of Hwange District. This proposed powerline will generally run parallel to the existing Power Lines along the same route. The project scope covers: creation of access routes, 30m wide way-leave clearing leaving 15m from each side, excavation & installation of steel H-poles, construction of a substation at the Kamativi Mining Company and periodic maintenance of the power line by ZETDC.

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1. **What positive (environmental, social, economic or biophysical) impacts may result from the project?**
Improve the water access, socialin inhibit youth redundancy through employment and give employment which empowers everyone.

2. **(a) What negative (environmental, social, economic or biophysical) impacts may result from the project?**
Land degradation, soil erosion if not catered for.

(b) How do you think these negative impacts can be mitigated?
Planting vertiva grass, culverts, bridges, and ploughing contours.

3. **What local Corporate Social Responsibility (CSR) initiatives may the developer invest in?**
Women, youth and disadvantaged areas and social amenities

Stakeholder Signature:

Designation: Ex teacher villager. Kamativi ward 11

DATE STAMP

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KAMATIVI MINING COMPANY 88kV POWER TRANSMISSION LINE ESIA STAKEHOLDER QUESTIONNAIRE

Stakeholder: Villager **,Name:** Bernard Dube

ID No. : _____ **,Contacts (Phone, E-mail or Address):** 0718150691

Kamativi Mining Company P/L commissioned SustiGlobal to conduct an Environmental & Social Impact Assesment (ESIA) for the proposed ±80km, 88kV power transmission line from Zimbabwe Zhong Xin Electrical Energy (ZZEE) to Kamativi Mining Company, via a route that generally passes through; Ward 1, Ward 11, Ward 9, Ward 8, Ward 14, Ward 7, Ward 20, Ward 13 and Ward 16 of Hwange District. This proposed powerline will generally run parallel to the existing Power Lines along the same route. The project scope covers: creation of access routes, 30m wide way-leave clearing leaving 15m from each side, excavation & installation of steel H-poles, construction of a substation at the Kamativi Mining Company and periodic maintenance of the power line by ZETDC.

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1. **What positive (environmental, social, economic or biophysical) impacts may result from the project?**
- Booking of production of Kamativi lithium

2. **(a) What negative (environmental, social, economic or biophysical) impacts may result from the project?**
- Noise pollution during construction work

(b) How do you think these negative impacts can be mitigated?

3. **What local Corporate Social Responsibility (CSR) initiatives may the developer invest in?**

Stakeholder Signature: RDM

Designation: _____

DATE STAMP

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XC

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KAMATIVI MINING COMPANY 88kV POWER TRANSMISSION LINE ESIA STAKEHOLDER QUESTIONNAIRE

Stakeholder: Kamalala Village head (Ward 16) **,Name:** Amon B Sibanda

ID No. : 79-0160099 79 **,Contacts (Phone, E-mail or Address):** 0774965391

Kamativi Mining Company P/L commissioned SustiGlobal to conduct an Environmental & Social Impact Assesment (ESIA) for the proposed ±80km, 88kV power transmission line from Zimbabwe Zhong Xin Electrical Energy (ZZEE) to Kamativi Mining Company, via a route that generally passes through; Ward 1, Ward 11, Ward 9, Ward 8, Ward 14, Ward 7, Ward 20, Ward 13 and Ward 16 of Hwange District. This proposed powerline will generally run parallel to the existing Power Lines along the same route. The project scope covers: creation of access routes, 30m wide way-leave clearing leaving 15m from each side, excavation & installation of steel H-poles, construction of a substation at the Kamativi Mining Company and periodic maintenance of the power line by ZETDC.

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1. **What positive (environmental, social, economic or biophysical) impacts may result from the project?**
   Employment Creation

2. **(a) What negative (environmental, social, economic or biophysical) impacts may result from the project?**

   (b) How do you think these negative impacts can be mitigated?

3. **What local Corporate Social Responsibility (CSR) initiatives may the developer invest in?**

Stakeholder Signature: AR D 05/07/23 DATE STAMP

Designation:

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KAMATIVI MINING COMPANY 88kV POWER TRANSMISSION LINE ESIA STAKEHOLDER QUESTIONNAIRE

Stakeholder: Household (Village Ward 14 Lambo) **,Name:** Mr Joshua MPala

ID No. : 79-045611 R79 **,Contacts (Phone, E-mail or Address):** 0775387186

Kamativi Mining Company P/L commissioned SustiGlobal to conduct an Environmental & Social Impact Assesment (ESIA) for the proposed ±80km, 88kV power transmission line from Zimbabwe Zhong Xin Electrical Energy (ZZEE) to Kamativi Mining Company, via a route that generally passes through; Ward 1, Ward 11, Ward 9, Ward 8, Ward 14, Ward 7, Ward 20, Ward 13 and Ward 16 of Hwange District. This proposed powerline will generally run parallel to the existing Power Lines along the same route. The project scope covers: creation of access routes, 30m wide way-leave clearing leaving 15m from each side, excavation & installation of steel H-poles, construction of a substation at the Kamativi Mining Company and periodic maintenance of the power line by ZETDC.

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1. **What positive (environmental, social, economic or biophysical) impacts may result from the project?**

Employment Creation
Periodic wayleave clearance opportunities

2. **(a) What negative (environmental, social, economic or biophysical) impacts may result from the project?**

(b) How do you think these negative impacts can be mitigated?

3. **What local Corporate Social Responsibility (CSR) initiatives may the developer invest in?**

Stakeholder Signature: JB MPala

Designation:

DATE STAMP 02/07/23

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KAMATIVI MINING COMPANY 88kV POWER TRANSMISSION LINE ESIA STAKEHOLDER QUESTIONNAIRE

Stakeholder: Business Person N.11 **Name:** Jasper Zvikonyaurwa

ID No.: 37-026728J38 **Contacts (Phone, E-mail or Address):** jasperzvikonyaurwa@gmail.com

Kamativi Mining Company P/L commissioned SustiGlobal to conduct an Environmental & Social Impact Assesment (ESIA) for the proposed ±80km, 88kV power transmission line from Zimbabwe Zhong Xin Electrical Energy (ZZEE) to Kamativi Mining Company, via a route that generally passes through; Ward 1, Ward 11, Ward 9, Ward 8, Ward 14, Ward 7, Ward 20, Ward 13 and Ward 16 of Hwange District. This proposed powerline will generally run parallel to the existing Power Lines along the same route. The project scope covers: creation of access routes, 30m wide way-leave clearing leaving 15m from each side, excavation & installation of steel H-poles, construction of a substation at the Kamativi Mining Company and periodic maintenance of the power line by ZETDC.

You or your organization has been identified as a key stakeholder in this project. May you kindly assist SustiGlobal Consultancy to identify potential environmental, social, economic & health impacts and suggest mitigation or enhancement measures for the proposed project by participating in the stakeholder consultation process through this questionnaire? You may use a separate sheet of paper where you feel the space below is not adequate or you have other issues outside the scope of the provided questions. Attached papers should bear your official letterhead.

1. **What positive (environmental, social, economic or biophysical) impacts may result from the project?**
   - We create self help Projects.
   - Will Boost Business
   - Will help Learners Immensely

2. **(a) What negative (environmental, social, economic or biophysical) impacts may result from the project?**
   - Environment (Trees, Bushes) will be destroyed

   (b) How do you think these negative impacts can be mitigated?
   Re-plant ~~at~~ destroyed environment

3. **What local Corporate Social Responsibility (CSR) initiatives may the developer invest in?**
   - To Employment part-time workers from the local Community

Stakeholder Signature:

Designation: Business Person WARD 11

DATE STAMP

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Cell: +263 777 774 224
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Tel: +263 (242) 252562

Emails: oliver@sustiglobal.com **or** oliver.sustiglobal@gmail.com **Website:** www.sustiglobal.com

KAMATIVI MINING COMPANY 88kV POWER TRANSMISSION LINE ESIA STAKEHOLDER QUESTIONNAIRE

Stakeholder: Headman Lukosi **,Name:** Joseph Change

ID No. : 79-003591 & A79 **,Contacts (Phone, E-mail or Address):** 0776900717

Kamativi Mining Company P/L commissioned SustiGlobal to conduct an Environmental & Social Impact Assesment (ESIA) for the proposed ±80km, 88kV power transmission line from Zimbabwe Zhong Xin Electrical Energy (ZZEE) to Kamativi Mining Company, via a route that generally passes through; Ward 1, Ward 11, Ward 9, Ward 8, Ward 14, Ward 7, Ward 20, Ward 13 and Ward 16 of Hwange District. This proposed powerline will generally run parallel to the existing Power Lines along the same route. The project scope covers: creation of access routes, 30m wide way-leave clearing leaving 15m from each side, excavation & installation of steel H-poles, construction of a substation at ne Kamativi Mining Company and periodic maintenance of the power line by ZETDC.

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1. **What positive (environmental, social, economic or biophysical) impacts may result from the project?**

- Employment
- boosts kmc production

2. **(a) What negative (environmental, social, economic or biophysical) impacts may result from the project?**

- employing non-locals will lead to cultural dilution

(b) How do you think these negative impacts can be mitigated?

- Employ locals by all means

3. **What local Corporate Social Responsibility (CSR) initiatives may the developer invest in?**

Palisade Fence 1,8 height for school, textbooks F1-4, desks and computers (20) - lukosi high School

Stakeholder Signature:

Designation: Headmen Lukosi Ward 20

(HEADMAN) CHANGE
HWANGE DISTRICT
WARD 20
DATE: 13/04/2023
SIGN

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KAMATIVI MINING COMPANY 88kV POWER TRANSMISSION LINE ESIA STAKEHOLDER QUESTIONNAIRE

Stakeholder: LOCAL GOVERNMENT **,Name:** MAGOTA NYARADZO

ID No. : 24-173686R43 **,Contacts (Phone, E-mail or Address):** _____

Kamativi Mining Company P/L commissioned SustiGlobal to conduct an Environmental & Social Impact Assesment (ESIA) for the proposed ±80km, 88kV power transmission line from Zimbabwe Zhong Xin Electrical Energy (ZZEE) to Kamativi Mining Company, via a route that generally passes through; Ward 1, Ward 11, Ward 9, Ward 8, Ward 14, Ward 7, Ward 20, Ward 13 and Ward 16 of Hwange District. This proposed powerline will generally run parallel to the existing Power Lines along the same route. The project scope covers: creation of access routes, 30m wide way-leave clearing leaving 15m from each side, excavation & installation of steel H-poles, construction of a substation at ne Kamativi Mining Company and periodic maintenance of the power line by ZETDC.

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1. **What positive (environmental, social, economic or biophysical) impacts may result from the project?**
- More electricity to the locals thereby reducing power cuts / loadshedding

2. **(a) What negative (environmental, social, economic or biophysical) impacts may result from the project?**

(b) How do you think these negative impacts can be mitigated?

3. **What local Corporate Social Responsibility (CSR) initiatives may the developer invest in?**
Electrify rural schools within the area

Stakeholder Signature: _____

Designation: Administration Officer

DISTRICT ADMINISTRATOR
MINISTRY OF LOCAL GOVERNMENT PUBLIC WORKS AND NATIONAL HOUSING
DATE STAMP
13 APR 2023
P.O. BOX 121, HWANGE
ZIMBABWE TEL: 0281-22245-6

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KAMATIVI MINING COMPANY 88kV POWER TRANSMISSION LINE ESIA STAKEHOLDER QUESTIONNAIRE

Stakeholder: PETERSON NCUBE **,Name:** ZANU PF DCC SEC BUSINESS AFFAIRS

ID No. : 79-096552 M79 **,Contacts (Phone, E-mail or Address):** 0773721525

Kamativi Mining Company P/L commissioned SustiGlobal to conduct an Environmental & Social Impact Assesment (ESIA) for the proposed ±80km, 88kV power transmission line from Zimbabwe Zhong Xin Electrical Energy (ZZEE) to Kamativi Mining Company, via a route that generally passes through; Ward 1, Ward 11, Ward 9, Ward 8, Ward 14, Ward 7, Ward 20, Ward 13 and Ward 16 of Hwange District. This proposed powerline will generally run parallel to the existing Power Lines along the same route. The project scope covers: creation of access routes, 30m wide way-leave clearing leaving 15m from each side, excavation & installation of steel H-poles, construction of a substation at e Kamativi Mining Company and periodic maintenance of the power line by ZETDC.

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1. **What positive (environmental, social, economic or biophysical) impacts may result from the project?**
   - EMPLOYMENT OF LOCALS TO CLEAR THE ROUTE AND MANN STATIONS
   - POWERING OF HOMES, INDUSTRIES AND BUSINESS CENTRES ALONG THE WAY.
   - CONSTRUCTION OF ROADS, SCHOOLS & CLINICS
2. **(a) What negative (environmental, social, economic or biophysical) impacts may result from the project?**
   - DISTRUCTION OF TREES
   - RUNNING OVER SACRED PLACES
   - DISPLACEMENT OF SETTLEMENTS

   (b) How do you think these negative impacts can be mitigated?
   - SPONSOR AND ENCOURAGE TREE PLANTING, ESTABLISH REHABILITATING
   - CONSULT AND COMPENSATE AFFECTED COMMUNITIES
3. **What local Corporate Social Responsibility (CSR) initiatives may the developer invest in?**
   - CONSTRUCT ACCESS ROADS (GRADER TARRED ROADS BUILD SCHOOLS, CLINICS, IRRIGATION SCHEMES, SPONSOR SPORTS

Stakeholder Signature:

Designation: ZANU PF DCC SEC FOR BUSINESS AFFAIRS

FINANCIAL CONTROLLER
ESTATES
14 APR 2023
HCCL BOX
HWANGE

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KAMATIVI MINING COMPANY 88kV POWER TRANSMISSION LINE ESIA STAKEHOLDER QUESTIONNAIRE

Stakeholder: Dept of Lands **Name:** Maronga M

ID No.: 26-049247A26 **Contacts (Phone, E-mail or Address):** mambom236@gmail.com

Kamativi Mining Company P/L commissioned SustiGlobal to conduct an Environmental & Social Impact Assesment (ESIA) for the proposed ±80km, 88kV power transmission line from Zimbabwe Zhong Xin Electrical Energy (ZZEE) to Kamativi Mining Company, via a route that generally passes through; Ward 1, Ward 11, Ward 9, Ward 8, Ward 14, Ward 7, Ward 20, Ward 13 and Ward 16 of Hwange District. This proposed powerline will generally run parallel to the existing Power Lines along the same route. The project scope covers: creation of access routes, 30m wide way-leave clearing leaving 15m from each side, excavation & installation of steel H-poles, construction of a substation at the Kamativi Mining Company and periodic maintenance of the power line by ZETDC.

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1. **What positive (environmental, social, economic or biophysical) impacts may result from the project?**
Obvious activation of the whole mining process, employment Creation and Creation of access routes to remote areas due to construction

2. **(a) What negative (environmental, social, economic or biophysical) impacts may result from the project?**
Generally no negative impacts unless lines go thru people's household overhead which should be avoided.

(b) How do you think these negative impacts can be mitigated? Precise location of power line.

3. **What local Corporate Social Responsibility (CSR) initiatives may the developer invest in?**
Employ as much local people as possible.

Stakeholder Signature:

Designation: District Lands Officer

LAND MANAGEMENT AND ADMINISTRATION DEPARTMENT
HWANGE DISTRICT OFFICE
14 APR 2023
DDC COMPLEX OFFICE No. 4
P.O. BOX 121, HWANGE
TEL: +263 812 820 661

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KAMATIVI MINING COMPANY 88kV POWER TRANSMISSION LINE ESIA STAKEHOLDER QUESTIONNAIRE

Stakeholder: ZRP **Name:** [illegible]

ID No. : 07727[illegible] **Contacts (Phone, E-mail or Address):** N/A

Kamativi Mining Company P/L commissioned SustiGlobal to conduct an Environmental & Social Impact Assesment (ESIA) for the proposed ±80km, 88kV power transmission line from Zimbabwe Zhong Xin Electrical Energy (ZZEE) to Kamativi Mining Company, via a route that generally passes through; Ward 1, Ward 11, Ward 9, Ward 8, Ward 14, Ward 7, Ward 20, Ward 13 and Ward 16 of Hwange District. This proposed powerline will generally run parallel to the existing Power Lines along the same route. The project scope covers: creation of access routes, 30m wide way-leave clearing leaving 15m from each side, excavation & installation of steel H-poles, construction of a substation at the Kamativi Mining Company and periodic maintenance of the power line by ZETDC.

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1. **What positive (environmental, social, economic or biophysical) impacts may result from the project?**

THE PROJECT WILL SURELY COME WITH EMPLOYMENT TO THE LOCAL COMMUNITIES AND MINIMISE CRIME COMMISSION TIMES.

2. **(a) What negative (environmental, social, economic or biophysical) impacts may result from the project?**

THE POWER LINE WILL OBVIOUSLY PASS THROUGH LOCAL COMMUNITY PROPERTIES THAT IS HOMESTEADS AND FIELDS CAUSING DISGRUNTLEMENT AMONGST THOSE AFFECTED.

(b) How do you think these negative impacts can be mitigated?

THERE IS NEED FOR COMMUNITY ENGAGEMENT ESPECIALLY LEADERSHIP AND THOSE TO BE SPECIFICALLY AFFECTED BY THE PROJECT.

3. **What local Corporate Social Responsibility (CSR) initiatives may the developer invest in?**

THE PROJECT SHOULD CONSIDER DRILLING BOREHOLES FOR THE COMMUNITY AND OFFERING ALTENATIVE SOLUTIONS FOR THOSE AFFECTED

Stakeholder Signature: [signature]

Designation: ZRP

11/10/2023

We sincerely appreaciate your participation !!!

OFFICER IN CHARGE ZIMBABWE REPUBLIC POLICE HWANGE TEL: (0281) 327

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KAMATIVI MINING COMPANY 88kV POWER TRANSMISSION LINE ESIA STAKEHOLDER QUESTIONNAIRE

Stakeholder: MINISTRY OF YOUTH ,**Name:** TOKONYE JOSPHINE

ID No. : 79-119185N79 ,**Contacts (Phone, E-mail or Address):** 0784 491 838

Kamativi Mining Company P/L commissioned SustiGlobal to conduct an Environmental & Social Impact Assesment (ESIA) for the proposed ±80km, 88kV power transmission line from Zimbabwe Zhong Xin Electrical Energy (ZZEE) to Kamativi Mining Company, via a route that generally passes through; Ward 1, Ward 11, Ward 9, Ward 8, Ward 14, Ward 7, Ward 20, Ward 13 and Ward 16 of Hwange District. This proposed powerline will generally run parallel to the existing Power Lines along the same route. The project scope covers: creation of access routes, 30m wide way-leave clearing leaving 15m from each side, excavation & installation of steel H-poles, construction of a substation at ...e Kamativi Mining Company and periodic maintenance of the power line by ZETDC.

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1. **What positive (environmental, social, economic or biophysical) impacts may result from the project?**

- Creation of employment
- Poverty reduction
- Infrastructure development

2. **(a) What negative (environmental, social, economic or biophysical) impacts may result from the project?**

- land degradation
- Air pollution
- deforestation

(b) How do you think these negative impacts can be mitigated?

- Rehabilitation
- Afforestation

3. **What local Corporate Social Responsibility (CSR) initiatives may the developer invest in?**

- Building of schools and installation of water sources
- Clinics and roads

Stakeholder Signature: otokonye

Designation: Arts and Culture Officer

DISTRICT DEVELOPMENT OFFICER
MINISTRY OF YOUTH SPORT, ARTS & RECREATION
14 APR 2023
HWANGE DISTRICT
P.O BOX 215, HWANGE
TEL: 08128-32652, 32543

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KAMATIVI MINING COMPANY 88kV POWER TRANSMISSION LINE ESIA STAKEHOLDER QUESTIONNAIRE

Stakeholder: Forestry Commission **,Name:** Obedience Magarda

ID No. : 27-2000 356 K12 **,Contacts (Phone, E-mail or Address):** 0771473001 omagarda46@gmail.com

Kamativi Mining Company P/L commissioned SustiGlobal to conduct an Environmental & Social Impact Assesment (ESIA) for the proposed ±80km, 88kV power transmission line from Zimbabwe Zhong Xin Electrical Energy (ZZEE) to Kamativi Mining Company, via a route that generally passes through; Ward 1, Ward 11, Ward 9, Ward 8, Ward 14, Ward 7, Ward 20, Ward 13 and Ward 16 of Hwange District. This proposed powerline will generally run parallel to the existing Power Lines along the same route. The project scope covers: creation of access routes, 30m wide way-leave clearing leaving 15m from each side, excavation & installation of steel H-poles, construction of a substation at ne Kamativi Mining Company and periodic maintenance of the power line by ZETDC.

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1. What positive (environmental, social, economic or biophysical) impacts may result from the project?

1. Infrastructure development
2. Employment creation
3. Power supply improvement

2. (a) What negative (environmental, social, economic or biophysical) impacts may result from the project?

1. Cutting down of trees
2. Distruction of ground cover

(b) How do you think these negative impacts can be mitigated?

Planting trees and ornamentals in the District to replace the destroyed ~~flora~~ Obedience flora.

3. What local Corporate Social Responsibility (CSR) initiatives may the developer invest in?

Make sure the destroyed carbon stocks are replaced since Hwange have a lot of mining activities which need those stocks.

Stakeholder Signature: Magarda

Designation: F.E.O Hwange

FORESTRY COMMISSION
FOR CONSERVATOR OF FORESTS
SIGN
DATE 14/04/2023
HWANGE DISTRICT

We sincerely appreaciate your participation!!!

C

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KAMATIVI MINING COMPANY 88kV POWER TRANSMISSION LINE ESIA STAKEHOLDER QUESTIONNAIRE

Stakeholder: MINISTRY OF HEALTH **,Name:** MERIA KALIBO

ID No. : 06-033116C06 **,Contacts (Phone, E-mail or Address):** 0772919405

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1. **What positive (environmental, social, economic or biophysical) impacts may result from the project?**

(a) employment creation.
(b) Boost production at kamativi mining company

2. **(a) What negative (environmental, social, economic or biophysical) impacts may result from the project?**

(a) loss of vegetation during clearance.
(b) possible displacement of people.

(b) How do you think these negative impacts can be mitigated?

(a) Civete from homesteads for compensation.

3. **What local Corporate Social Responsibility (CSR) initiatives may the developer invest in?**

(a) Installation of boholes for the Community.

Stakeholder Signature: ..... **Designation:** Nurse (EPI)

MINISTRY OF PUBLIC SERVICE ENVIRONMENT ADMINISTRATOR (HWANGE)
14 APR 2023

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KAMATIVI MINING COMPANY 88kV POWER TRANSMISSION LINE ESIA STAKEHOLDER QUESTIONNAIRE

Stakeholder: MINISTRY OF WOMEN AFFAIRS **,Name:** KASANGA TABITHA

ID No. : 76-131265T76 **,Contacts (Phone, E-mail or Address):** 0773665510

Kamativi Mining Company P/L commissioned SustiGlobal to conduct an Environmental & Social Impact Assesment (ESIA) for the proposed ±80km, 88kV power transmission line from Zimbabwe Zhong Xin Electrical Energy (ZZEE) to Kamativi Mining Company, via a route that generally passes through; Ward 1, Ward 11, Ward 9, Ward 8, Ward 14, Ward 7, Ward 20, Ward 13 and Ward 16 of Hwange District. This proposed powerline will generally run parallel to the existing Power Lines along the same route. The project scope covers: creation of access routes, 30m wide way-leave clearing leaving 15m from each side, excavation & installation of steel H-poles, construction of a substation at ıe Kamativi Mining Company and periodic maintenance of the power line by ZETDC.

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1. **What positive (environmental, social, economic or biophysical) impacts may result from the project?**

- It increases power efficency at high voltage level
- It also reduces the power losses (especially line losses)

2. **(a) What negative (environmental, social, economic or biophysical) impacts may result from the project?**

- Transmission line construction causes disturbance of top soils and vegetation through the movement of people & vehicles along the row, roads and lay down areas.
-

(b) How do you think these negative impacts can be mitigated?

- Can plant vegetative plants to block views of the line leaving the rest in a natural state and so to provide wildlife habitat.

3. **What local Corporate Social Responsibility (CSR) initiatives may the developer invest in?**

Charity work, ethical labour practises and Volunteer projects

Stakeholder Signature:

Designation:

Min. of Women Affairs, Community, Small and Medium Enterprise Dev. District Community Dev. Officer
13 APR 2023
HWANGE DISTRICT
TEL: 0812-856357

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KAMATIVI MINING COMPANY 88kV POWER TRANSMISSION LINE ESIA STAKEHOLDER QUESTIONNAIRE

Stakeholder: Village head kunjulu (Ward 14) **,Name:** Mbandi Ngwenya

ID No. : 08-326837 J 79 **,Contacts (Phone, E-mail or Address):** 0779940665

Kamativi Mining Company P/L commissioned SustiGlobal to conduct an Environmental & Social Impact Assesment (ESIA) for the proposed ±80km, 88kV power transmission line fed by cutting in and out the existing Zimbabwe Zhongxin Electrical Energy (ZZEE) – Hwange Power Station (HPS) (132)88kV line before it proceeds to Kamativi Mining Company, via a route that generally passes through; Ward 14 (Hwange Local Board), Ward 7, Ward 20, Ward 13, Ward 14, Ward 16 and Ward 11 of Hwange Rural District. This proposed powerline will generally run parallel to the existing Power Lines along the same route. The project scope covers: creation of access routes, 30m wide way-leave clearing leaving 5m from each side, excavation & installation of steel H-poles, construction of a substation at the Kamativi Mining Company and periodic maintenance of the power line by ZETDC.

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1. **What positive (environmental, social, economic or biophysical) impacts may result from the project?**

- employment creation
- transmission of electricity to remote areas

2. **(a) What negative (environmental, social, economic or biophysical) impacts may result from the project?**

(b) How do you think these negative impacts can be mitigated?

3. ***What local Corporate Social Responsibility (CSR) initiatives may the developer invest in?***

Stakeholder Signature: C. Ngwenya

Designation:

08/07/23 DATE STAMP

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KAMATIVI MINING COMPANY 88kV POWER TRANSMISSION LINE ESIA STAKEHOLDER QUESTIONNAIRE

Stakeholder: CHAIRPERSON K.A.R.A. **,Name:** TIMOTHY MYULA

ID No. : 79-050702-A79 **,Contacts (Phone, E-mail or Address):** 0782089895

Kamativi Mining Company P/L commissioned SustiGlobal to conduct an Environmental & Social Impact Assesment (ESIA) for the proposed ±80km, 88kV power transmission line from Zimbabwe Zhong Xin Electrical Energy (ZZEE) to Kamativi Mining Company, via a route that generally passes through; Ward 1, Ward 11, Ward 9, Ward 8, Ward 14, Ward 7, Ward 20, Ward 13 and Ward 16 of Hwange District. This proposed powerline will generally run parallel to the existing Power Lines along the same route. The project scope covers: creation of access routes, 30m wide way-leave clearing leaving 15m from each side, excavation & installation of steel H-poles, construction of a substation at the Kamativi Mining Company and periodic maintenance of the power line by ZETDC.

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1. **What positive (environmental, social, economic or biophysical) impacts may result from the project?**

BUSINESS WILL BE ~~HA~~ GOOD
SCHOOLS TO HAVE LIGHT

2. **(a) What negative (environmental, social, economic or biophysical) impacts may result from the project?**

N/A

(b) How do you think these negative impacts can be mitigated?

N/A

3. **What local Corporate Social Responsibility (CSR) initiatives may the developer invest in?**

Stakeholder Signature: MYULA

Designation: CHAIRPERSON K.A.R.A WARD 11

DATE STAMP

We sincerely appreciate your participation !!!

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Emails: oliver@sustiglobal.com **or** oliver.sustiglobal@gmail.com **Website:** www.sustiglobal.com

KAMATIVI MINING COMPANY 88kV POWER TRANSMISSION LINE ESIA STAKEHOLDER QUESTIONNAIRE

Stakeholder: ward 11 RESIDENT **,Name:** VELAPHI MAUNDURA

ID No. : 08-552379N26 **,Contacts (Phone, E-mail or Address):** 0774083816

Kamativi Mining Company P/L commissioned SustiGlobal to conduct an Environmental & Social Impact Assesment (ESIA) for the proposed ±80km, 88kV power transmission line from Zimbabwe Zhong Xin Electrical Energy (ZZEE) to Kamativi Mining Company, via a route that generally passes through; Ward 1, Ward 11, Ward 9, Ward 8, Ward 14, Ward 7, Ward 20, Ward 13 and Ward 16 of Hwange District. This proposed powerline will generally run parallel to the existing Power Lines along the same route. The project scope covers: creation of access routes, 30m wide way-leave clearing leaving 15m from each side, excavation & installation of steel H-poles, construction of a substation at the Kamativi Mining Company and periodic maintenance of the power line by ZETDC.

You or your organization has been identified as a key stakeholder in this project. May you kindly assist SustiGlobal Consultancy to identify potential environmental, social, economic & health impacts and suggest mitigation or enhancement measures for the proposed project by participating in the stakeholder consultation process through this questionnaire? You may use a separate sheet of paper where you feel the space below is not adequate or you have other issues outside the scope of the provided questions. Attached papers should bear your official letterhead.

1. **What positive (environmental, social, economic or biophysical) impacts may result from the project?**
   Improve the water access, socialin inhibit youth redundancy through employment and give employment which empowers everyone.

2. **(a) What negative (environmental, social, economic or biophysical) impacts may result from the project?**
   Land degradation, soil erosion if not catered for.

   (b) How do you think these negative impacts can be mitigated?
   Planting Vertiva grass, culverts, bridges, and ploughing contours.

3. **What local Corporate Social Responsibility (CSR) initiatives may the developer invest in?**
   Women, youth and disadvantaged areas and social amenities

Stakeholder Signature: [signature]

Designation: Ex teacher villager. Kamativi ward 11

DATE STAMP

We sincerely appreaciate your participation !!!

CV

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MINUTES DOCUMENT

Project Name..KAMATIVI 88 kV Power line.....

Date..13/04/2023..... **Time**..15.04.....

Venue..Kamativi old bus terminus.....

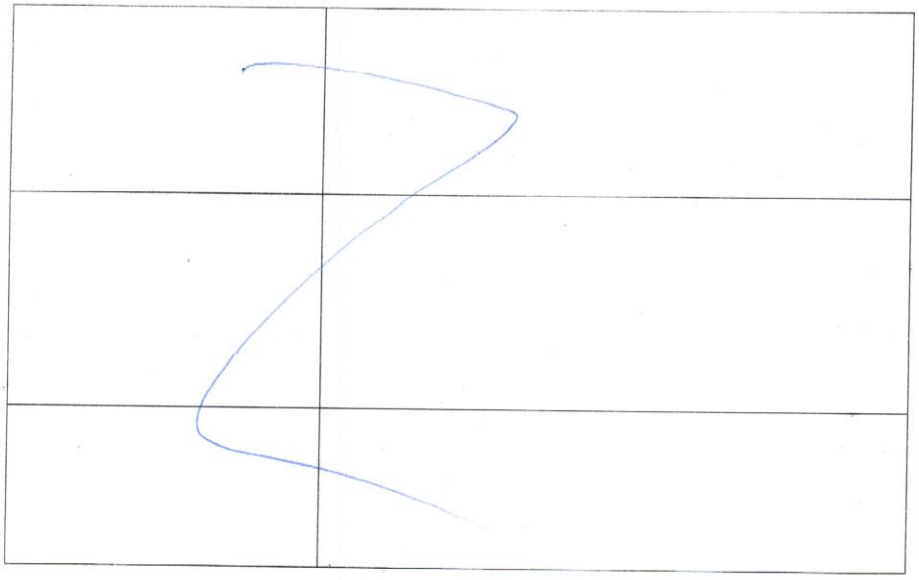
CONCERN	MITIGATION/ENHENCEMENT
This will bring development in our area	——
We welcome the project, will the community be able to get Zesa	Proponent to put transformers for the residents to get zesa
The project will boost mining ~~act~~ production	—

Page 1 of 3

Creation of employment	This will ~~boost~~ benefit the host community

Page **2** of **3**

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MINUTES VALIDATION

We the undersigned confirm that the information above is a true representation of what transpired during the meeting held here,

at Kamativi old terminus on 13/04/2023

Signed

Name Chantell Madiwo Signature Madiwo Date 13/04/2023

For SustiGlobal Consultancy

Name ~~Joseph Mange~~ Timothy Mnula Signature MNULA Date 13/04/2023

Organization: CHAIRPERSON KAMATIVI RESIDENT ASSOCIATION

Name _____ Signature _____ Date _____

Organization: _____

Name _____ Signature _____ Date _____

Organization: _____

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STAKEHOLDERS CONSULTATION MEETING REGISTER

PROJECT NAME	KMC Transmission	VILLAGE:	Kamativi
WARD	11	VENUE	Kamativi old terminus
DATE	03/04/2023	TIME	15:04

	STAKEHOLDER NAME	I.D NUMBER	AGE	GENDER (M/F)	CONTACTS	SIGNATURE
1	CHANTELL MADAWO	29-2012512	26	F	0771627522	
2	Dawa Parolan	03 20015 12 503	27	M	0752587987	
3	JACOB NYONI	79-015504 R79	54	M	0778626939	
4	Oddwell Tshuma	79-164992 D06	27	M	0777350884	
5	STEPHEN Liany	—	34	M	0788459951	
6	CHRISTINE MVULA	79-055910 A06	36	F	0782533717	

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	STAKEHOLDER NAME	I.D NUMBER	AGE	GENDER (M/F)	CONTACTS	SIGNATURE
7	Anna Sibanda	08-283061B58	66	F	0779798226	
8	Matthews Sibanda	79-052587206	57	M	0777704994	
9	Oliver Mutasa	13-216655L44	37	M	0777774244	
10	Banda Florence	79-053908K79	55	F	0774965520	F. Banda
11	Milazi Lucetta F	79-122177Q79	35	F	0771128966	
12	Zenaida gepuleni	79-056565479	52	F	0778052793	
13	Save mayo	79 —	70	F	0771910136	S mayo
14	Pst Samson Selemi	06-008884Y06	49	M	0773386990	
15	[illegible] Mpofu	079-050702-A-79	63	M	0782089895	
16	JASPER ZVIKOMBAMUKWA	37-026726J35	49	M	0777563605	
17	MISHECK T MOYO	79-050394919	78	M	0777407194	
18	Masauso Phiri	79-078767JA9	53	M	0778547241	
19						
20						
21						
22						
23						

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CX

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MINUTES DOCUMENT

Project Name..... KMC Transmission .....

Date..13/04/2023..... **Time**..... 11:00 Am .....

Venue..... Lukosi Shops .....

CONCERN	MITIGATION/ENHENCEMENT
Some investors don't come back to the community NO CSR	Ensure CSR initiatives are taken serious by investors
~~The~~ There must be a ~~return~~ written document	2
There's no locals employment	Local people to be first ~~preferrie~~ preferenCe on employment

Ple under Chief Nekatambe to be employed.	locals under Chief Nekatambe will be prioritised
what if the line passes thru a homestead.	The Power line will divert route each time it approaches a home stead
We need fence, computer for Lukosi School	CSR issues to be taken seious
We need an MOU for CSR.	Z
We want Comment - show us before u even Start.	Z
We will get employment - Zesa will bring dust of kms	Z
- fix the road after e PROJCet	The Proponent will be advised to fix the road as part of CSR

Page 2 of 3

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Locals are always given dirty jobs work	80% of emplayement will be of locals
Z	Z

MINUTES VALIDATION

We the undersigned confirm that the information above is a true representation of what transpired during the meeting held here,

at _____ on _____

Signed

Name Chantell Mata Signature _____ Date 13/04/23
For SustiGlobal Consultancy

Name JOSEPH CHANGE Signature _____ Date 13/04/2023
Organization: HEADMAN

Name JOHANNES SIBANDA Signature _____ Date 13/04/2023
Organization: VILLAGE HEAD

Name Salvie Nyoni Signature _____ Date 13/04/2023
Organization: Councillor Ward 20

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STAKEHOLDERS CONSULTATION MEETING REGISTER

PROJECT NAME	KAMATIVI TRANSMISSION	VILLAGE:	Diki Village
WARD	20	VENUE	Lukosi Shops
DATE	13/04/2023	TIME	11:00

	STAKEHOLDER NAME	I.D NUMBER	AGE	GENDER (M/F)	CONTACTS	SIGNATURE
1	CHANTELL MADAWO	29-202512 D07	26	F	0771627522	Chadawo
2	JOSEPH CHANGE	79-003598 A 29	73	M	0778900717	
3	Dumisani Dube	79-190055 T 79	42	M	0778614100	
4	PETROS CHANGE	79-025626 T79	65	M	0773563089	
5	Salome Ndlamate	79-087722 M79	41	F	0772906292	
6	D.J.S NEHWATI	08-210622-N-79	85	M	0777338698	

	STAKEHOLDER NAME	I.D NUMBER	AGE	GENDER (M/F)	CONTACTS	SIGNATURE
7	Richard Mpala	79-065136P79	57	F	0788747234	
8	CLEVER NYONI	79-082335J79	47	F	0788089978	
9	Prieto Chuma	08-322699 2-79	65	M	0774200854	
10	Ketiwe Nyoni	79-063231-T-79	57	F	0785408505	Nyoni
11	Lebani Nyoni	79-073467-V-79	54	F	0776767948	L Nyoni
12	PETER J. MPALA	08-220497-X79	75	m	0782361171	P.J. Mpala
13	Lydia Silanda	79-033442-P-79	52	F	0773736700	L. Silanda
14	Linet Chuma	79-153993-Y-79	27	F	0785378725	Chuma
15	SUSANA NCUBE	79-035191Q79	50	F	0785408364	S Ncube.
16	MASRATIE MUGANDE	79-056252Q06	74	F	0778673826	M. Mugande.
17	Mavis Muleya	79-013884F79	58	F		M. Muleya
18	Florah Ncube	79 023772D 79	73	F	0778894038	F Ncube
19	Florencia Zulu	79-088859-A-79	44	F	0774700756	Zulu
20	Pauline MUGANDE	06-018039-W-06	46	F	0779368963	Pm
21	Sibonakuhle mpofu	73-119057K73	32	F	0777585929	
22	E Ngwe	79-000350A79	61	F	0778051707	E Lonegwe
23	Lindiwe Moyo	79-116401MT3	CT	F	0782987785	L Moyo

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	STAKEHOLDER NAME	I.D NUMBER	AGE	GENDER (M/F)	CONTACTS	SIGNATURE
24	Gloria Phiri	79-131030N-79	32	F	0785958611	
25	Veronica Sikale	79-073052T-79	64	F	07850 30083	V.S
26	Faides Shoko	79-012196W79	61	F	0778053611	F. Shoko
27	Kazhala Ncube.	79-017904A79	67	F	0788651715	K. Ncube
28	EDINAH PHIRI	79-102492-D-79	44	F	0775154507	E Phiri
29	ANADLET KUVIDIN	79 016630Q 79	75	F	0773462861	
30	Rachael Phiri	79-100315C79	43	F	0784139699	
31	Nolia Mukombe	79-063326Y06	78	F	0783533731	N. Mukombe
32	Pundu ALICE Ndlovu	79-009761279	61	F	0779177208	P. Ndlovu
33	ZONDIWE NCUBE	79-129940D79	36	F	0785361915	
34	STELLA Munkombwe	79-096707-F79	48	F	0715603759	S. Munkombwe
35	Barbara Moyo	28-085047-Z28	44	F	0776723831	
36	Esther Mathe	79-115776H79	37	F	0771630514	E Mathe
37	Margret Sibanda	79-093153 S-79	46	F	0786649031	M. Sibanda
38	MATHIAS MOYO	41-011346-Z-79	59	M.		
39	BONDO C NKATH	41-012050-D-41	62	M	0732 211481	
40	AGNES TSHUMA	79-060919-F-79	70	F		
41	CHARLES NCUBE	79-011810E41	63	M		

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	STAKEHOLDER NAME	I.D NUMBER	AGE	GENDER (M/F)	CONTACTS	SIGNATURE
41	MOFFAT Ncube	79-019598 F 79	66	M	0772541394	
42	MATHIAS MPALA	79-046822 H 79	67	M	0778133687	
43	BERNARD DUMANI	79-021538 A 79	66	M	0783638252	
44	JONAS JOHANNES MPALA	79-015015-C-79	53	M	0772513611	
45	Sincengile Dube	63-718105 D 35	52	F	0778574067	
46	Angella Moyo	08-458933 R.56	57	F	0771052306	A. Moyo
47	DOMINIC DUBE	079-012520A-79	62	M	0776780076	
48	MALVA-GISASIBANDA	79-011878A-79	76	M	0779247063	M. SIBANDA
49	ENOCK SIBANDA	79-032154B-79	44			
50	Winnie Simwanza	79-150094K79	32	F	0786798709	W. Simwanza
51	STEPHEN NCUBE	08-365755T68	68	M	0771693965	
52	JIBAH NCUBE	79-080025A-79	52	M	0774962666	
53	SHADRCK Nyoni	79-078011R79	63	M	0776808774	Nyoni
54	Muzamba Barbarian	79-083099E79	52	M	—	
55	Mlenya Godfrey	79-093052H79	50	M	0784183477	—
56	DUNCAN B. SHOKO	79-037687 D-79	49	M	0784589426	
57	DANIEL MULEYA	79-121244 B-79	37	M	0773928911	

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	STAKEHOLDER NAME	I.D NUMBER	AGE	GENDER (M/F)	CONTACTS	SIGNATURE
58	Silishonga Sibalo	79-250913L79	92	F		SSibalo
59	Benani Shoko	79-125538T79	40	F	0783418931	BShoko
60	Cr Richard S.Banda	79011735Y79		M		cRichBanda
61	VICTOR CHUMA	54-006618V79	67	M.	0778892579	Chuma.
62	JOHANNES SIBANDA	79-047235G79	57	M	0772617415	JSibanda
63	Andrew NDON	79-006928V79	71	M	0775203735	
64	Marcus C. Ndlovu	08-159928L-79	68	M	0776936522	
65	Marko Mpala	79 017703Y 79	60	M	0784285747	Mpala
66	FANUEL MUMPANDE	79-007242L-79	68	M	0775124728	
67	Kelani Ncube	79-062193Q-79	65	M	0777470623	Kelani
68	FANUEL SHOKO	79-033012X-79	53	M		
69	STHUPANI SHOKO	79.085366D-79	46	M	0776774561	
70	Labukani SHOKO	79-103536-D79	40	M	0783867717	LS
71	MARGRET NGOMA	79-019242-E79	67	F	0771059443	M. Ngoma
72	Farai Shava	79-091648J03	49	F	——	F Shava
73	ANTHONY KHUMALO	41-005965-A-41	64	M.	0773666828	
74	TARINA SHOKO	79-036555-Y-79	52	M	0779351704	

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MINUTES DOCUMENT

Project Name: Kamativi 88kV line

Date: 13/04/2023 Time: 1213

Venue: Dinde Community Hall.

NB: Concern is either positive, negative, general impacts, conflict resolution, CSR or etc.

	CONCERN(S)	RESOLUTION(S)
1	All agreements must be Solid and binding.	
2	Development within the country especially for lithium mining	22 village Heads.
3	Generation of revenue from Lithium for the Country	
4	Creation of employment..	This must benefit the host and local communities

Page 1 of 3

5	Possibility of provision of electricity to schools and clinics through CSR	This should include communities as well.
6	Enhanced of mining of lithium has got downstream economic benefits to the country through	
7	Solar technologies and electric cars	
	Village heads and leadership could also want solar batteries	This should also include councillors.
8	No CSR	
-	If the projects does not provide employment for locals the would have	Women should also benefit.
9	been negative	
-	The traditional leaders should be appreciated as the project starts.	
10 -	Possibility of bringing the line into the host communities.	- The line shall be located along the foot of the mountain to ~~avoid~~ avoid disturbances in communities and fields
11 -	Dust and noise from excavating equipment	- where possible manual excavations should be done while use of equipment should be monitored to prevent dust and noise * Water bowzers should also be used to quench dust.

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12 -	Disruption of cultural norms	- Traditional leaders should be engaged through out the construction work.
-	violation of labour laws.	- Workers should be paid adequately and in reasonable times.
13 +	The project may create access routes that can be used by the community later.	- Use of PPE is required.
14 +	Wayleaves may act as fireguards thus preventing movement of fires	

MINUTES VALIDATION

We the undersigned confirm that the information above is a true representation of what transpired during the meeting held here,

at Dete on 13/04/2023

Signed

Name O. Mutasa Signature [signature] Date 13/04/2023

For SustiGlobal Consultancy

Name Dickson Ncube Signature [signature] Date 13/04/2023

Organization: Headman Dickson

Name Richard Sibanda Signature [signature] Date 13/04/23

Organization: Village Head.

Name Vincent Nyoni Signature [signature] Date 13/04/23

Organization: Village Head.

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STAKEHOLDERS CONSULTATION MEETING REGISTER

PROJECT NAME	KMC TRANSMISSION	VILLAGE:	Dinde
WARD	NEKATAMBE WARD 13	VENUE	DINDE PROJECT CENTER
DATE	13 APRIL 2023	TIME	011:00 A M

	STAKEHOLDER NAME	I.D NUMBER	AGE	GENDER (M/F)	CONTACTS	SIGNATURE
1	VINCENT G. NYONI	79-032826V79	51	M	0787430047	
2	MOFFAT SHOKO	79-020124N79	65	M	0780467261	M Shoko
3	DAVISON NDLOVU	79-014719N79	69	M	0771141832	
4	CLPAS NYATHI	19-0016906 79	63	m	0782360690	C-Nyathi
5	DORIKA SITHOLE	79-071935E79	70	F	0777555929	D Sithole
6	FRED ISAAC MABUYA	79-003856-E79	71	F	0778653256	F Mabuya

	STAKEHOLDER NAME	I.D NUMBER	AGE	GENDER (M/F)	CONTACTS	SIGNATURE
7	Innocen Nyabik	79 007541 L 79	58	M	0783127142	
8	FANI NCUBE	79-18997N 79	60	M	0775 416637	
9	PIMA B. MUNKOMBWE	79-057519-K79		M		
10	Vincent Sithole	79-000962K79	66	M	0779995826	
11	Lambo Chuma	79-022205A77	75	M	0738100689	
12	JOHNATHAN LUMBA Ngoko	79-077550H79	55	M	0780361742	
13	William Shoko	79 061616 07	80	M	0779415563	
14	Richard Sibanda	79-034916-Z79	57	M	0775 257 886	
15	Oliver Mutasa	13-216683 L49	37	M	0777774224	
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