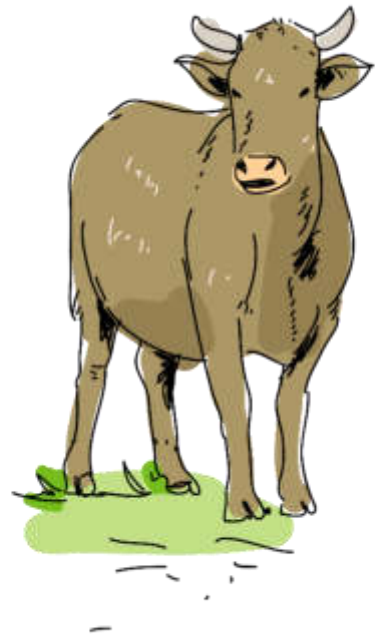


**SCOPING REPORT: ENVIRONMENTAL IMPACT ASSESSMENT FOR THE  
PROPOSED CATTLE FEEDLOT IN KAVANGO EAST REGION,  
KAYENGONA TEYA DISTRICT, NAMIBIA**



## PROJECT DETAILS

---

**TITLE: SCOPING REPORT FOR THE ENVIRONMENTAL IMPACT ASSESSMENT  
FOR THE PROPOSED CATTLE FEEDLOT IN KAVANGO EAST REGION,  
KAYENGONA TEYA DISTRICT, NAMIBIA**

### PROPONENT:

Mr. Shinkeva Thimoteus Shinkeva  
POBOX 7  
Rundu, Namibia  
Cell: +264 811243911

### CONSULTANCY:

HJGeo-Enviro Consulting and Trading Cc  
P.O.Box:8574  
Backbench, Windhoek  
Email: [hjgeoenviro@gmail.com](mailto:hjgeoenviro@gmail.com)  
Cell: +264 814112046

### ENVIRONMENTAL ASSESSMENT PRACTITIONER (EAP):

Mr. M K Shikongo (BSc (Hon) and MSc)  
POBOX 32237  
Pioneerspark, Windhoek  
Email: [hjgeoenviro@gmail.com](mailto:hjgeoenviro@gmail.com)  
Cell: +264814112046

## DECLARATION

We hereby declare that:

- a. We have the knowledge of and experience in conducting assessments, including knowledge of the Acts, regulations, and guidelines that are relevant to the proposed project.
- b. We have performed the work relating to the application in an objective manner, even if this results in views and findings that are not favorable to the applicant.

---

**Mr. M Shikongo**

**Position: Environmental Assessment Practitioner (EAP)**

## REPORT/DOCUMENT CONTROL FORM

<b>PROJECT NAME: ANIMAL FEEDLOT IN KAVANGO EAST REGION, KAYENGONA TEYA DISTRICT, NAMIBIA</b>		
<b>Document Title:</b>	SCOPING REPORT ENVIRONMENTAL IMPACT ASSESSMENT FOR THE PROPOSED ANIMAL FEEDLOT IN KAVANGO EAST REGION, KAYENGONA TEYA DISTRICT, NAMIBIA	
<b>Document status:</b>	<b>Draft/Interim/Final:</b> FINAL	<b>Issue Date:</b> 12 January 2022
<b>Prepared for:</b>	<b>Client Name:</b> Mr. Shinkeva Thimoteus Shinkeva	<b>Contact Person:</b> Mr. Shinkeva Thimoteus POBOX 7 Rundu, Namibia Email: <a href="mailto:rnawa@iway.na">rnawa@iway.na</a> Tel: +264 66 256351
<b>Prepared by:</b> Mr. M Shikongo		
<b>Edited/Approved and Verified by:</b> Mr. J.J Sirunda and Mr. M Siyambango		
<b>Client approval:</b> Mr. Shinkeva Thimoteus Shinkeva		

## Table of Contents

LIST OF FIGURES.....	8
LIST OF TABLES .....	8
ABBREVIATIONS.....	9
EXECUTIVE SUMMARY .....	10
1. INTRODUCTION .....	12
1.1. Background .....	12
1.2. The Purpose of the Environmental Assessment (EA) process.....	13
1.3. Terms and reference .....	14
2. DESCRIPTION OF THE PROPOSED PROJECT .....	14
2.1. Project rationale .....	14
2.2. Proposed Locality .....	15
2.3. Layout and Description of the locality .....	16
2.4. Available regional and local infrastructure and services to the project area .....	17
2.4.1. Existing infrastructure and buildings .....	17
2.4.2. Operational infrastructure .....	18
2.4.3. Accessibility .....	19
2.4.4. Water demand, supply, and storage .....	19
2.4.5. Electricity demand and supply .....	19
2.4.6. Handling and storage of waste and wastewater .....	20
2.4.7. Waste management .....	21
2.5. Operational activities .....	22
2.5.1. Livestock .....	22
2.5.2. Feed .....	22
2.5.3. Water .....	23
2.5.4. Veterinary medication .....	24
2.6. Project Alternatives.....	24
2.7. Decommissioning activities .....	25
3. POLICY AND LEGAL FRAMEWORK.....	26

Cattle improvement .....	31
Cattle Improvement Consolidation Ordinance 14 of 1941 .....	31
4. BASELINE ENVIRONMENT .....	31
4.1. Surrounding land use .....	31
4.2. Climate .....	31
4.2.1. Temperature.....	31
4.2.2. Rainfall.....	31
4.2.3. Regional wind patterns .....	32
4.3. Elevation and topography.....	32
4.4. Geology and soils.....	32
4.5. Hydrology .....	35
4.6. Groundwater potential .....	36
4.7. Biodiversity (Fauna and Flora).....	40
4.8. Potential impact identified.....	43
4.7.1. Negatives impacts .....	43
4.7.2. Positive impacts .....	43
4.8. Concluding remark on this section.....	44
5. PUBLIC CONSULTATION PROCESS .....	44
5.7. Legal and policy requirement .....	44
5.7.1. Environmental management act (2007) and its EIA regulations (2012)..	44
4.7. Consultation approach.....	46
4.8. The interested and affected parties (I & AP's) .....	46
4.9. The outcome of the public consultation meeting .....	46
5. Impact assessment .....	48
5.1. The methodology used or adopted for the impact assessment .....	48
5.2. Identification of key issues.....	53
6. ENVIRONMENTAL IMPACT ASSESSMENT .....	53
6.1. Air quality .....	54
6.1.1. Background to the impact.....	54
6.1.2. Significance .....	54

6.1.3.	Mitigation and recommendation .....	55
6.1.4.	Monitoring .....	55
6.2.	Noise emissions .....	55
6.2.1.	Background to the impact.....	55
6.2.2.	Significance .....	56
6.2.3.	Mitigation and recommendation .....	56
6.2.4.	Monitoring .....	56
6.3.	Soil erosion .....	56
6.3.1.	Background to the impact.....	56
6.3.2.	Significance .....	56
6.3.3.	Mitigation and Recommendation .....	57
6.3.4.	Monitoring .....	57
6.4.	Pollution to surface and groundwater quality .....	58
6.4.1.	Background to the impact.....	58
6.4.2.	Significance .....	58
6.4.3.	Mitigation and recommendation .....	59
6.4.4.	Monitoring .....	60
6.5.	Biodiversity ( Fauna and Flora).....	60
6.5.1.	Background to the impact.....	60
6.5.2.	Significance .....	61
6.5.3.	Mitigation and recommendation .....	61
6.5.4.	Monitoring .....	63
6.6.	Health and safety.....	63
6.6.1.	Background to the impact.....	63
6.6.2.	Significance .....	63
6.6.3.	Mitigation and recommendation .....	63
6.6.4.	Monitoring .....	64
6.7.	Soil waste.....	64
6.7.1.	Background to the impact.....	64
6.7.2.	Significance .....	64

6.7.3.	Mitigation and recommendation .....	65
6.7.4.	Monitoring .....	65
6.8.	Employment opportunities .....	65
6.8.1.	Background to the impact.....	65
6.8.2.	Significance .....	66
6.8.3.	Mitigation and recommendation .....	66
6.8.4.	Monitoring .....	66
6.9.	Disturbance to heritage .....	66
6.9.1.	Heritage .....	66
6.10.	Closure phase .....	67
7.	CONCLUSION AND RECOMMENDATIONS .....	68
7.1.	Conclusion.....	68
7.2.	Recommendations .....	68
8.	REFERENCES .....	70
9.	APPENDICES: LIST OF APPENDICES.....	72
1.	<b>Introduction</b> .....	83
2.	<b>Legal requirements</b> .....	83
3.	<b>Project description</b> .....	83
4.	<b>EIA process</b> .....	85
5.	<b>Public consultation</b> .....	86



## LIST OF FIGURES

Figure 1: Locality Map.....	13
Figure 2: Locality Map of the proposed project with infrastructures.....	16
Figure 3: Existing fence around the project site.....	18
Figure 4: Geology Map.....	33
Figure 5: Soil types of the project site.....	34
Figure 6: Soil types in Kavango region (FAO).....	35
Figure 7: Hydrogeological rock type and aquifer types.....	39
Figure 8: Groundwater potential Map.....	40
Figure 9: Vegetation present in the project site.....	41
Figure 10: Vegetation Map.....	42
Figure 11: Vegetation type Map.....	43
Figure 12: Public Participation meeting at Kayengona teya: 06 December 2021.....	47
Figure 13: Locality Map.....	84

## LIST OF TABLES

Table 1: Waste Management Options.....	21
Table 2: Legal instruments relevant to this project.....	26
Table 3: Nature or Type of Impact.....	48
Table 4: Physical Extent Rating of Impact.....	49
Table 5: Duration Rating of Impact.....	49
Table 6: Reversibility of Impact.....	50
Table 7: Magnitude Rating of Impact.....	50
Table 8: Probability Rating of Impact.....	51
Table 9: Symbols Reference.....	51
Table 10: Significance Ratings.....	52
Table 11: Expected significance of the project on air quality on site.....	54
Table 12: Expected significance of the project on air quality on site.....	56
Table 13: Expected significance of the project on soil erosion.....	56
Table 14: Expected significance of the project on surface and ground water.....	58
Table 15: Expected significance of the project on biodiversity ( Fauna and Flora).....	61
Table 16: Expected significance of the project on employee Health and Safety.....	63
Table 17: Expected significance of the project on waste generation.....	64
Table 18: Expected significance of the project on employment opportunities.....	66

## ABBREVIATIONS

CBNRM	Community Based Natural Resource Management
DEAF	Department of Environmental Affairs and Forestry
DoF	Directorate of Forestry
DWAF	Department of Water Affairs
DWSSC	Directorate of Water Supply and Sanitation Coordination
EA	Environmental Assessment
EIA	Environmental Impact Assessment
ENC	Environmental Coordinator
MEFT	Ministry of Environment, Forestry and Tourism
MAWLR	Ministry of Agriculture, Water and Land Reform
NACSO	Namibian Association of CBNRM Support Organisation
NGO	Non-Governmental Organisation
NNF	Namibia Nature Foundation
NRM	Natural Resource Management
PPE	Personal Protection Equipment

## EXECUTIVE SUMMARY

This report presents findings of the Environmental Impact Assessment (EIA) field study, which was carried out in the Kavango East region for the proposed cattle feedlot at Kayengona Teya village, 20 Km East of Rundu Town, 7 Km east of the Kavango River. The findings include the major impacts that may arise due to proposed activities in the area and possible measures to mitigate or avoid these impacts.

The project site is located about 20 km East of Rundu in the Kayengona Teya Communal land under the jurisdiction of the Sambyu Traditional Authority, falling within the following coordinates:

- (A)  $17^{\circ}55'49.36''S$   $19^{\circ}52'25.32''E$
- (B)  $17^{\circ}55'38.40''S$   $19^{\circ}52'26.65''E$
- (C)  $17^{\circ}55'39.28''S$   $19^{\circ}52'33.36''E$
- (D)  $17^{\circ}55'43.57''S$   $19^{\circ}52'32.56''E$
- (E)  $17^{\circ}55'44.22''S$   $19^{\circ}52'36.77''E$
- (F)  $17^{\circ}55'44.22''S$   $19^{\circ}52'36.77''E$

The feedlot project will use the 20 hectares at Kayengona Teya for the preparation of the cattle to be ready-made for slaughtering. Site selection considerations for the proposed feedlot was selected in view of the economic efficiency of construction, cattle health, welfare and performance, social benefit while minimizing, ongoing maintenance costs, and minimal adverse environmental impact, proximity to major arterial road networks, other feedlots or intensive livestock facilities, abattoirs, saleyards and other services, , available labor, and security of an adequate water supply is vital. A feedlot requires a secure, highly reliable water supply that is correctly licensed, of sufficient capacity and of suitable drinking quality for livestock. That security must be in both a legal (i.e. a legal right to the required volume) and a physical sense (i.e. the physical ability to pump, store and deliver the required volume of water).

The land will be slightly cleared of shrubs between the trees, and perennial grasses established for high-density grazing. The cattle will be prepared on the farm, rounded off in a feeding pen, to produce manure for fertilizer, and slaughtered at the abattoir.

Infrastructure for cattle farm will be developed, such as fencing of the area, storage for animal feeds, fodder, a slaughtering house and loading, and offloading zones, workers and staff resting area, clay/plastic-lined ponds for storage of waste such as manures/blood, and ablution facilities. There will be no forest clearing or removal at the site but only removal of some shrubs to make spaces for the operation of project activities and grazing areas for animals. Furthermore, no animal waste will be discharged into the environment and all the waste will be held into the plastic-lined ponds for natural drying. An estimated 10 skilled laborers from the community will be employed on the feedlot. Employees on the farm will be unskilled laborers and will be determined by the final size of the entity. Season workers are excluded and will be employed when needed. When the project starts, many people will be employed to clear the area and do all preparations in all phases.

The environmental impact assessment (EIA) was undertaken by HJ GeoEnviro Consulting and Trading cc. Through the scoping process, a review of the site and surrounding environment was completed by undertaking a desktop review and site visits. The assessment is considered to be comprehensive and sufficient to identify impacts, and it is concluded that the likely effects were not deemed significant and therefore no further assessment is required. On this basis, it is of the opinion of HJ GeoEnviro Consulting and Trading cc that an environmental clearance certificate could be issued, on conditions that the management and mitigation measures specified in the EMP will be implemented and adhered to by the proponent.

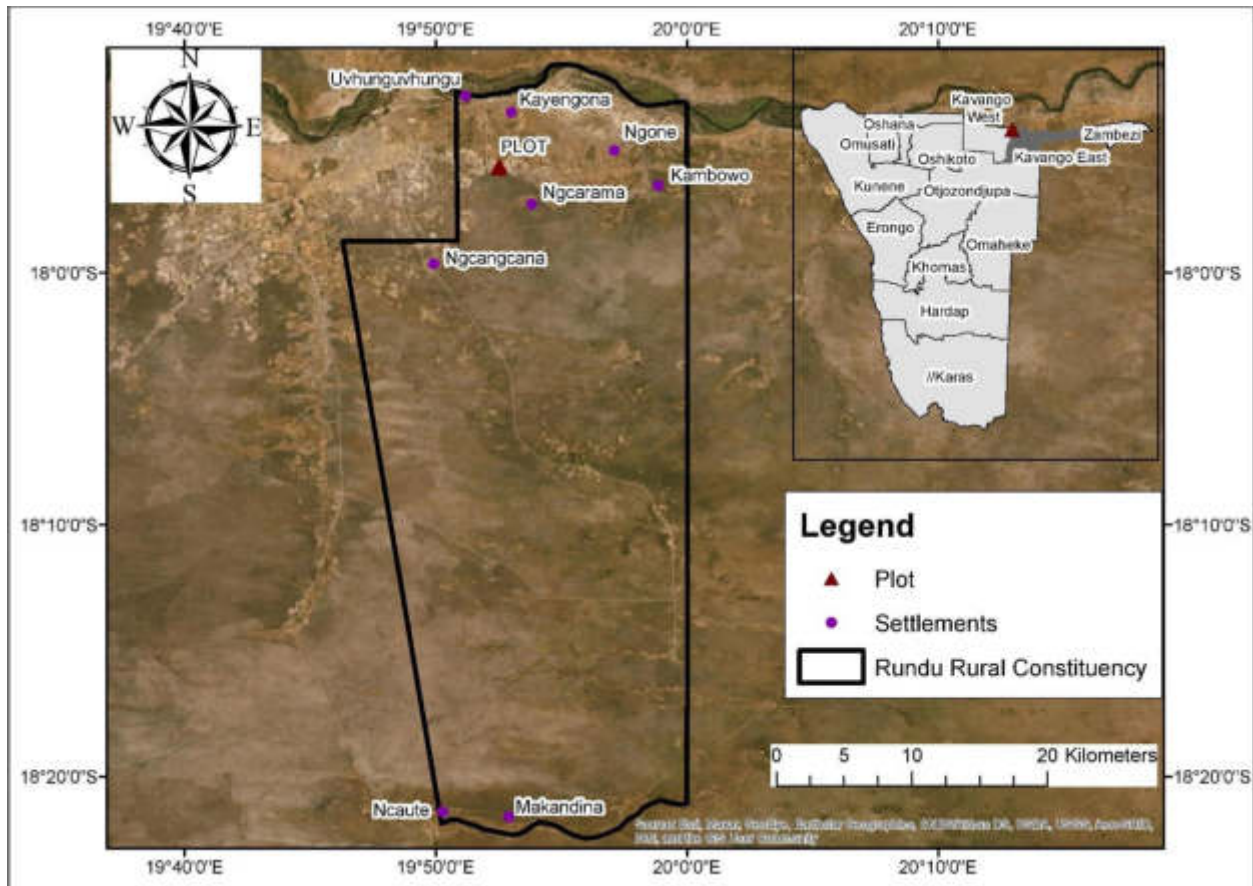
## **1. INTRODUCTION**

### **1.1. Background**

The proponent, Mr. Shinkeva Thimoteus Shinkeva is proposing to establish a Cattle feedlot husbandry unit on a 20 hectare of land at Kayengona Teya village in the Kavango East region. Kayengona Teya village is situated about 20 Kilometres east of Rundu, falling under the jurisdiction of the Shambyu Traditional Authority.

The proposed Cattel feedlot requires an environmental clearance (EA) in terms of the National Environmental Management Act (2007), and the EIA regulations of 2012. HJ GeoEnviro consulting and Trading cc has been appointed by the proponent to undertake the independent Environmental Assessment Practitioner (EAP) function to facilitate the Environmental Impact Assessment (EIA) process in accordance with the EIA Regulations of 2012.

This site falls under the jurisdiction of the Shambyu Traditional Authority (STA) and the application for right of Leaseholds was lodged with the STA, who verified and measured the piece of land.



**Figure 1: Locality Map**

### 1.2. The Purpose of the Environmental Assessment (EA) process

The EA process is an interdisciplinary procedure to ensure that environmental and social considerations are included in decisions regarding projects. Simply defined, the process aims to identify the possible environmental and social effects of a proposed activity and how those impacts can be mitigated. In the context of this report, the purpose of the EA process is to inform decision-makers and the public of the potential negative and positive consequences of the proposed Animal feedlot. Thereby providing the competent authority sufficient information to make an informed decision with regards to granting or refusing the Environmental Clearance Certificate applied for.

160 carrying capacity

### **1.3. Terms and reference**

The terms of reference for this Environmental Assessment is to determine the potential biophysical and social impact emanating from the construction and operation of the proposed farming project. The aims and objectives of the assessment are:

- To establish and describe the known ecological baseline conditions for environmental, health, and social conditions existing in the project area from secondary information and a reconnaissance site visit
- To conduct an environmental impact identification and assessment and to describe the likely environmental impacts of the proposed project during the construction and operation phases
- To also demonstrate that the Environmental Assessment complies with the current and/or expected Namibian legislation requirements for environmental, social performance, and health.
- To identify and draft actions for the environmental and social management plan of the proposed farming project
- To identify and document mitigation measures to minimize identified adverse environmental impacts.

## **2. DESCRIPTION OF THE PROPOSED PROJECT**

### **2.1. Project rationale**

Namibian livestock industries have played a vital role in the development of the country in supplying the trigger for the economic growth of the nation through exports. The planned activities at Kayengona Teya project site will involve rearing cattle, thereby feeding them with fodder which will be organically produced at the project site, and other farming activities like horticulture. Feedlots have come to be viewed as a more economical production method that compliments the grass-fed sector because of the increased efficiency that they provide, this in turn, reduces the rate of overgrazing that has been widely documented in Namibia, Kavango East inclusive. . The manure from the animal production will be collected and/or harvested and will be used at the project site as composite for fodder production, hence complimenting and sustaining each other's production.

The proposed project will contribute to the improvement of the local beef market and create employment along the way. From the feedlot, cattle will be delivered to local and

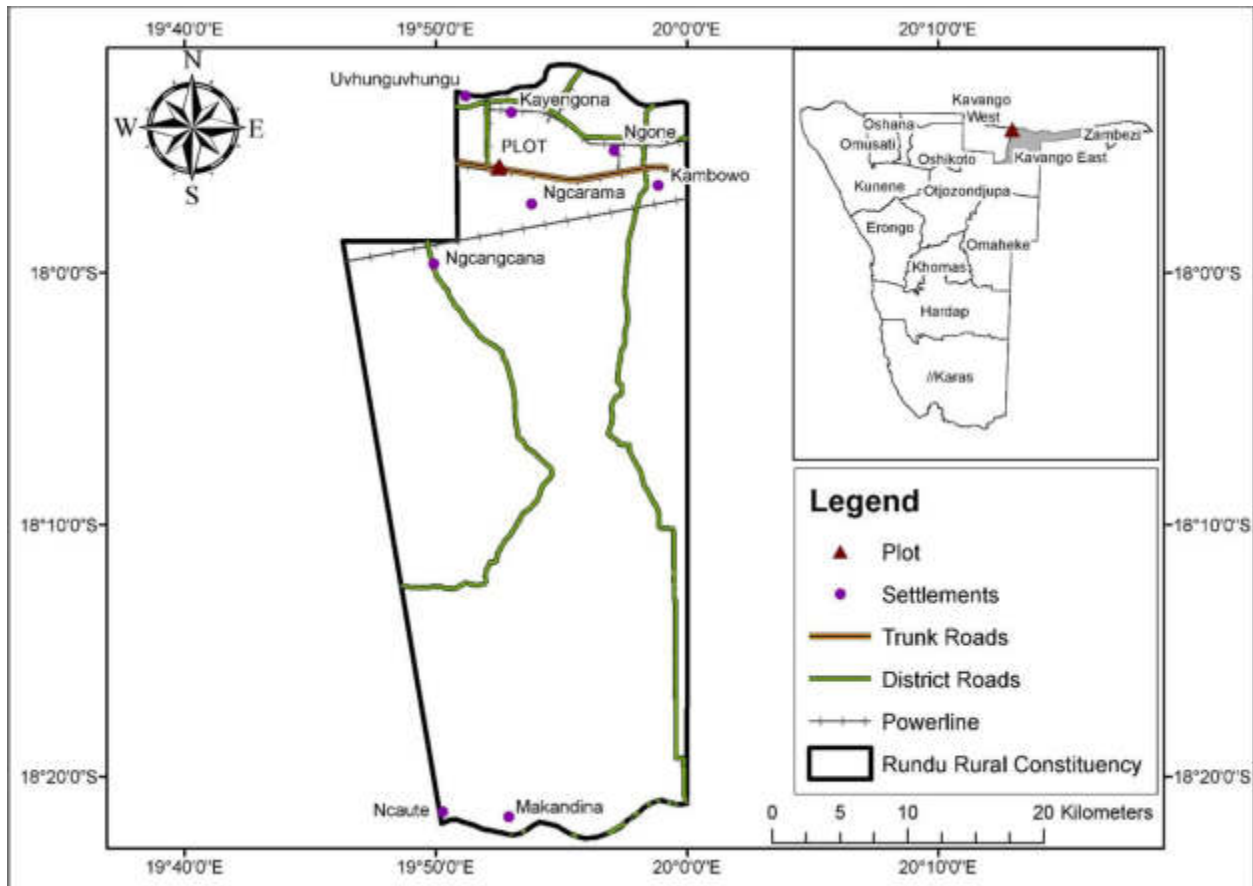
national abattoirs and also sold directly to consumers. This initiative will contribute to the development of the Kayengona Teya community by creating about 30 jobs for unemployed community members and serving as an agricultural training ground for school learners of the Kayengona Teya community. The proposed project also vows to contribute towards achieving the national goals detailed in the Nationally Determined Contribution (NDC) of reducing GHG emissions by 91% by 2030 by containing and reducing the amount of Methane production from cow dung.

## **2.2. Proposed Locality**

The proposed cattle feedlot is to be located at the Kayengona Teya village, about 20 km from the town of Rundu, approximately 100 m, north of B1 road, 7 Km east of the Kavango River. The site is approximately 20 hectares in extent, of which approximately 3 hectares consist of the farm worker's residential site with the farmhouse and storage facilities.

The proposed feedlot, which will be able to accommodate 50 to 160 cattle when fully operational, is proposed to be established within a 20 ha portion of land (preferred site) within the western section of the Farm. Figure 2 below shows the location of the proposed project.





**Figure 2: Locality Map of the proposed project with infrastructures**

### 2.3. Layout and Description of the locality

The proposed feedlot will be an agricultural development within an area zoned for agriculture. The surrounding land use is mainly agriculture subsistence farming activities, cattle and goats farming, and therefore the proposed activity is in line with the land-use zoning. The proposed area for the Animal feedlot is ideal for this purpose as it is a flat plain with a slight slope which is good for manure run-off management, to prevent pollution to the Kavango River although located very far from the project site. This site will need no construction of roads as it is close to the existing access to the site. The site is also situated on old cultivated lands and no primary vegetation other than grass will need to be removed, as no large trees occur on this site.

This site is close to the farmhouses as well as the storage facility intended for the storage of feed. The site is adjacent to the public access road that is used to gain access to towns like Rundu, Katima, Nkurenkuru, etc. The project requires that the site be adjacent to the access road in order to make it easier to load and unload material for the project.

This site is currently used for grazing and other agricultural practices like cropping, and is mainly populated by grass. There are no trees that will need to be cleared when construction starts. This is preferred because it has a size big enough to accommodate the proposed feedlot. It is also downwind of the community houses with regards to the general wind direction in the area since the feedlot generates odors. The feedlot will have a parameter fence of about 1.5m high around the perimeter with poles planted in the ground at an interval of about 4m. The proposed project site will overall be used for farming or agricultural activities. The feedlot will have 3 lined oxidation ponds, 1 Slaughtering facility, a Cattle holding facility, and an Orchard.

There is an exiting borehole on site, with a water tanks which provide water supply to the project site.. About 2m wide drainage canals will collect and transport all the wastewater from the pens towards the sedimentation pit. The majority of the solids (manure and any other particles) settle at the bottom of the pit before the water is channeled towards the 500m<sup>3</sup> lined oxidation/stabilization . A lined overspill ponds is adjacent to the ponds to contain any spillages in the event of heavy flow. The intention is to use the water from the ponds for irrigation, however, some of it will evaporate into the atmosphere and no seepage into groundwater is expected due to the lining of the ponds.

Three silage bunkers are included in the facility to store the cattle feed before it is taken to the feed processing unit and supplied to the cattle. A veterinary facility will be constructed on the site to ensure the health of the cattle is maintained and prevent any possible diseases.

#### **2.4. Available regional and local infrastructure and services to the project area**

The cattle feedlot project site is linked to the national road network by B1. To access the site, an existing gravel road stretch of about 100 m will be used.

##### **2.4.1. Existing infrastructure and buildings**

A mesh fence surrounds the property for security purposes. The site is currently divided into camps for animals. Figure 3 shows the existing fence around the project site. On site there is exiting borehole with an elevated water tank for water supply.



**Figure 3:Existing fence around the project site**

#### **2.4.2. Operational infrastructure**

In order for the feedlot operation to be successful in producing a good quality cattle herd, certain facilities are necessary. In the planning of handling facilities for the feedlot, it is important to consider the objectives of the facility. A well-designed handling facility will ensure animals are gathered safely, sorted, and controlled. The following are four essential components of a well-designed facility:

- **Sorting pens**

Cattle are first collected from the farms or feedlot, before they are handled. The size of the sorting pens must be large enough to fit the largest animal. Each animal requires about 2m<sup>2</sup> of space in the sorting pen. In commercial farms or feedlots at least one sorting pen must be in the shade and be supplied with water.

- **Crushing pens**

Crushing pens are used to drive the cattle from the sorting pens to the loading platform. The crushing pens usually have a moveable gate that is used to lead the cattle into the crush.

- **Working area**

The working area is the area where the animals are handled and is situated at the end of the crush. The working area contains the following items:

- ✓ Neck clamp
- ✓ Body clamp
- ✓ Scale
- **Loading platform**

A loading platform must be designed in a way that the cattle can be loaded efficiently. The height of the loading platform is determined by the height of the transportation vehicle. A height of 1.1 to 1.2 m for trucks is generally accepted.

- **Oxidation/Stabilization Pond**

The proposed project will have 2 oxidation/stabilization ponds (which will be lined with clay) which will be used to treat wastewater coming from the animal holding camps. The sludge from the oxidation pond will be utilized as manure for the irrigation processes.

### **2.4.3. Accessibility**

The project site is directly accessible from the B1 regional road. This bodes well for the proposed project as this road carries large volumes of traffic daily, thus adding to good visibility and exposure to the envisioned Animal feedlot. The Farm entrance is adjacent to the B1 road and an existing gravel road of +- 600m extends from the entrance towards the existing built infrastructure where the main feedlot activities will take place.

### **2.4.4. Water demand, supply, and storage**

The property is located very far from water supply infrastructure and its about 7 Km from the active Okavango River. In view of the water supply locality, the proponent has a dedicated borehole with four 1000 L water tanks will be kept on the site to store and provide water for use on the feedlot.. A lined oxidation/stabilization will be placed on the site to collect the effluent water from the feedlot. This effluent water will be used to irrigate the palatable grass/Orchard that will be used as cattle feed.

### **2.4.5. Electricity demand and supply**

The site is will be provided with electricity via a transformer located adjacent to the project site. Electricity infrastructure will be installed at the site, and all the relevant

buildings will be connected to the electricity transformer by the electricity supplier (NORED). This power connection is connected from the main town center of Rundu to the different communal areas including Kayengona Teya area. Power supply is under the auspices of Nampower, Rural electrification project.

#### **2.4.6. Handling and storage of waste and wastewater**

The solid waste on this site will be a mixture of manure and soil-forming a biodegradable by-product. This product will temporarily be stored in the designated storage facilities from where it will be used as fertilizer on cultivated lands. The temporary storage facility for the manure will be properly managed to limit its footprint area and mitigate the odor as far as possible.

In order to harness the economic value of manure, to enhance the health of cattle, and to reduce the generation of dust, the manure-soil mixture will be removed from the feedlot pens, and thus has necessitated the establishment of a temporary manure storage facility.

Any medical waste as a result of veterinarian activity on the site, such as medicine bottles and syringes, will be dispatched to a medical waste facility in Rundu. Manure generated on-site will thus be managed through the application of a simple management action set out as the following:

- Manure generated as a result of animal secretions;
- Manure decomposed or partially decomposed laying on the feedlot interface layer;
- A mixture of biodegraded manure and soil removed mechanically (with the use of a tractor, grader, and front end loader);
- The mixture of biodegradable manure and soil is transported via tractor/truck to the temporary storage and composting facility; and
- The manure is temporarily stored in a designated storage facility and/or composting facility.
- The lining of feedlot structures with clay or similar liners will generally result in the feedlot complex posing a minimal risk to landscape salinity or groundwater contamination.
- The no application of feedlot effluent and manure to land may increase soil salinity, especially in low rainfall zones, and this may directly or indirectly increase deep drainage and groundwater recharge.

- Avoid areas that may not be suitable as manure and effluent utilization areas, or that may require expensive or intensive management and mitigation measures, include the sites with one of more of the following, shallow water tables or springs, existing salinity problems, highly permeable soils.
- The guidelines for feedlot developments also recommend a minimum separation distance from boreholes.

#### 2.4.7. Waste management

Waste Management at the project site will be undertaken in line with the Environmental Management Plan to consider the correct disposal of manure, fuel, agrochemicals as well as waste on the site. Table 1 describes the four different waste products that the proposed feedlot will produce, as well as the various options to dispose of them

**Table 1: Waste Management Options**

Fuel	Hazardous	<p>Fuel spillages and contamination of water sources, especially an irrigation scheme can have serious consequences, it is important that the project:</p> <ul style="list-style-type: none"> <li>• Contact fuel supplier for disposal options</li> <li>• Ensure storage facilities are maintained and meet industry regulations</li> <li>• Transportation of fuel must be regulated and correctly managed</li> </ul>
Agro-chemicals	Hazardous	<p>Agro-chemicals can pollute water sources as well as contaminate food and the surrounding environment, which are often hazardous to humans and animals.</p> <ul style="list-style-type: none"> <li>• Dispose of in a secure area per industry regulations</li> <li>• Contact supplier for disposal options</li> <li>• Ensure correct storage and management of chemicals</li> </ul>
Office waste	General	<p>Office waste (inorganic matter) can be disposed of as per normal and form part of the municipal waste management system.</p> <ul style="list-style-type: none"> <li>• Ensure waste is stored securely in refuse bins or selected areas</li> <li>• Co-ordinate waste removal with the town council waste management department</li> </ul>

Animal carcasses (non-infectious)	General	Animal carcasses will be taken away from the site and disposed of safely on the same day the death occurs. This prevents any form of rot and potential infections that can occur from bacteria in the event that they are not taken away from the site.
-----------------------------------	---------	---

## 2.5. Operational activities

The operational phase will commence immediately upon the completion of the construction phase. The operational phase will include the receiving, feeding, fattening of cattle, in a healthy manner, to be sold for beef, as well as providing support to farmers.

### 2.5.1. Livestock

Cattle are firstly introduced to the feedlot after weaning when they are approximately 7 to 9 months of age. The cattle are initially kept on pasture land where backgrounding takes place. Backgrounding is the grouping and adaptation of the cattle prior to entry into the feeding process, which takes up to three months. This practice delivers significant production benefits once the cattle are on feed, which includes the reduction of disease risks, improvement of feed intake, and the improvement of socialization. After backgrounding, the cattle enter the feeding process, in which the cattle's weight is increased from  $\pm 200$  kg to up to  $\pm 450$  kg. Some cattle may enter the feedlot at a more mature stage after grazing on other farms for several months or years. These more mature animals immediately enter the feeding process.

It is preferred that the animals are still young when entering the feedlot and should also preferably be male, as males show stronger growth rates than females. The feedlot will be open to any breed in its initial years and will be evaluated at a later stage in order to revise the breeds to be accepted into the feedlot.

### 2.5.2. Feed

As mentioned above, the cattle are firstly introduced into the feedlot with backgrounding. It is important that the most palatable grass types are available for the cattle to consume. According to the Agricultural Research Council (2003), the most common palatable grass types found in Namibia include:

- *Schmidtia kalahariensis*, *Chloris virgata*, *Eragrostis porosa*, *Eneapogon cencroides* and *Urochloa brachyuran*.

The feeding process entails the feeding of cattle with pre-mixed feeds in order to ensure a rapid increase in the animals' weight. Most Southern African cattle are grain-fed, as grain ensures much more tender meat than of cattle that only graze on pastures. Grain-fed cattle also provide lean meat with as little as 1% of fat. Many feedlots mix their own ration of feed (usually a complete feed) made from the most readily available ingredients at the best possible process. Large volumes of feed are usually bought at once (as a complete feed), thus when feed is bought in large volumes, better prices can be negotiated.

Animals must get sufficient fiber, energy, protein, minerals and vitamins to remain healthy and productive. The following supplementation is required to ensure healthy fed animals:

- Hay
- Silage
- Grain
- Protein blocks/lick

Initially, the cattle should be fed 2kg per head per day, and should then be increased by 1 kg per day until no residues are left. In year 1, in order to feed 150 cattle (one cycle), 300 kg of feed mixture is required per day.

The project will need to supply local livestock with quality feed, as well as provide quality grazing land for the cattle for backgrounding purposes. Training on cattle feeds should be provided to workers and local community farmers at the project.

### **2.5.3. Water**

A plentiful supply of cool, clean, good-quality water is essential. Water should be in a trough and off the ground. This ensures in keeping the water clean and free of manure and urine. Poor-quality water, which is contaminated by feed, dust, and feaces, leads to a reduction in water intake, which in effect leads to slower rates of gain.

The average daily intake of water for cattle is approximately 50 litres per head per day (USAID, 2008). This calculates to approximately 7 500 litres of water per day for 150 cattle. It is, therefore, important that the project site consists of sustainable water sources, which can provide sufficient clean water for all cattle daily. The proposed feedlot intends to use the existing boreholes to provide water for the activities.



#### **2.5.4. Veterinary medication**

Crowded accommodation is the main cause of the rapid spread of disease in feedlots. A feedlot manager needs to be aware of the potential danger of these diseases, especially infective diseases such as Infectious Bovine Rhinotracheitis (IBR) which can spread through a feedlot at a very rapid rate and even if mortalities are relatively low.

Studies indicate that the five of the most common health problems that beef producers encounter include:

- Respiratory diseases
- Brucellosis
- External parasites, such as flies, ticks, and lice
- Internal parasites, such as roundworms, lungworms, and liver flukes

Vaccinations and parasite controls are available for many of the diseases affecting cattle. The choice of remedy and time of application depends on the animal's nutritional level, disease prevalence in the herd, and the region in which the cattle are located. It is advised that local veterinarians should be consulted for a vaccination program according to the conditions existing in the area.

Cattle are vaccinated as calves and are occasionally dipped, dosed, and vaccinated during the course of their lives due to various diseases and pests. Dipping is done to remove fleas, ticks, lice, mites, black flies, and screwworms. Finally, dosing should be done on the cattle to get rid of roundworms, tapeworms, and flukes.

The project will need to provide training on the various common diseases and pests that can harm the cattle's health. This includes practical training on how to vaccinate, dip and dose cattle. Veterinary services will be available from the project at all times, as well as the necessary medicines.

#### **2.6. Project Alternatives**

The EIA Regulations, 2012 require that project alternatives be identified.

The proposed Cattle feedlot will be an agricultural development within an area zoned for agriculture. The surrounding land use is mainly agriculture for subsistence farming, cattle/goats farming communities and therefore the proposed activity is in line with the land-use zoning. The proposed area for the Cattle feedlot is ideal for this purpose as it is a flat plain with a slight slope which is good for manure run-off management. This site will need the minimum construction of roads as it is close to the existing main road. The site is also situated on old cultivated lands and no primary vegetation other than grass will need to be removed, as no large trees occur on this site. Site selection considerations for the proposed feedlot was selected in view of the economic efficiency of construction, cattle health, welfare and performance, social benefit while minimizing, ongoing maintenance costs, and minimal adverse environmental impact, proximity to major arterial road networks, other feedlots or intensive livestock facilities, abattoirs, saleyards and other services, available labour, and security of an adequate water supply is vital

The identification of alternatives provides a basis for choice among options available to the decision-making authority and is a requirement of the EIA Regulations. The other reason why this site is preferred is that it has a size big enough to accommodate the proposed project activities. It is also downwind of the farmhouses with regards to the general wind direction in the area since the feedlot generates odors.

## **2.7. Decommissioning activities**

The proposed Cattle feedlot is to be in operation with no anticipated decommissioning and therefore the likely impacts of decommissioning cannot be accurately predicted at this stage. However, impacts during decommissioning are likely to be similar in nature to those identified for the construction phase and will be managed in cognizance of the applicable legislation. Should decommissioning be required in the future, the EMP is to be amended to account for decommissioning activities in line with the applicable legislation

### 3. POLICY AND LEGAL FRAMEWORK

Table 2: Legal instruments relevant to this project

Topic	Legislation	Provisions	Regulatory Authority
Environmental Impact Assessment	Environmental Management Act of 2007 and EIA regulation of 2012	Provides a list of activities that require an environmental assessment, The Act also provides procedures for adequate public participation during the environmental assessment process for the interested and affected parties to voice and register their opinions and concern about a project.	Ministry of Environment, Forestry and Tourism
Water Supply and Effluent Discharge	Water Resources Management Act of 2004	<p>This Act provides provisions for the control, conservation, and use of water for domestic, agricultural, urban and industrial purposes.</p> <p>The Act states that a license or permit is required to abstract and use water, and also discharge effluent.</p> <p>In accordance with the Act, and due to the nature of the project, abstraction and use permits won't be required for this project as on-site water tanks (500L) will be used. The capacity of the onsite tank is less than 20000m<sup>3</sup></p>	Ministry of Agriculture Water and Land Reform

Topic	Legislation	Provisions	Regulatory Authority
		benchmark for the water work permit.	
Hazardous Substance such as used oil which (e.g. diesel)	Hazardous Substance Ordinance 14 of 1974	The Act provides for the control of substances which may cause injury or ill-health to or death of human beings by reason of their toxic, corrosive, irritant, strongly sensitizing or flammable nature of the generation of pressure thereby in certain circumstances; to provide for the prohibition and control of the importation, sale, use, operation, application, modification, disposal or dumping of such substance; and to provide for matters connected therewith"	Ministry of Health and Social Services

Topic	Legislation	Provisions	Regulatory Authority
Fauna and flora	The Nature Conservation Ordinance, 1975, of	<p>In the course of the Mine's activities, care must be taken to ensure that protected plant species and the eggs of protected and game bird species are not disturbed or destroyed.</p> <p>If such destruction or disturbance is inevitable, a permit must be obtained in this regard from the Minister of Environment, Forestry and Tourism. For this project, due to its areal extent and location outside a protected area, a permit will not be required.</p> <p>.</p>	Ministry of Environment, Forestry and Tourism (MEFT)
Employees	The Labour Act, 2007 (Act No. 11 of 2007)	<p>The Labour Act gives effect to the constitutional commitment of Article 95 (11), to promote and maintain the welfare of the people. This Act is aimed at establishing a comprehensive labor law for all employees; to entrench fundamental labor rights and protections; to regulate basic terms and conditions of employment; to ensure the health, safety, and welfare of employees</p>	Ministry of Labour and social welfare

Topic	Legislation	Provisions	Regulatory Authority
Archaeological sites	National Heritage Act 27 of 2004 Ministry of Youth	This Act provides provisions for the protection and conservation of places and objects of heritage significance and the registration of such places and objects. The proposed exploration project will ensure that if any archaeological or paleontological objects, as described in the Act, are found in the course of its construction, mining operations or closure that such find is reported to the Ministry immediately. If necessary, the relevant permits must be obtained before disturbing or destroying any heritage.	National Service, Sport, and Culture
Desertification	United Nation Convention to Combat Desertification 1992	The convention objective is to forge a global partnership to reverse and prevent desertification/land degradation and to mitigate the effects of drought in affected areas in order to support poverty reduction and environmental sustainability	United Nation Convention

Topic	Legislation	Provisions	Regulatory Authority
Biodiversity	Convention on Biological Diversity (CBD) 1992	This convention advocates for the conservation of biological diversity, the sustainable use of its components and the fair and equitable sharing of the benefits arising out of the utilization of genetic resources.	United Nation Convention
Allocation of rights in respect of communal land	Communal land reform act (act no 5 of 2002)	Application for the right of leasehold in respect of communal land must be made in the prescribed manner to the communal land board and the applicable Traditional Authority.	Ministry of Agriculture, Water, and Land Reform
Prevention of animal disease	Animal Health Act, 1 of 2011	To provide for the prevention, detection and control of animal disease; to provide for the maintenance and improvement of animal health; and to provide for incidental matters.	Ministry of Agriculture, Water, and Land Reform

Topic	Legislation	Provisions	Regulatory Authority
Cattle improvement	Cattle Improvement Consolidation Ordinance 14 of 1941	For cattle improvement and management areas	Ministry of Agriculture, Water, and Land Reform

**4. BASELINE ENVIRONMENT**

This section provides a description of the baseline environment of the project area. The descriptions encompass the geographical, physical, biological, social, economic, heritage and cultural aspects.

**4.1. Surrounding land use**

The majority of the inhabitants surrounding the project site are smallholder farmers . These farmers are either individual farmers or in a co-operative with few heads of cattle per household. This is common in rural areas where most farmers start as individual subsistence farmers. The area is mainly used for subsistence cropping, where people mostly grow mahangu (pearl millet) and other small crops or vegetables to sustain their livelihoods.

**4.2. Climate**

**4.2.1. Temperature**

The climate in the project site has been described as a hot, arid steppe according to Koeppen's classification system (De Sousa Correira and Bredenkamp, 1986). The mean annual temperature of the weather station at Rundu is 22.2°C. Mean summer temperature (December to February) is 24.8°C and mean winter temperature (June to August) 17.1°C. Daily temperature ranges are highest in winter when frosts can occur.

**4.2.2. Rainfall**

The area the project is located in is considered to be semi-arid with an average annual rainfall of 400 - 600 mm, most of which falls during the summer (December-April).



Rainfall decreases more or less in a north to south and south-west direction. The rainfall received in the concerned area is highly variable with evaporation highest in September and October (Mendelsohn et al 1997).

#### **4.2.3. Regional wind patterns**

The frequency of strong winds starts increasing in winter and usually peaks during November, prior to the onset of the rainy season (Simmonds 2000).

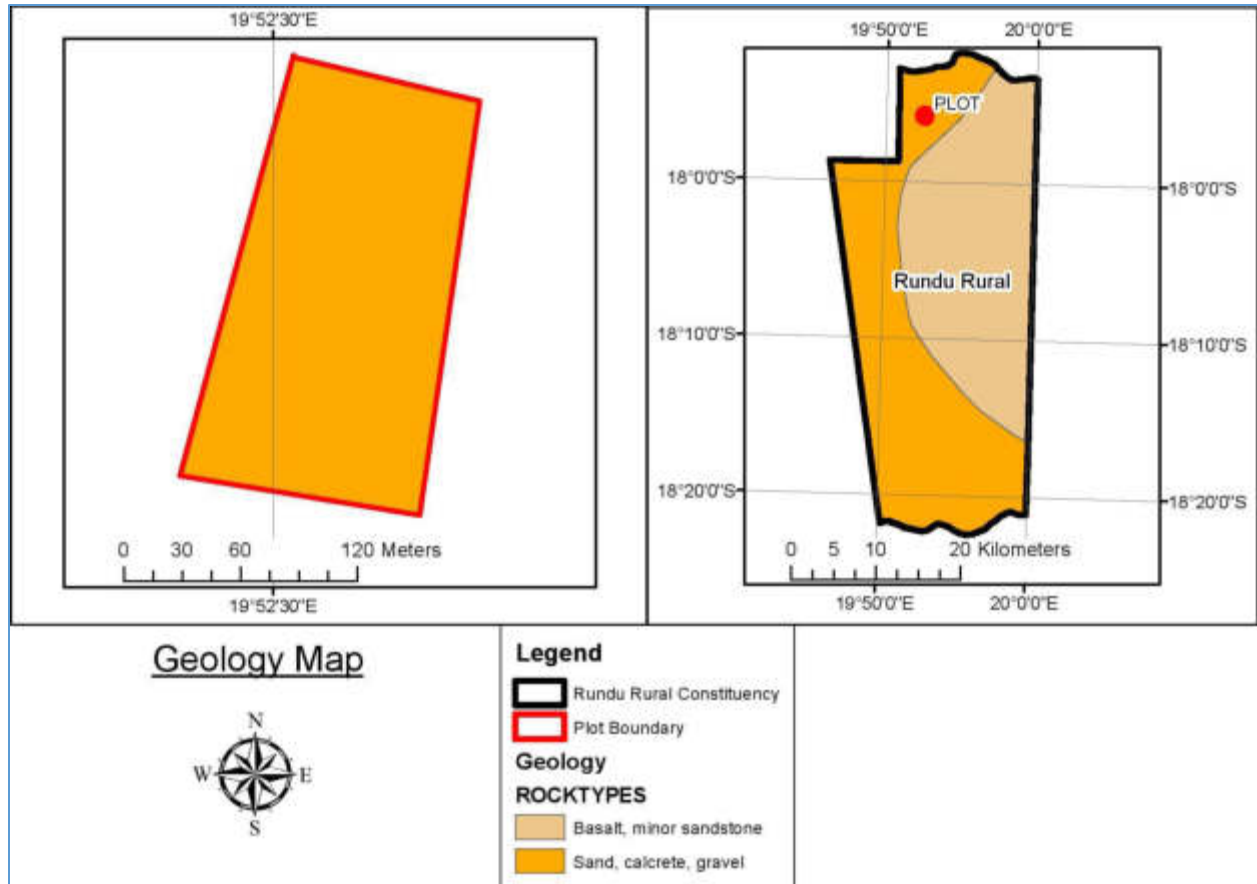
#### **4.3. Elevation and topography**

The project site is situated on an average high landscape at an altitude range of 10m to 12m above sea level. The terrain of the site block is relatively flat associated with savannah forests, grassland and shrubs.

#### **4.4. Geology and soils**

The project site is found in the Okavango-Epukiro Basin lies at the margin of the much larger Kalahari Basin, which extends far across the Namibian border into Botswana. The bedrock that underlies this huge sand-filled basin consists of various rock types. Outcrops of carbonate and quartzite of the Damara Sequence are present in the area of Gam and Tsumkwe (Figure 4). The carbonate rocks, which are interrelated to the dolomites in the Otavi-Tsumeb area, form the Aha Hills 60 km north of Gam (Figure 4). Further south of Gam, drainage courses such as the Epukiro and the Eiseb Omiramba have exposed the underlying bedrock comprising marble, mica schist, quartzite and amphibolite. Dolerite dykes and sill intrusions occur in the area, but outcrops are very scarce and can usually only be detected by geophysical techniques (Figure 4). Some volcanic rocks are exposed in the Okavango River at Rundu and between Mukwe and Bagani, at Dobe Pan and in the upper reaches of the Otjosondjo Omuramba (Figure 4). The Kalahari Sequence forms a blanket of unconsolidated to semi-consolidated sand covering most of the area. Specialists divide the Kalahari layers here into three main units. The uppermost consists mostly of unconsolidated wind-blown sand and sand deposited under fluvial conditions. The middle part is predominantly fluvial sand with minor aeolian deposits. The basal layer is as yet poorly understood and consists of conglomeratic, red clayey sand with carbonate cement. The thickness of the Kalahari layers is narrowest (less than 50 m) along the Botswanan border and increases in thickness towards the middle reaches of the Omatako Omuramba and further to the north-west. Several prominent geological structures are found in north eastern Namibia. The south east trending Gam Lineament is a major fault with a downward displacement of 200 m on the southern side. The Eiseb graben extends between the Eiseb and Elandslaagte Omiramba and contains 250 m thick sand layers. Towards Otjiwarongo, the north east

trending Waterberg thrust was brought about an abnormal thickening of the Kalahari sediments. Recent drilling in the Coblenz area penetrated more than 460 m of Kalahari deposits.



**Figure 4: Geology Map**

The project site overlay has a loamy sandy soil profile (Figure 5). These give rise to heavy and more fertile soils which are generally yellowish red sandy clays. The hue varies from pale orange (loamy sands) to reddish-brown (heavy sandy clays) which support the present vegetation. The area is dominated by cambic Aerosols, albic Arenosols, calcic Xerosols soils (FAO, 1997, revised legend) (Figure 5). Figure 6 below shows the dominant soils types in Kavango region as classified by FAO.

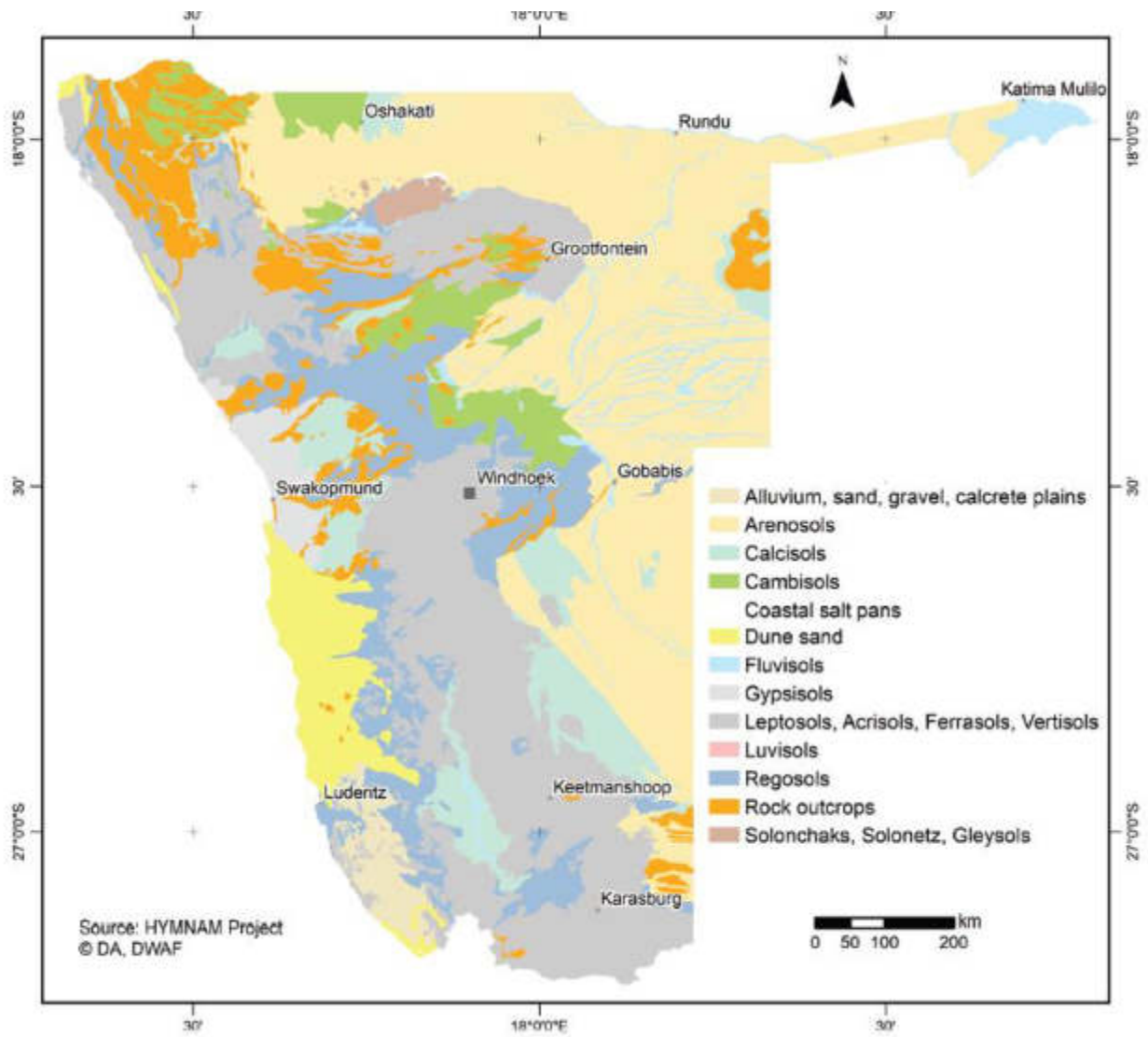
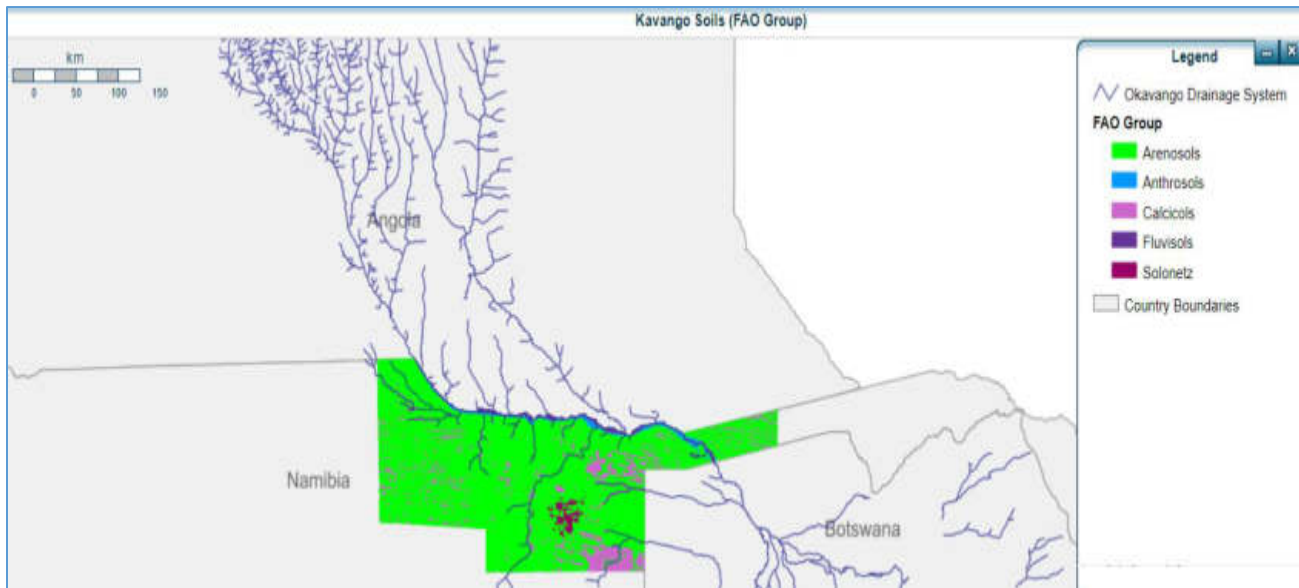


Figure 5: Soil types of the project site



**Figure 6: Soil types in Kavango region (FAO)**

#### 4.5. Hydrology

The hydrology of Namibia is characterized by the semi-arid to arid climate and the very limited occurrence of perennial rivers. In fact, Namibia has no permanent rivers except for the border rivers of the Kunene, Okavango, Zambezi and Kwando-Linyanti-Chobe in the north and the Orange river in the south, all of which have their sources outside Namibia and are shared with other countries. Some 23% of the water used in Namibia is derived from these rivers, however, most of the country does not have access to this water due to the large distances involved. Consequently, only 0.1% of the total annual flow of these rivers is abstracted for use in Namibia. The rivers within Namibia are all ephemeral, flowing only for a short period of time after effective rainfall in their catchment areas. Most of them flow towards the Atlantic Ocean and form linear oases in the Namib Desert for example. Some limited drainage can occur in some wetter years towards the Kalahari Basin. In order to capture these seasonal flows, large water storage dams have been built on some of these rivers to supply the major urban centers with water.

The proposed site is located in the Kavango-Omatako river basin, about 7Km from the active Kavango River. The Okavango-Omatako River Basin is located in the north-eastern part of Namibia, stretching across the entire Kavango Region and parts of Otjozondjupa

Region. The basin area is 20 500 km<sup>2</sup> and borders with Angola and Botswana in the north and east respectively. It is also known as the northern Kalahari water area.

#### **4.6. Groundwater potential**

The potential of an aquifer to yield a certain quantity of water with a particular chemical quality at a safe abstraction rate depends on its size, the volume of water that can be stored (called the storage capacity), the chemical composition of the rocks that the water comes into contact with, the volume of water moving through the aquifer system per time unit (called the flux), the water available to replenish or recharge the aquifer and the water flowing out of the system (called the discharge). The recharge is normally from rainfall and runoff seeping into the aquifer and the discharge can either be natural or man-made. Natural discharge takes place at the springs or seeps out at the boundaries of the aquifer. Man-made discharge is caused by collecting water from wells that have been dug by hand or by pumping the water out through boreholes drilled deep into an aquifer. The nature of the underground rocks determines if they are water-bearing, the quality of the accumulated water and how much groundwater is stored in the aquifer. The storage capacity of an aquifer is determined by the percentage of open spaces in the rock that can collect water in comparison to the total volume of the rock formation. This is called the porosity of the aquifer. In sand formations where the project site is situated, the porosity may be as high as 20% because the number of spaces between the sand particles is high.

The unconsolidated or poorly consolidated sand and gravel layers in sedimentary rocks generally form excellent aquifers, but the stored volume of groundwater depends on the thickness of the saturated rock. The quantity of groundwater stored in fractured aquifers is usually much less because the space is confined to cracks, fissures and fractures in an otherwise solid mass of rock. An important feature of fractured hard rock aquifers are the carbonaceous rocks in which the fractures have been enlarged by chemical solution of the rock as the water percolates through the aquifer system. These aquifers are called karstified aquifers and the aquifers found in the Grootfontein-Tsumeb-Otavi Mountainland are typical examples.

The project site is situated in very The Okavango-Epukiro groundwater region is located in a huge flat area in north-east Namibia encompassing the entire Kavango Region as well as the eastern parts of Otjozondjupa and northern Omaheke. Most of the area is part of the Okavango drainage system, including the dormant, usually dry river beds draining eastwards towards the central Kalahari. The area generally receives comparatively good rainfall and is covered by thornbush savanna . Groundwater within the area is hosted in

two distinct aquifer systems, namely, Kalahari aquifers and fractured bedrock aquifers (Figure 7). These two aquifers are treated separately in this region as they have different characteristics. The Kalahari aquifer stores water in intergranular pore spaces, whereas water in the fractured aquifer is held in cracks and fractures in otherwise impermeable strata. Kalahari aquifers are common in the north eastern Otjozondjupa and Kavango regions. In northern Omaheke, the Kalahari is generally unsaturated, but groundwater maybe present in fractures in the underlying bedrock. Adjacent to the Botswana border, from Gam in the south to the Khaudum National Park in the north, bedrock from formations outcrop and groundwater occurs in fractured aquifers.

Drilling success rates, defined as the percentage of boreholes yielding more than 1 m<sup>3</sup>/hr, are commonly nearly 100% in areas of the Kalahari aquifers, whilst the lowest success rates, of less than 25%, are common in the fractured aquifers beneath thick, unsaturated Kalahari layers. The most difficult areas to find groundwater are in the north and east of Otjinene. Groundwater in the Kalahari aquifers is relatively easy to locate throughout most of the north-western and central northern Tsumkwe District and the Kavango Regions. These sediments form an almost continuous permeable layer from which generally low borehole safe yields are found. Factors determining the safe yield include variations in permeability, saturated thickness (often limited by drilling depth) and borehole or well diameter and design.

Shallow aquifers with static water levels about 20 m below the surface normally receive good recharge either directly from rainfall or indirectly from ephemeral runoff. Deeper aquifers are recharged from the Kalahari basin margins and underlying fractured aquifers. Groundwater level elevations (piezometric surface) and hydrochemical evidence suggest significant recharge from the Otavi Group dolomites in the Tsumeb-Grootfontein area, such as close to Coblenz. Replenishment of the deeper aquifers further away from the basin margins is unlikely to be significant.

A depiction of depth to groundwater level provides a useful indication of the depth of drilling required. The north-eastern areas, north of Gam and east of Rundu, adjacent to the Okavango river and along the Omatako Omuramba axis are characterized by water levels of less than 30 m below ground. This is where the project site is located. Water levels are also relatively shallow in the south west adjacent to the margin of the Kalahari

and along the upper reaches of the Epukiro and Otjozondjo Omiramba. Here, groundwater for domestic and livestock use is supplied to villages and rural communities including farms. Boreholes closer to the centre of the basin, tap deeper water as the depth to groundwater gradually increases to more than 100 m below ground. Boreholes intersecting fractured bedrock aquifers may show higher yields than boreholes tapping the Kalahari aquifers. However, groundwater exploration in fractured aquifers is more difficult, often relying on the application of geophysical and remote sensing methods.

Exploration for groundwater in fractures from 30 to more than 100 m below the unsaturated Kalahari deposits in northern Omaheke has often met with low success rates, despite the application of sophisticated airborne and surface geophysical techniques. Drilling along features such as the Gam Lineament has proved to be more successful, with safe yields over 3 m<sup>3</sup>/hr being common. In areas of thin or absent Kalahari cover, such as in the vicinity of Epukiro Omuramba where lithological contacts and faults are discernible, yield success rates have only been moderate. Here, water quality is also variable and saline groundwater can be expected in certain locations. In the bedrock areas adjacent

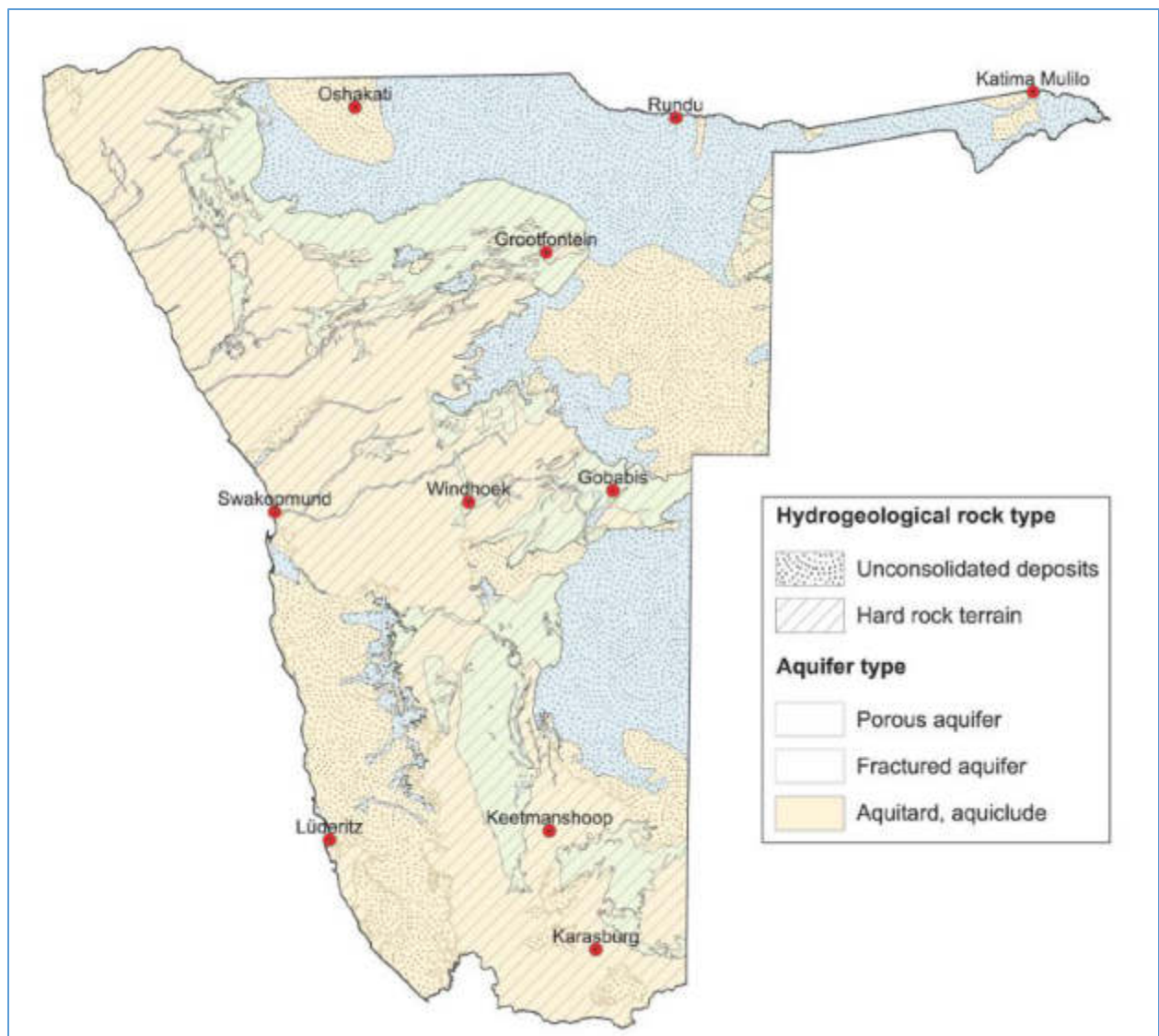
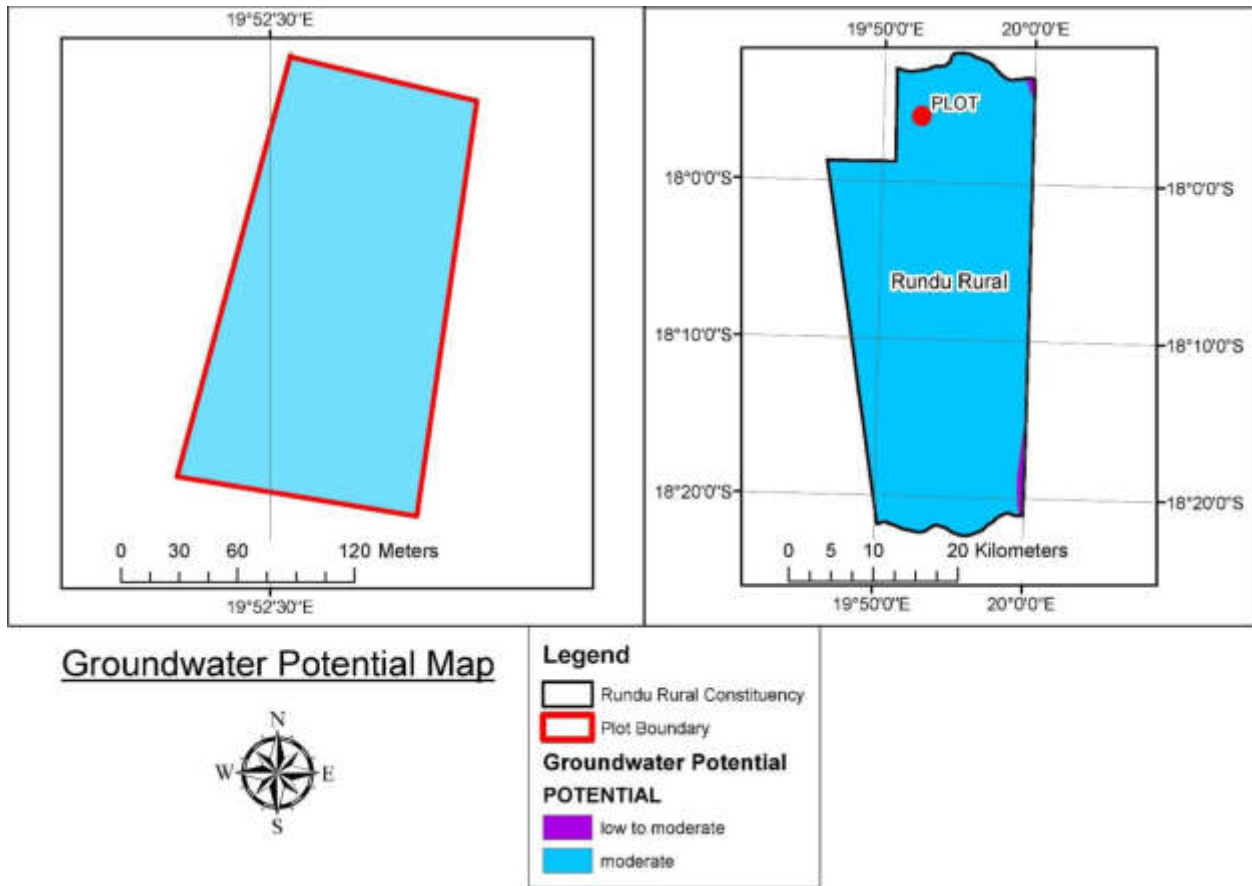


Figure 7: Hydrogeological rock type and aquifer types





**Figure 8: Groundwater potential Map**

#### 4.7. Biodiversity (Fauna and Flora)

The Kavango falls within the Zambesian Baikiaea woodlands ecoregion as delimited by the World Wildlife Fund (WWF) (Vetter, 2001a). As such, it is dominated by open woodlands with numerous hardwood species, including *Baikiaea plurijuga*, *Pterocarpus angolensis*, and *Guibourtia coleosperma*. The project site exhibits no sign of large mammals, the vegetation at the site is sparse with a few shrubs on site. Figure 6 and 7 below shows the vegetation and Vegetation type map in the project site



**Figure 9: Vegetation present in the project site**

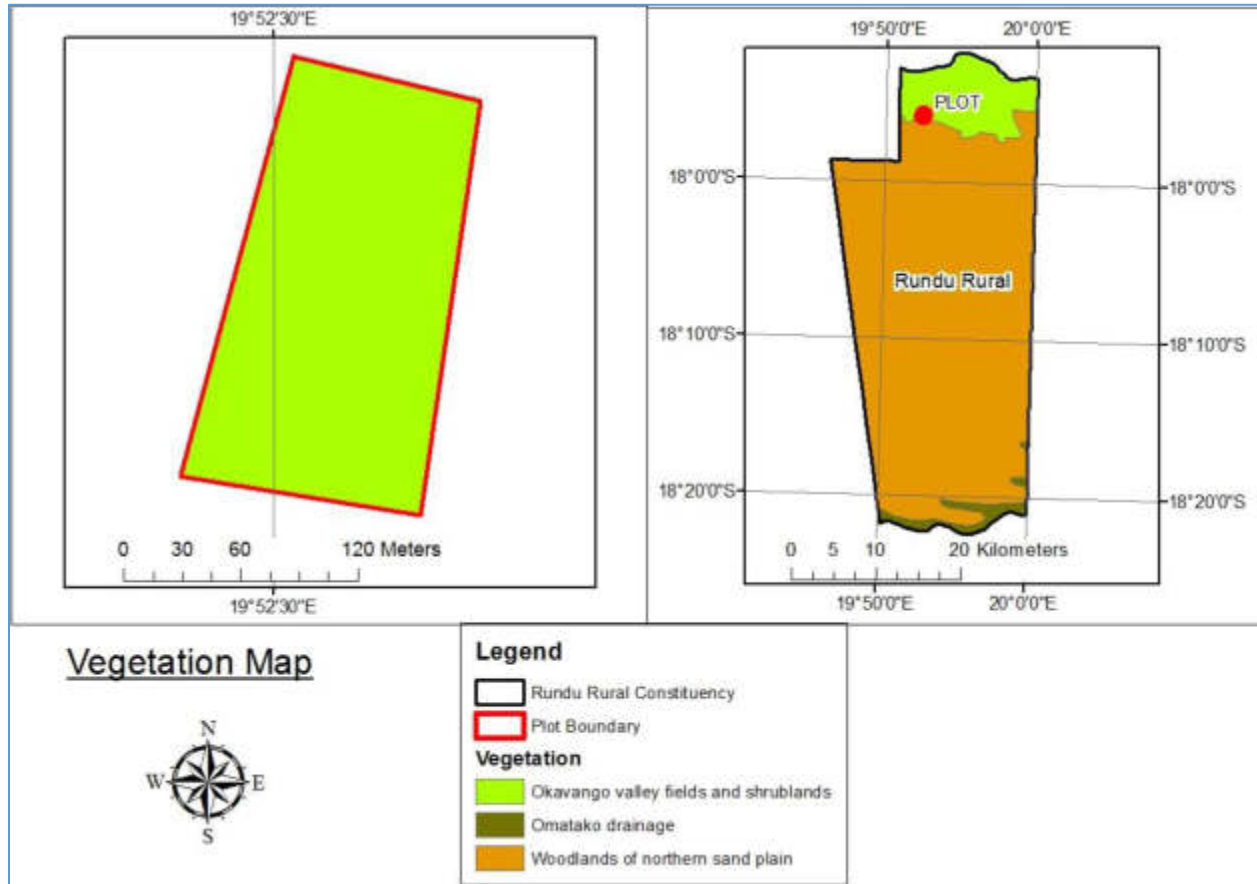
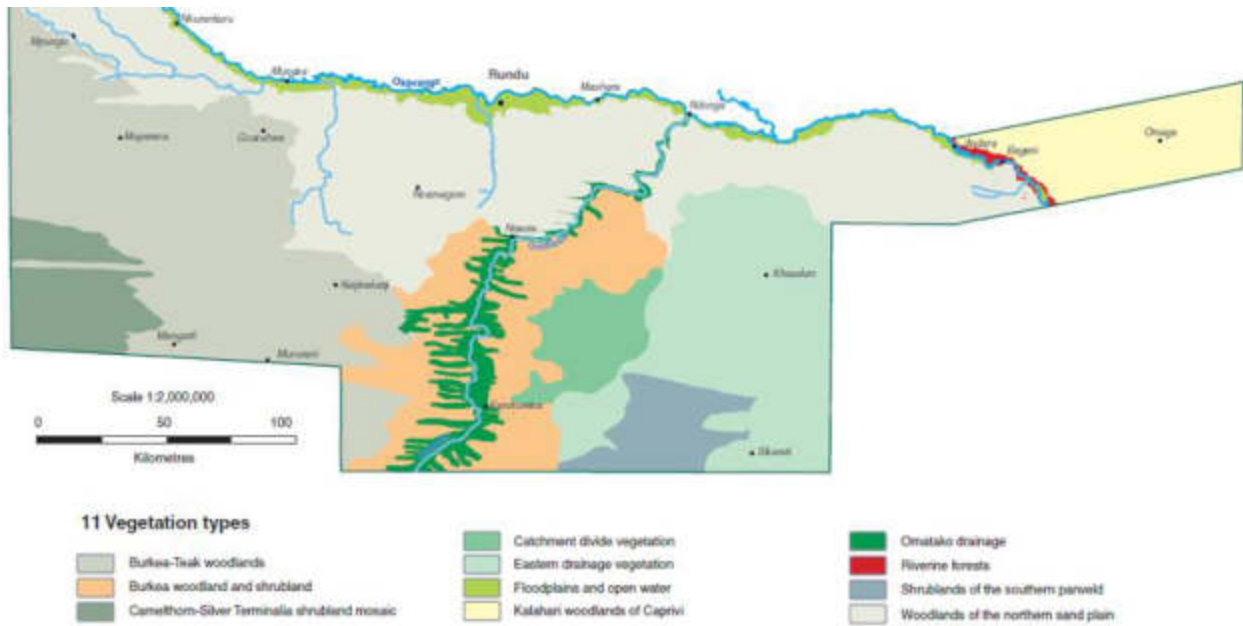


Figure 10: Vegetation Map



**Figure 11: Vegetation type Map**

#### 4.8. Potential impact identified

##### 4.7.1. Negatives impacts

- Pollution to surface and groundwater
- Generation of dust and particulate matter
- odour
- noise emissions
- soil erosion
- impact on biodiversity (fauna and flora)
- health and safety
- waste generation

##### 4.7.2. Positive impacts

- Employment creation
- Support to local retailers shops

#### **4.8. Concluding remark on this section**

In this section, the affected environment was described. The social and the biophysical environmental information were provided and also the potential positive and negative impacts of the project were identified.

### **5. PUBLIC CONSULTATION PROCESS**

#### **5.7. Legal and policy requirement**

##### **5.7.1. Environmental management act (2007) and its EIA regulations (2012)**

Public consultation is a crucial part of the EIA process. This provides an opportunity to stakeholders or interested members of the public to find out more about what is being proposed, and to raise any issues or concerns. The Environmental Management Act 2007 and its EIA regulations of 2012 are the key documents governing environmental impact assessment in Namibia.

One of the key objectives of the Act is to prevent and mitigate the significant effects of activities on the environment by: “Ensuring that there are opportunities for timeous participation of interested and affected parties throughout the assessment process; and ensuring that the findings of an assessment are taken into account before any decision is made in respect of activities.” The key principle of the Environmental Management Act 2007 advocates for public participation. The principles states that *“the participation of all interested and affected parties must be promoted and decisions must take into account, the interest, needs and values of interested and affected parties”*.

Section 21 of the EIA Regulations outlines procedure on public participation process as follows: “(2).The person conducting a public consultation process must give notice to all potential interested and affected parties of the application which is subjected to public consultation by:

- a) Fixing a notice board at a place conspicuous to the public at the boundary or on the fence of the site where the activity to which the application relates or is to be undertaken;
- b) Giving written notice to:
  - i. The owners and occupiers of land adjacent to the site where the activity is or is to be undertaken or to any alternative site;
  - ii. The local authority council, regional council, and traditional authority, as the case may be, in which the site or alternative site is situated;

iii. Any other organ of state having jurisdiction in respect of any aspect of the activity;  
and

c) Advertising the application once a week for two consecutive weeks in at least two newspapers circulated widely in Namibia.

(3) A notice, notice board or advertisement referred to in sub-regulation (2) must -

a) Give details of the application which is subjected to public consultation; and

b) State:

i. That the application is to be submitted to the Environmental Commissioner in terms of these regulations;

ii. The nature and location of the activity to which the application relates;

iii. Where further information on the application or activity can be obtained: and

c) The manner in which and the person to whom representations in respect of the application may be made.

(6) When complying with this regulation, the person conducting the public consultation process must ensure that a) information containing all relevant facts in respect of the application is made available to potential interested and affected parties; and b) consultation by potential interested and affected parties is facilitated in such a manner that all potential interested and affected parties are provided with a reasonable opportunity to comment on the application.

28. For the purpose of the Act and these regulations a notice is given to a person or a person is informed of a decision if a document to that effect is:

(a) Delivered personally to that person;

(b) Sent by registered post to the person's last known address;

(c) Left with an adult individual apparently residing at or occupying or employed at the person's last known address; or

(d) In the case of a business-

(i) Delivered to the public officer of the business;

(ii) Left with an adult individual apparently residing at or occupying or employed at its registered address;

(iii) Sent by registered post addressed to the business or its public officer at their last known addresses; or

(iv) Transmitted by means of facsimile transmission to the person concerned at the registered office of the business.”

#### **4.7. Consultation approach**

Public participation forms an important component of the Environmental assessment process. It is defined by the Environmental Management Act (2007), as a *‘process in which potential interested and affected parties are given an opportunity to comment on, or raise issues relevant to specific matters’*.

Public participation notices were advertised in both local and national newspaper media. The advert was in the Namibian sun and Repulikein newspaper on 29/11/2021 and 02/12/2021 respectively attached as Appendix C. A background Information Document (BID) was compiled, and distributed via email. The BID also served as an invitation to I&APs to attend the public meetings. (See Appendix D).

#### **4.8. The interested and affected parties (I & AP’s)**

The I&APs for this project were identified using information from the existing HJGeo-Enviro Consulting and Trading Cc stakeholder database. Notices were placed in various newspapers inviting the public to register as interested and affected parties. Organizations were also selected whom the consultant considered to be interested in or affected by this particular project. An I&APS can be defined as ‘(a) any person, group of persons or organization interested in or affected by activity; and (b) any organ of state that may have jurisdiction over any aspect of the activity.

#### **4.9. The outcome of the public consultation meeting**

On the 6<sup>th</sup> of December 2021 public participation meeting was held between the members of the affected community, the Traditional Authority, investors etc. at to discuss issues and concerns regarding the proposed project and also raised concerns and proposals to mitigate the problems.



**Figure 12: Public Participation meeting at Kayengona teya: 06 December 2021**

Only 7 people/stakeholders attended the meeting (see attached attendance list dated 27 November 2021). Most people were unable to attend due to other commitments. A summary of the issues and concerns that were raised by the interested and affected parties is listed below. The purpose of presenting the issues raised by participants in this section is simply to:

- Ensure transparency regarding the concerns that have been expressed;
- Ensure that all issues raised are properly addressed in the EIA, EMP and mitigation measures proposed.

One issue dominated the discussions, which was:

- Employment Creation
- Selling of meat from the feedlot to the community members
- Usage of manure for irrigation to improve soil quality



## 5. Impact assessment

### 5.1. The methodology used or adopted for the impact assessment

The assessment process that was developed by HJGeo-Enviro Consulting and Trading Cc was formulated based on the collection and interpretation of the available literature pertaining to feedlot establishment. The process included the review of previous EIA's and EMP's done in the surrounding areas and feedlots stone in Namibia. Other relevant documents were identified and collected including:

- Environmental regulations covering environment, water, energy, health, and safety as well as all the related policies and guidelines;
- Topographic maps, information, and data sets about the location and characteristics of the proposed project site .
- Information and data sets about the environmental regulation, biodiversity and natural environment around the proposed project site obtained from the Directorate of Environmental Affairs and forestry in the Ministry of Environment, Forestry and Tourism;

Impacts are assessed in terms of the following criteria:

- a) The **nature**; a description of what causes the effect, what will be affected, and how it will be affected.

**Table 3: Nature or Type of Impact**

#### NATURE OR TYPE OF IMPACT DEFINITION

<b>Beneficial / Positive</b>	An impact that is considered to represent an improvement on the baseline or introduces a positive change.
<b>Adverse / Negative</b>	An impact that is considered to represent an adverse change from the baseline, or introduces a new undesirable factor.

<b>Direct</b>	Impacts that arise directly from activities that form an integral part of the Project (e.g. new infrastructure).
<b>Indirect</b>	Impacts that arise indirectly from activities not explicitly forming part of the Project (e.g. noise changes due to changes in road traffic resulting from the operation of Project).
<b>Secondary</b>	Secondary or induced impacts caused by a change in the Project environment (e.g. employment opportunities created by the supply chain requirements).
<b>Cumulative</b>	Impacts are those impacts arising from the combination of multiple impacts from existing projects, the Project and/or future projects.

b) **The physical extent.**

**Table 4: Physical Extent Rating of Impact**

**SCORE      DESCRIPTION**

<b>1</b>	the impact will be limited to the site;
<b>2</b>	the impact will be limited to the local area;
<b>3</b>	the impact will be limited to the region;
<b>4</b>	the impact will be national; or
<b>5</b>	the impact will be international;

c) **The duration**, wherein it is indicated whether the lifetime of the impact will be:

**Table 5: Duration Rating of Impact**

**SCORE      DESCRIPTION**

<b>1</b>	of a very short duration (0 to 1 years)
----------	---

2	of a short duration (2 to 5 years)
3	medium term (5–15 years)
4	long term (> 15 years)
5	permanent

d) **Reversibility:** An impact is either reversible or irreversible. A scale of the level of reversibility if an impact is reversible and how long before impacts on receptors cease to be evident.

**Table 6: Reversibility of Impact**

**SCORE      DESCRIPTION**

1	The impact is immediately reversible.
3	The impact is reversible within 2 years after the cause or stress is removed.
5	The activity will lead to an impact that is in all practical terms permanent.

e) The **magnitude** of impact on ecological processes, quantified on a scale from 0-5, where a score is assigned.

**Table 7: Magnitude Rating of Impact**

**SCORE      DESCRIPTION**

0	small and will have no effect on the environment.
1	minor and will not result in an impact on processes.
2	low and will cause a slight impact on processes.
3	moderate and will result in processes continuing but in a modified way.
4	high (processes are altered to the extent that they temporarily cease).

5	very high and results in complete destruction of patterns and permanent cessation of processes.
---	---

- f) The **probability** of occurrence, which describes the likelihood of the impact actually occurring. Probability is estimated on a scale where:

**Table 8: Probability Rating of Impact**

**SCORE      DESCRIPTION**

1	very improbable (probably will not happen).
2	improbable (some possibility, but low likelihood).
3	probable (distinct possibility).
4	highly probable (most likely).
5	definite (impact will occur regardless of any prevention measures).

- g) The **significance**, which is determined through a synthesis of the characteristics described above (refer formula below) and can be assessed as low, medium or high;
- h) The **status**, which is described as either positive, negative or neutral;
- i) The degree to which the impact can be **reversed**;
- j) The degree to which the impact may cause **irreplaceable loss** of resources; and
- k) The degree to which the impact can be **mitigated**.

The significance is determined by combining the above criteria in the following formula:

**Significance = (Extent + Duration + Reversibility + Magnitude) x Probability**

$$[S = (E + D + R + M) \times P]$$

Where the symbols are as follows:

**Table 9: Symbols Reference**

## SYMBOL

<b>S</b>	Significance Weighting
<b>E</b>	Extent
<b>D</b>	Duration
<b>R</b>	Reversibility
<b>M</b>	Magnitude
<b>P</b>	Probability

The significance weightings for each potential impact are as follows:

**Table 10: Significance Ratings**

< 30 points	<b>Low</b>	<b>Low</b>	where this impact would not have a direct influence on the decision to develop in the area
31 - 60 points	<b>Medium</b>	<b>Medium</b>	where the impact could influence the decision to develop in the area unless it is effectively mitigated
> 60 points	<b>High</b>	<b>High</b>	where the impact must have an influence on the decision process to develop in the area

The impact significance without mitigation measures will be assessed with the design controls in place. Impacts without mitigation measures in place are not representative of the proposed development's actual extent of impact, and are included to facilitate understanding of how and why mitigation measures were identified. The residual impact is what remains following the application of mitigation and management measures, and is thus the final level of impact associated with the development. Residual impacts also serve as the focus of management and monitoring activities during Project implementation to verify that actual impacts are the same as those predicted in this scoping report.

## 5.2. Identification of key issues

Potentially significant impact identified from the baseline conditions, legal requirement, and public participation process was screened to obtain issues that require further investigation or assessment and those that don't required further investigation. The process shown in the flow chart below was used for the screening of potential issues. Table 5, shows the screening of the identified impact using the flow chart below.

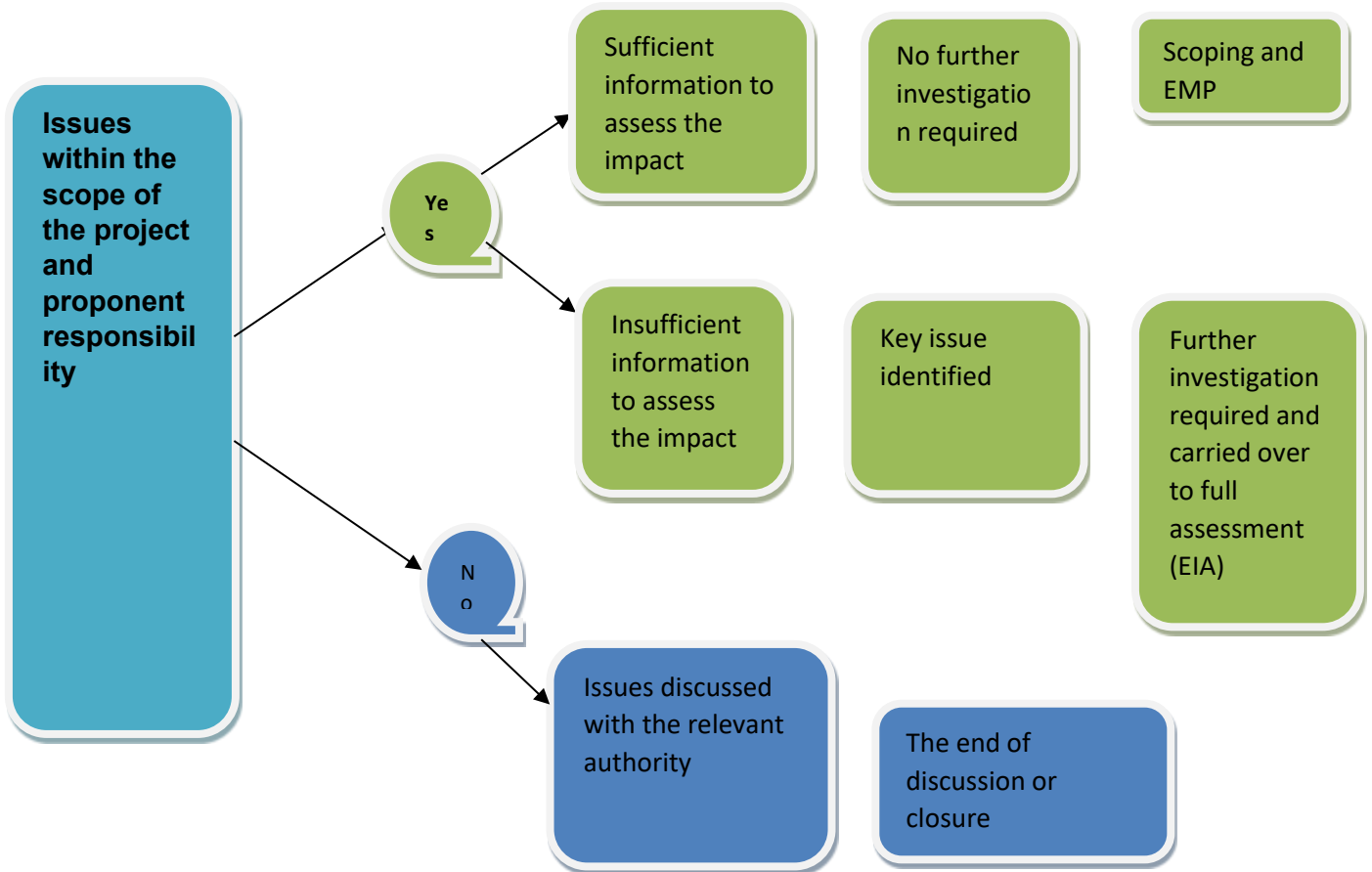


Chart 1 Screening process

## 6. ENVIRONMENTAL IMPACT ASSESSMENT

This section describes the environmental aspects associated with the proposed project. An environmental aspect is defined as an element or characteristic of the project that interacts or can interact with the environment and which have the potential to cause

environmental impacts. The impact assessment methodology described in **Section 5.1** was used to evaluate this section.

## 6.1. Air quality

### 6.1.1. Background to the impact

- **Dust ; particulate matter and Odour(PM)**

During the construction phase, dust and vehicular emissions will be released as a result of trucks transporting construction material. The emissions will however, have short term impacts on the immediate surrounding areas which can be easily mitigated and thus the authorization of such emissions will not be required. A buffer zone should be maintained around the feedlot to prevent manure and associated concentrated farming smells from affecting the nearest communities. The main concern with odour is its ability to cause an effect that could be considered ‘objectionable or offensive’. An objectionable or offensive effect can occur either where an odorous compound is present in very low concentrations, usually far less than the concentration that could harm physical health, or when it occurs in high concentrations. Where the offensive odour is caused by high concentrations, contaminants in the odour may also be causing direct health effects such as skin, eye or nose irritation, and these should be considered in addition to any potential odour impacts. Repeated or prolonged exposure to odour can lead to a high level of annoyance, and the receiver may become particularly sensitive to the presence of the odour. The proposed feedlot will produce odorous emissions owing to the storage of manure, however, since the proposed site is on a farm and downwind of neighboring community, the number of sensitive receptors is low.

The expected significance of the project on air quality on site is shown in **Table 11** below.

### 6.1.2. Significance

**Table 11: Expected significance of the project on air quality on site**

Potential Impact: Generation of Dust and PM	Magnitude	Extent	Reversibili	Duration	Probability		Significanc	Character	Confidenc
Without Mitigation	3	2	3	1	5	45	Medium	(-)	High

With Mitigation	2	1	3	1	4	28	Low	(-)	High
-----------------	---	---	---	---	---	----	-----	-----	------

### 6.1.3. Mitigation and recommendation

- Implement dust suppression methods during construction to minimise dust emissions from the site activities;
- All stockpiles must be restricted to designated areas and may not exceed a height of two (2) metres;
- Ensure that all vehicles and machines are adequately maintained to minimise emissions;
- It is recommended that the clearing of vegetation from the site should be selective and done just before construction so as to minimise erosion and dust;
- All materials transported to site must be transported in such a manner that they do not fly or fall off the vehicle. This may necessitate covering or wetting friable materials.
- No burning of waste, such as plastic bags, cement bags and litter is permitted; and
- Maintain feedlot in a clean state; and
- Maintain the manure storage area

All issues/complaints must be recorded in the complaints register.

### 6.1.4. Monitoring

- Daily inspection by the ENC of the gravel roads and operation site on possible dust creation that requires attention.
- Daily inspection on site by the ENC to ensure that all workers are wearing their protective clothes at all time during the construction and operation process of the project.

## 6.2. Noise emissions

### 6.2.1. Background to the impact

Elevated noise levels are likely to be generated by the construction activities (machinery and vehicles) and the workforce. It is important to note that noise impacts (nuisance factor) may vary in the different zones as a result of the surrounding land uses and will be temporary in nature. Given, that the site is in a remote area, noise impacts are not regarded as a significant impact. The significance of the impact on noise is indicated in **Table 12** below.



## 6.2.2. Significance

Table 12: Expected significance of the project on air quality on site

Potential Impact: Noise	Magnitude	Extent	Reversibili	Duration	Probability		Significanc	Character	Confidenc
Without Mitigation	2	1	3	1	4	28	Low	(-)	High
With Mitigation	2	1	1	1	3	15	Low	(-)	High

## 6.2.3. Mitigation and recommendation

- The equipment must be in good working order, within service dates, and inspected before use;
- Install noise-reducing fittings on machinery (if required); and Undertake construction activities between 07:00 and 17:00.

## 6.2.4. Monitoring

- ENC should constant conduct daily noise monitoring and ensure that employees are complying to measures recommended for reduction of noise impacts

## 6.3. Soil erosion

### 6.3.1. Background to the impact

During the construction phase, temporary measures should be implemented to manage storm water and water flow on the site. If the storm water and water flow is not regulated and managed on-site it could cause significant erosion of soil, as well as the pollution and siltation of water bodies. During the construction phase, the installation of services could leave soils exposed and susceptible to erosion. During the operational phase erosion, impacts will be limited since the feedlot will be paved and with drains designed to drain into the manure dam. This will limit the impact of soil erosion. The significance of soil erosion as an impact from the proposed project is indicated in **Table 13** below.

### 6.3.2. Significance

Table 13: Expected significance of the project on soil erosion

Potential Impact: Soil Erosion	Magnitude	Extent	Reversibili	Duration	Probability		Significanc	Character	Confidence
--------------------------------	-----------	--------	-------------	----------	-------------	--	-------------	-----------	------------

<b>Without Mitigation</b>	2	1	3	2	3	24	Low	(-)	High
<b>With Mitigation</b>	1	1	3	2	2	14	Low	(-)	High

### 6.3.3. Mitigation and Recommendation

- Only the identified areas should be cleared of vegetation. This should be done in stages as construction works progress;
- Implement temporary storm water management measures that will help to reduce the speed of the water. This measures must also assist with the prevention of water pollution, erosion and siltation;
- All removed soil and material must not be stockpiled within the system. Stockpiling should take place outside of the buffer areas. All stockpiles must be protected from erosion, stored on flat areas where run-off will be minimised, and be surrounded by bunds;
- Temporary and permanent erosion control methods may include silt fences, flotation silt curtains, retention basins, detention ponds, interceptor ditches, seeding and sodding, riprap of exposed embankments, erosion mats, and mulching;
- Any exposed earth should be rehabilitated promptly by planting suitable vegetation (vigorous indigenous grasses) to protect the exposed soil;
- Erosion control measures should be implemented during the construction phase on large exposed areas and where storm water is temporarily channeled.
- If excavations or foundations fill up with storm water, these areas should immediately be drained and measures to prevent further water from entering the excavations should be implemented
- All canals on the feedlot development should always function correctly and be in good condition. After heavy rain, repairs should be done and the canals cleaned;
- Regarding disposal of solid waste over land, vegetation cover should be maintained on the disposal area to prevent soil erosion and to enhance nutrient uptake; and
- Remove erosion and sediment controls only if all bare soil is sealed, covered, or re-vegetated. Sweep roadways clean and remove all debris from kerb and gutter areas. Do not wash into drains

### 6.3.4. Monitoring

- Daily inspection by ENC to ensure that top soil is removed and stock pile on site.
- Inspection by ENC on a quarterly basis to monitor moisture content & texture of soil

## 6.4. Pollution to surface and groundwater quality

### 6.4.1. Background to the impact

The project site is located in area which receive a lot of rainfall (400-600mm/a), good potential groundwater which is susceptible to pollution due to shallow water table. During operation phase, waste in the form of mixture of manure and soil-forming, animal carcasses, and agrochemical waste will be generated. If these waste is not properly handled and stored on site, it will lead to surface water (through runoff) and groundwater pollution (through seepage). The nearby tributaries rivers flows into the Kavango River, and any waste which will be introduced in the runoff could end up in the Kavango River, which could pollute the surface water. The groundwater levels in the project site is very shallow, at 30m. Seepage of pollutants from the waste which will be generated on site, could potential cause groundwater pollution. Activities which pose a threat to water resources pollution relate to the overflow of the oxidation ponds and the leakage of sewage water into the underlying water bearing layers.

Furthermore, the following other threats are posed by the proposed activity during the construction and operational phases: There is a potential to contaminate groundwater resources through the infiltration of any fuels, oils, or lubricants used by construction vehicles and machines. Washing of any vehicles on the site will impact the groundwater resources as well as any potential contaminants can seep into underground water sources. There is a potential to affect the ground and surface water quality in the area, especially the around the wetland in the area. This is influenced by spills and leaks, the storage of chemicals, mixes and fuel, location and protection of stockpiles, onsite waste management and the management of stormwater. The stormwater runoff will wash the potential contaminants to surface water resources while, any contaminants that are not cleaned from the ground will seep into underground water resources.

### 6.4.2. Significance

Table 14: Expected significance of the project on surface and ground water

Potential Impact: Change in Water Quality	Magnitude	Extent	Reversibili	Duration	Probability	Significanc	Character	Confidence
---	-----------	--------	-------------	----------	-------------	-------------	-----------	------------

<b>Without Mitigation</b>	3	2	3	2	3	30	Medium	(-)	High
<b>With Mitigation</b>	2	2	3	2	2	18	Low	(-)	High

### 6.4.3. Mitigation and recommendation

- The recommended buffer zones should be strictly adhered to. Any aspect of the proposed surface infrastructure that impedes the wetlands, drainage lines, or their buffers should be relocated;
- Construction areas should be demarcated, and wetland areas marked as “restricted” in order to prevent the unnecessary impact to and loss of these systems;
- Laydown yards, camps and storage areas must be beyond the wetland areas and associated buffers where applicable;
- Stormwater channels and preferential flow paths should be delineated, filled with aggregate and/or logs (branches included) to dissipate and slow flows limiting erosion;
- During construction contractors used for the project must have spill kits available to ensure that any fuel or oil spills are clean-up and discarded correctly;
- A suitable storm water management plan must be formulated for the project. The plan must ensure that clean and dirty water are separated, that only clean water is diverted into the wetlands (where required) and that the discharge of water will not result in scouring and erosion of the receiving systems;
- The storm water management plan should incorporate “soft” engineering measures as much as possible, limiting the use of artificial materials. These measures may include grassy swales, bio-retention ponds / depressions filled with aquatic vegetation or the use of vegetation to dissipate flows at discharge locations;
- As much material must be pre-fabricated and then transported to site to avoid the risks of contamination associated with mixing, pouring and the storage of chemicals and compounds on-site;
- All chemicals and toxicants during construction and operation must be stored in banded areas;
- All machinery and equipment should be inspected regularly for faults and possible leaks, these should be serviced off-site;

- All contractors and employees should undergo induction which is to include a component of environmental awareness. The induction is to include aspects such as the need to avoid littering, the reporting and cleaning of spills and leaks and general good “housekeeping”;
- Adequate sanitary facilities and ablutions on the servitude must be provided for all personnel throughout the project area. Use of these facilities must be enforced (these facilities must be kept clean so that they are a desired alternative to the surrounding vegetation); and
- Have action plans on site, and training for contractors and employees in the event of spills, leaks and other impacts to the aquatic systems.
- Operation areas should be demarcated, and wetland areas marked as “restricted” in order to prevent the unnecessary impact to and loss of these systems;
- Stormwater channels and preferential flow paths should be delineated, filled with aggregate and/or logs (branches included) to dissipate and slow flows limiting erosion;
- Ensure that the oxidation/stabilization ponds (lagoon) and overspill dam liner integrity is maintained;
- Spill kits must be available to ensure that any fuel or oil spills are clean-up and discarded correctly

#### **6.4.4. Monitoring**

- Regular inspections and monitoring of overflow from the oxidations/stabilizations is encouraged and should be conducted by ENC throughout the Period of operation of the feedlot

### **6.5. Biodiversity ( Fauna and Flora)**

#### **6.5.1. Background to the impact**

The construction phase involves the clearance of vegetation which leads to further loss and fragmentation of the vegetation community as well the destruction of a portion of an endangered vegetation type (NBA, 2012). There are no wild animals found within the project site, however if any, the construction activities might lead to the displacement, direct mortalities, and disturbance of the faunal community due to habitat loss and disturbances (such as dust and noise), as such precautionary measures must be taken. The significance of soil erosion as an impact from the proposed project is indicated in **Table 15** below.

## 6.5.2. Significance

Table 15: Expected significance of the project on biodiversity ( Fauna and Flora)

Potential Impact: Loss and Fragmentation of Flora	Magnitude	Extent	Reversibili	Duration	Probability		Significanc	Character	Confidence
Without Mitigation	3	3	2	5	4	52	Mediu m	(-)	High
With Mitigation	2	2	2	5	2	22	Low	(-)	High

### 6.5.3. Mitigation and recommendation

- Prevent the further loss and fragmentation of this vegetation community (listed as Vulnerable) within and adjacent to the project site;
- Prevent the loss of species of conservation concern which are known to occur within the project area;
- Limiting the construction area to the defined project areas and only impacting those areas where it is unavoidable to do so otherwise;
- As far as possible, the proposed developments should be placed in areas that have already been disturbed (low sensitivity areas as defined in this report), and no further loss of secondary grassland or wetlands should be permitted;
- It is recommended that areas to be developed be specifically demarcated so that during the construction phase and operational phase, only the demarcated areas be impacted upon. All work areas, offices and access roads must be clearly demarcated from surrounding natural areas and no persons should be allowed to enter these areas under any circumstances;
- Areas of indigenous vegetation, even secondary communities should under no circumstances be fragmented or disturbed further or used as an area for dumping of waste;
- It should be made an offence for any staff to bring any plant species into any portion of the project site, including offices. No plant species whether indigenous or exotic should be brought into the project area, to prevent the spread of exotic or invasive species;
- A qualified environmental control office must be on site when construction begins to identify species that will be directly disturbed and to relocate fauna/flora that

are found during construction (this includes all species of flora and fauna such as snakes);

- Dust-reducing mitigation measures must be put in place and must be strictly adhered to. This includes wetting of exposed soft soil surfaces and not conducting activities on windy days which will increase the likelihood of dust being generated;
- Areas of indigenous vegetation should be delineated, and rehabilitation measures implemented in areas where the indigenous community is still present but degraded;
- Areas that are denuded during construction need to be re-vegetated with indigenous vegetation to prevent erosion during flood events. This will also reduce the likelihood of encroachment by alien invasive plant species;
- Any topsoil that is removed during construction must be appropriately removed and stored according to the national and provincial guidelines. This includes ongoing maintenance of such topsoil piles so that they can be re-utilised;
- All dumping of waste material, especially bricks and contaminated materials or soils, must be prevented; and
- Compilation of and implementation of an alien vegetation management plan for the entire site, including the surrounding project area.
- Prevent the loss of species of conservation concern which are known to occur within the project area;
- Limiting the construction area to the defined project areas and only impacting those areas where it is unavoidable to do so otherwise;
- The primary mitigation measure recommended for the project area is for the development to be undertaken in the location marked as alternative site 1;
- If any faunal species are recorded during construction, activities should temporarily cease, and an appropriate specialist should be consulted to identify the correct course of action. This is applicable to all species, even smaller species such as rodents, reptiles and amphibians;
- Staff should be educated about the sensitivity of faunal species and measures should be put in place to deal with any species that are encountered during the construction process. The intentional killing of any animals including snakes, lizards, birds or other animals should be strictly prohibited;
- An alien invasive plant management plan needs to be compiled and implemented prior to construction to control and prevent the spread of invasive aliens;

- The areas outside the defined project area, should be declared a ‘no-go’ areas during the construction phase and operational phase and all efforts must be made to prevent access to this area from construction workers and machinery;
- All livestock must be kept out of any wetland and grassland areas in order to prevent overgrazing of potential SCC avifauna habitat; and
- No domestic animals are to be allowed in to the project area under any circumstances, especially any dogs and cats. Any and all feral cats which may enter the project area must be removed immediately.

#### 6.5.4. Monitoring

- Regular inspections and monitoring is encouraged and should be conducted by ENC throughout the Period of construction and operation.

### 6.6. Health and safety

#### 6.6.1. Background to the impact

During construction, the employees are exposed to health and safety hazards from the mechanical machines and equipment used on the site. The biggest risk during the operational phase of the feedlot is on employee health from potential pathogens from the animals. This comes up when employees are not using the appropriate PPE and are not hygienic following operations on the feedlot. The expected significance of the project on employee Health and Safety is indicated in **Table 16** below.

#### 6.6.2. Significance

**Table 16: Expected significance of the project on employee Health and Safety**

Potential Impact: Employee Health and Safety	Magnitude	Extent	Reversibilit	Duration	Probability		Significance	Character	Confidence
<b>Without Mitigation</b>	4	2	3	4	4	52	Medium (-)		High
<b>With Mitigation</b>	2	1	3	4	2	20	Low (-)		High

#### 6.6.3. Mitigation and recommendation

- A Health and safety officer is to be appointed who will monitor safety conditions during construction activities;
- Ensure employees are properly trained to use specific equipment or machinery;



- Provide suitable personal protective equipment (PPE).
- Conduct site and safety induction to raise awareness of the risks associated with the site.
- Conduct regular toolbox talks as refreshers to improve health and safety.
- Develop safe work instruction method statements that should be used by employees in completing their tasks.
- Train all relevant personnel on handling, use and storage of hazardous substances.
- All visitors should undergo site induction and be made aware of the risks associated with the site.

**6.6.4. Monitoring**

- The ENC should ensure that all workers are provided with PPE

**6.7. Soil waste**

**6.7.1. Background to the impact**

Construction waste is not expected to be in large quantities. General waste will be generated primarily from the construction team. Any waste entering the demarcated working area will be cleared on an “as required” basis and disposed of in a permitted landfill site. In the unlikely event that waste being washed into the project site is excessive, a skip will be brought to site for the duration of the construction phase. If any hazardous waste (oily rags, empty oil containers, etc.) is produced onsite, it will be kept in a labeled and lidded container and disposed of in a permitted hazardous waste landfill site. During the operational phase, there will be a generation of general waste as well as the potential for animal carcasses that will arise following the death of cattle. The proposed feedlot will not have a carcass pit or an incinerator, therefore, the disposal of any carcasses will have to be done appropriately to avoid affecting the site personnel with pathogens. The significance of waste as an impact from the proposed project is indicated in **Table 17** below.

**6.7.2. Significance**

**Table 17: Expected significance of the project on waste generation**

<b>Potential Impact: Waste</b>	<b>Magnitude</b>	<b>Extent</b>	<b>Reversibili</b>	<b>Duration</b>	<b>Probability</b>	<b>Significanc</b>	<b>Character</b>	<b>Confidence</b>

<b>Without Mitigation</b>	2	1	3	1	4	28	Low	(-)	High
<b>With Mitigation</b>	2	1	1	1	3	15	Low	(-)	High

### 6.7.3. Mitigation and recommendation

- Place general and hazardous waste bins on the site.
- Any hazardous waste must be taken away by a registered contractor and taken to a registered landfill.
- Ensure that safe disposal certificates are issued for any hazardous waste taken away from the site and waste manifests available for general waste.
- No dumping of construction material on-site may take place.
- All waste generated on-site during construction must be adequately managed. Separation and recycling of different waste materials should be supported.

### 6.7.4. Monitoring

- Daily site inspection by ENC Site inspection on housekeeping
- Weekly site inspection by ENC to ensure regular collection of waste

## 6.8. Employment opportunities

### 6.8.1. Background to the impact

The proposed development will create a number of employment opportunities for individuals in the surrounding area. The positive impact of this phase is limited as it is temporary, however, the skills acquired are long-lasting. If managed correctly, the proposed project could (mainly in the long term) have a significant positive impact on the social and economic environments. The proposed feedlot will have a positive impact on the Agricultural community as the production of good quality meat will be promoted. The proposed development is supported by several national, local, and government policies, frameworks, and documents. This project leads to permanent jobs on the feedlot as well as the potential growth of other supporting businesses to the feedlot to service their needs on supplies or waste to mention a few. The significance of employment opportunities as an impact from the proposed project is indicated in **Table 18** below.

## 6.8.2. Significance

Table 18: Expected significance of the project on employment opportunities

Potential Impact: Employment Opportunities	Magnitude	Extent	Reversibility	Duration	Probability	Significance	Character	Confidence
Without Mitigation	2	1	3	2	3	24 Low	(+)	High
With Mitigation	2	2	3	2	4	36 Medium	(+)	High
Mitigation and Management Measures	•							

## 6.8.3. Mitigation and recommendation

- The project must aim to use local labor in order to benefit the local community.
- Train employees to gain skills they can use in the future.
- Consult with local communities to boost local business.
- Tender processes to demonstrate promotion and prioritization of local contractors and labor (through advertisements, identification of local contractors etc.

## 6.8.4. Monitoring

- It is recommended that the proponent should employ workers from the potentially affected communities in particular Kayengona Teya and Rundu Town. The proponent in consultation with the Sambyu Traditional Authority, the constituency councilors will then be responsible to supervise the employment process when implementing this 'local's first' recommendation.

## 6.9. Disturbance to heritage

### 6.9.1. Heritage

Based on the field study conducted, only disturbed little natural vegetation is present on the site and the chances of finding any heritage-related features are extremely slim. Nothing of heritage significance was found during the site visit. there are no impacts expected with regards to heritage resources.

Construction activities should be conducted carefully and all activities ceased if any archaeological, cultural, and heritage resources are discovered.

The Proponent should consider having a qualified and experience archaeologist on standby during exploration work and sampling phase and as required during the entire operational phase. This action will be to assist on the possibility of uncovering sub-surface graves or other cultural/heritage objects and advice the Proponent accordingly. Identified graves or any archaeological significant objects on the site should not be disturbed, but are to be reported to the project Environmental officer or National Heritage Council offices. If discovery of unearthed archaeological remains to be uncovered, the following measures (chance find procedure) shall be applied:

- Works to cease, area to be demarcated with appropriate tape by the site supervisor, and the Site Manger to be informed
- Site Manager to visit the site and determine whether work can proceed without damage to findings, mark exclusions boundary
- If work cannot proceed without damage to findings, Site Manager is to inform the Environmental Manager who will get in touch with an archaeologist for advice
- Archaeological specialist is to evaluate the significance of the remains and identify appropriate action, for example, record and remove; relocate or leave in situ (depending on the nature and value of the remains) - Inform the police if the remains are human, and
- Obtain appropriate clearance or approval from the competent authority, if required, and recover and remove the remains to the National Museum or National Forensic Laboratory as appropriate.

#### **6.10. Closure phase**

Based on the proposed project plan, the life of the project is considered to be indefinite and as such, no closure or rehabilitation phase was considered. It is envisaged that the feedlot development, once completed, will exist into perpetuity. However, impacts during decommissioning are likely to be similar to those identified for the construction phase and will be managed in cognizance of the applicable legislation.

## **7. CONCLUSION AND RECOMMENDATIONS**

### **7.1. Conclusion**

This report provides a description of the proposed project and details the aspects associated with the construction and operation. The report also includes the methodology followed to undertake the Environmental Assessment process. A detailed description of the existing environment (biophysical as well as socio-economic) is provided based on findings from the field surveys and existing information. Stakeholder engagement was undertaken from the onset of the project in a transparent and comprehensive manner. Based on the environmental description, specialist surveys as well as stakeholder engagement, a detailed impact assessment has been undertaken, and, where relevant, the necessary management measures have been recommended.

In summary, the Environmental assessment process assessed both biophysical and socio-economic environments and identified appropriate management and mitigation measures. The biophysical impact assessment revealed that there are no environmental fatal flaws and no significant negative impacts associated with the proposed project should mitigation and management measures be implemented. In addition, it should be noted that the socio-economic impacts associated with the project are positive but will need to be enhanced to benefit the majority of the community where the proposed project is located.

Based on the findings of this Environmental Assessment Study, the proposed feedlot activities can be implemented in accordance with the provisions of the EMP.

### **7.2. Recommendations**

It is hereby recommended that the proponent take all the necessary steps to implement all the recommendations of the EMP for the successful implementation and completion of the proposed feedlot located in the Kayengona Teya area in the Kavango East Region. Recommended actions to be implemented by the proponent as part of the management of the likely impacts through implementation of the EMP are as follows:

- Contract an Environmental Coordinator / Consultant / suitable in-house resources person to lead and further develop, implement and promote environmental culture through awareness-raising of the workforce, contractors and sub-contractors in the field during the whole duration of the proposed feedlot period;

- Provide all other necessary support, human and financial resources, for the implementation of the proposed mitigations and effective environmental management during the planned implementation of the feedlot activities;
- Develop a simplified environmental induction and awareness program for all the workforce, contractors and subcontractors;
- Where contracted service providers are likely to cause environmental impacts, these will need to be identified and contract agreements need to be developed with costing provisions for environmental liabilities

## 8. REFERENCES

- Simmonds, E.B. 2000. Soils of Kavango Region. Report for Ministry of Environment and Tourism, Windhoek.
- Food and Agriculture Organization of the United Nations. (1970). *Soil Map of the World: Carte Mondiale Des Sols. Mapa Mundial de Suelos.[Pochvennaiã Karta Mira]*. Unesco.
- De Sousa Correira, R.J. & Bredenkamp, G.J. 1986. A reconnaissance survey of the vegetation of the Kavango, South West Africa. J. SWA Sci. Soc. 41:29-45,
- CSIR, 2000.Guidelines for human settlement planning and design. Chapter 9. Water supply
- DWAF,2008. Code of practice: Volume 1. Septic tank systems. General guidelines
- Directorate of Environmental Affairs, 2008. Procedures and Guidelines for Environmental Impact Assessment (EIA) and Environmental Management Plan (EMP). Directorate of Environmental Affairs, Ministry of Environment & Tourism, Windhoek
- Legal Assistance Centre (LAC) and the advocacy unit Namibia National Farmers Union (NNFU), 2009.
- Guide to the Communal Land Reform Act, 2002. Published by LAC, Windhoek
- Mendelsohn, J. El Obeid, S. And Roberts, C. 1997.An environmental profile and atlas of Caprivi.
- Windhoek: Ministry of Environmental and Tourism.
- Mendelsohn, J. Jarvis, A. Roberts, C. and Robertson, T. 2002. Atlas of Namibia. A portrait of the land and its people. Published for MET by David Philip.
- MET. 1995a. Wildlife management, utilization and tourism in communal areas. Policy document. Windhoek: Ministry of Environmental and Tourism.
- MLR, 2006.Operational Manual for Communal Land Boards. Windhoek: Ministry of Lands and Resettlement

- NACSO, 2008. Namibia's communal conservancies. A review of progress and challenges in 2007. NACSO, Windhoek.
- NACSO, 2011. Namibia's communal conservancies. A review of progress and challenges in 2010. NACSO, Windhoek.
- Simmons, R.E. Barnes K.N., Jarvis, A.M. & Robertson, A. 1999. Important Bird areas in Namibia. research Discussion Paper. DEA, Ministry of Environmental and Tourism.
- Tweddle, D. 2009. Integrated Management of Zambezi /Chobe river system – transboundary fishery resource, Namibia/Zambia/Botswana. Final evaluation report. Commissioned by WWF in Namibia, Windhoek, Namibia
- Pastakia, C.M.R. 1998. the Rapid Impact Assessment Matrix (RIAM) – A new tool for Environmental Impact Assessment.
- National Agricultural Policy. 1995. THE MINISTER OF AGRICULTURE, WATER AND RURAL DEVELOPMENT. White paper. Windhoek
- MAWF. 2016. Zambezi region soil analysis report. Ministry of Agriculture, Water & Forestry. Zambezi region.
- MAWLR. 2021. Groundwater in Namibia an explanation of the Hydrogeological Map.
- Dennis Sikabongo. 2018. Personal communication. Ministry of Ministry of Agriculture, Water & Forestry. Directorate of Forestry. Zambezi region



## **9. APPENDICES: LIST OF APPENDICES**

- Appendix A: Abridge CV's
- Appendix B: Land ownership letter
- Appendix C: Newspaper adverts
- Appendix D: Background Information Document (BID)
- Appendix: E: Public participation process attendance register

## Appendix A: Abridge CV

<b>Name</b>	Johannes J Sirunda	<b>Organisation</b>	HJ GeoEnviro
<b>Qualifications</b>	BSc, BSc(Hon), PGDIP (Business Administration), & MSc		
<b>Countries of Experience</b>	Namibia		

### Summary of Experience

Mr J Sirunda is a qualified Environmental Scientist with over 9 years of working experience in the field water resources and environmental management. He holds a BSc Natural Resources; BSc (Hon) Integrated Water Resources Management; MSc in Environmental and Water Science. He also holds Certificates of achievement in Project Management, Aquifer Risk Management and Pollution Control, Climate Change Adaptation for Namibia, Ecosystems Services and Technical Writing Skills. He specialises in the field of surface water quality and very knowledgeable in the sphere of climate change effects on surface and groundwater water quality and quantity, and also in development of proposal suited to both the GCF and AF. Mr J Sirunda successfully developed a funding proposal submitted to the Adaptation Fund (AF) on Desalination (RO) using Renewable energy to increase the resilience of the people in the areas of Bethanie and Grünau to adapt to the effect of climate change and variability. This project is currently being implemented at a pilot scale under his supervision. In addition to the above, he also assisted the Environmental Investment Fund (EIF) of Namibia in formulating an Environmental and Social Risks Screening Report: Increasing Climate Change Resilience of CBNRM through adaptation in the Tourism Sector in Namibia for submission to the Green Climate Fund (GCF). He has a good understanding of water supply infrastructure from a resilient planning point of view.

### Membership and Affiliations

- 2011: Climate Change Ambassador of the Republic of Namibia (Active)
- 2011: Member of the National Climate Change Committee (NCCC) for Namibia (Active)
- 2012: Associate Member of the Water Institute of Southern Africa (WISA) (Active)
- 2018: Member of the Namibia Country Water Partnership

### Publications

- J. Sirunda and J. Msangi. (2013). Monitoring the effects of anthropogenic activities on the water quality of Von Bach Dam: Combating Water Scarcity in Southern Africa. Springer charter 4-1:7.
- J. Sirunda and D. Mazvimavi. (2013). The effects of water transfers from Swakoppoort Dam and Omatako Dam on the water quality of Swakoppoort Dam: Combating Water Scarcity in Southern Africa. Springer charter 4-1:41.
- Sirunda J, Honga E, and Mostert A. (2016). The Impact of changes in water levels on the water quality in surface storage dams: The case of the Swakoppoort and Von Bach dams, Central Namibia. African Drought Conference, Windhoek, Namibia.
- Mukendwa H, and Sirunda J. (2017). The hydraulic response of fractured aquifers and their implication to sustainable use: the case of the Combat aquifer, Namibia. WaterNet Conference, Swakopmund, Namibia

- Sirunda, J, Lewis, E, Iileka, T, and Nakanwe J. (2018). The impact of Drought on Water Resources used for Supply the City of Windhoek. WaterNet Conference, Harare, Zambia

Employment History	Job Title
2016 to 2018	Director Water and Environment at HJ GeoEnviro Consulting Independent Consultant
2009 to date	Environmental Scientist at Namibia Water Corporation (PTY) LTD
2011-2014	Director Water and Environment WELER Consulting Services

## Education

<p><b>1. Bachelor of Science Degree</b> in Natural Resources Majoring in Aquatic and Fisheries/Marine science (<b>University of Namibia, Windhoek, Namibia</b>)</p> <p><b>Major Subjects:</b></p> <ul style="list-style-type: none"> <li>▪ Aquatic Invertebrates</li> <li>▪ Law of the Sea</li> <li>▪ Water Chemistry;</li> <li>▪ Biochemistry;</li> <li>▪ Physical, Chemical &amp; Biological Oceanography;</li> <li>▪ Aquatic Ecology</li> <li>▪ Biostatistics</li> <li>▪ Project Planning and Management</li> <li>▪ Climatology and Hydrology</li> <li>▪ Natural Resources Economics</li> <li>▪ Production, micro and macro-economics</li> </ul>	<p><b>2. Bachelor of Science Degree (Honours)/Postgraduate Diploma</b> in Water Resources Management (<b>University of the Western Cape, Cape Town South Africa</b>)</p> <p><b>Major subjects:</b></p> <ul style="list-style-type: none"> <li>▪ Water Law</li> <li>▪ Water Resources Management,</li> <li>▪ Catchment Processes;</li> <li>▪ Groundwater Management;</li> <li>▪ Water Quality;</li> <li>▪ Environmental Management;</li> <li>▪ Applied Hydrology.</li> </ul>
<p><b>3. Postgraduate Diploma</b> Business Administration (<b>University of Cape Town, Graduate School of Business, Cape Town, South Africa</b>)</p> <p><b>Major Subjects:</b></p> <ul style="list-style-type: none"> <li>▪ Value Based Leadership</li> <li>▪ Transformational Leadership</li> <li>▪ Critical Thinking</li> <li>▪ System Thinking</li> <li>▪ Integrative Thinking</li> </ul>	<p><b>4. Master of Science in Environment and Water Science</b> (<b>University of the Western Cape, Cape Town, South Africa</b>)</p> <p><b>Research Topic:</b> The Effects of Water Transfer from Swakoppoort and Omatako Dams on the Water Quality of Von Bach Dam, Namibia</p> <p><b>Focus Areas:</b></p>

<ul style="list-style-type: none"> <li>▪ Managerial Statistics</li> <li>▪ Personal Development</li> <li>▪ Operation Management</li> <li>▪ Business Strategy</li> <li>▪ Finance</li> <li>▪ Human Resources Management</li> <li>▪ Strategic Marketing</li> <li>▪ Governance and Ethics</li> <li>▪ Emerging Markets</li> </ul>	<ul style="list-style-type: none"> <li>▪ Physical hydrology</li> <li>▪ Water Quality Management</li> <li>▪ Pollution Control and Management,</li> <li>▪ River Basins</li> <li>▪ Water Transfers,</li> <li>▪ Water Treatment;</li> <li>▪ Fate and Transport of Nutrients</li> <li>▪ Blue-Green Algae Bloom</li> <li>▪ Water Supply</li> </ul>
---	--

## **Selected water and environmental projects conducted and completed**

---

### **COMPLETED CLIMATE CHANGE PROJECTS**

- 2017: Funding proposal development for submission to the Adaptation Fund: Pilot Desalination plants powered with renewable energy in the Bethanie and Grünau, //Karas, Namibia. [https://www.adaptation-fund.org/wp-content/uploads/2017/10/Updated-approved-proposal-Namibia\\_Decision-B\\_30\\_20.pdf](https://www.adaptation-fund.org/wp-content/uploads/2017/10/Updated-approved-proposal-Namibia_Decision-B_30_20.pdf). Done Namibia Water Corporation.
- 2017: Environmental and social risks screening report: Increasing Climate Change Resilience of CBNRM through adaptation in the Tourism Sector in Namibia for submission to the Green Climate Fund, done for the Namibia Environmental Investment Funds (EIF).

### **COMPLETED WATER QUALITY RELATED PROJECTS**

- 2010: Identification of water quality rehabilitation techniques or methods for Swakoppoort Dam
- 2010: Prediction of reservoir productivity over time using the Lake Watch software.
- 2012: Application of Bentonite Clay (Phoslock) to remove phosphorus in the water column to starve the growth of blue-green algae, a laboratory pilot study.
- 2012: Application of Bentonite Clay (Phoslock) to remove phosphorus in the water column to starve the growth of blue-green algae, a field pilot study at the Swakoppoort Dam.
- 2013: Installation of Solar Powered Water Circulator Machines (Solarbee) in Swakoppoort Dam to disrupt the growth of blue-green algae that causes water quality problems.
- 2012-2014: Water quality assessment, identification of pollution sources, determination of health impact on human and animals for the Windhoek Greenbelt Landscape for NAMPLACE Project, MET.
- 2016: Testing of the effectiveness and efficiency of BioSprite as a secondary disinfectant to Sodium, Calcium hypochlorite or Gas Chlorination at the Windhoek Air Port Scheme.

### **COMPLETED ENVIRONMENTAL MANAGEMENT RELATED PROJECTS**

- 2012: Divundu Bulk Water Supply Scheme Environmental Impact Assessment and Environmental Management Plan.
- 2014: Upgrade of Rundu Bulk Water Treatment Plant Environmental Impact Assessment and Environmental Management Plan.
- 2014: Von Bach Waste Water Reclamation Project Environmental Impact Assessment and Environmental Management Plan.
- 2011: Aus New Borehole Scheme Environmental Impact Assessment and Environmental Management Plan.

- 2013: Swakopmund\_Mile-7 Water Supply Phase 2 Projects: Environmental Impact Assessment and Environmental Management Plan.
- 2012: Comparative assessment of the water supply system of Windhoek, Gaborone, and Dar es Salaam.
- 2013: Environmental Impact Assessment (EIA) and Environmental Management Plan (EMP) for the proposed granite exploration study by Stone Evolution and Equipment Hire Cc, Swakopmund.
- 2014: Environmental Impact Assessment (EIA) and Environmental Management for the proposed small scale surface mining for marble for EPL: 4692, Erongo Region, Karibib District, Namibia by Bohale Investment Cc, Karibib.
- 2014: Environmental Impact Assessment (EIA) and Environmental Management for the proposed small scale surface mining for marble for EPL: 4693, and 4694, Erongo Region, Karibib District, Namibia by Bohale Investment Cc, Karibib.
- 2014: Environmental Impact Assessment (EIA) and Environmental Management Plan (EMP) for the proposed domestic wastewater oxidation pond system for Okalongo Settlement, Omusati Region, Outapi District, Namibia.
- 2014: Environmental Impact Assessment (EIA) and Environmental Management Plan (EMP) for the proposed upgrading and renovation of domestic wastewater oxidation pond system for the Himarwa Ithete Senior Secondary School, Kavango West Region, Mpungu District, Namibia.
- 2015: Tender compilation, invitation of drillers, evaluations of tender, recommendation of successful tenderer, drilling and test pumping supervision, and ground water resources evaluation and reporting for the proposed expansion of the Nkurenkuru hospital for Conselect Engineering Cc.
- 2016: Testing of the effectiveness and efficiency of BioSprite as a secondary disinfectant to Sodium, Calcium hypochlorite or Gas Chlorination at the Windhoek Air Port Scheme.
- 2017: Environmental and social risks screening report: Increasing Climate Change Resilience of CBNRM through adaptation in the Tourism Sector, Environmental Investment Funds (EIF), 2017.
- 2018: Environmental Impact Assessment (EIA) and Environmental Management Plan (EMP) for the proposed construction of electrical t-off lines to supply dwellings of the Topnaar community in the Kuiseb valley along the Kuiseb river.
- 2018: Environmental Impact Assessment (EIA) and Environmental Management Plan (EMP) for proposed construction of a Kunene Vocational training centre (KVTC) in Khorixas, Kunene region.
- 2018: Environmental Impact Assessment (EIA) and Environmental Management Plan (EMP) for the proposed construction of 1.7km of 22kv rabbit overhead to supply 25KVA transformer to Kranzberg 4 borehole and construction of Kranzberg 4 borehole pumping main, 11 km northeast of Omaruru town, Erongo region.
- 2018: Pilot Desalination plants powered with renewable energy (Solar and Wind) in the Bethanie and Grünau, //Karas, Namibia, NamWater: 2016-2023

#### **CONTINUOUS PROFESSIONAL DEVELOPMENT CERTIFICATES**

- 2011: Certificate in Project Management by Namibia Project Management unit
- 2011: Certificate in Climate Change Adaptation for Namibia
- 2010: Certificate in Understanding Ecosystems Services
- 2010: Certificate in Technical Writing Skills

- 2009: Certificate in Risk Management of Ground Water Aquifer
- 2013: Certificate in Collaborative Management of Water Supply Infrastructure
- 2013: Certificate in the Ecology of the Namib Desert for Mining Manager
- 2014: Certificate in Water Quality and Effluent Discharge Modelling



---

**J Sirunda**

**Date: 2019/09/2020**

## Appendix C: Land ownership letter



Shambyu Traditional Authority  
P.O.BOX 430  
Enquiries: E.Sikerete  
0813431973  
01/04/2019

To:  
The Ministry of Land Reform  
Private Bag 13183  
Windhoek  
Namibia

**RE: LAND ALLOCATION TO MR SHINKEVA THIMOTHEUS SHINKEVA ID 76010200407 AT KAYINGOMA TEYA VILLAGE IN SHAMBYU TRADITIONAL AUTHORITY AREA OF JURISDICTION FOR ANIMAL HUSBANDRY / ANIMAL PRODUCTION UNIT PURPOSES.**

1. This is to certify that **Mr. Shinkeva Thimotheus Shinkeva ID 76010200407** is a Namibian citizen and has never been involved in any tribal violation, or in any case or act of misconduct.
2. The primary power to allocate any customary land rights rests with the Chief or Traditional Authority.
3. The Shambyu Traditional Authority as a Statutory Body, enacted by the Act of Parliament, has delegated power to allocate communal land under its jurisdiction to communities for development.
4. By virtue of power vested in the Traditional Authority, as a Statutory Body, it is hereby allocating a piece of land with an approximate size of 20ha to **Mr. Shinkeva Thimotheus Shikeva ID 76010200407** at Kayengona Teya Village for keeping domestic animals purposes.
5. This letter serves as a recommendation for a land rights in communal areas as Referred to in sections 30, 31, 34, 44, Read with section 45 Regulations 11, 12, 17, 24 and 27 of the communal land Reform Act, Act No 5 of 2002.
6. It is hereby recommended that leasehold as Referred to in Sections 30, 31, 34, 44 Read with section 45 and Regulations 11, 12 17, 24 and 27 of the Communal Land Reformed Act, Act No 5 of 2002, be grated to **Mr. Shinkeva Thimotheus Shinkeva** for keeping farm animals for milk and meet purposes.

7. The Traditional Authority hereby confirms that the applicant has utilized the land for years.
8. We also recommend that you support the request for fencing the area to avoid the conflict between the leaseholder and the rest of the community, if cattle and other animals should damage the crop field.
9. The estimate size of land is 20ha and does not exceed the prescribed size.
10. We also hereby approve that leasehold be allocated for a period of 99 years.

**For Shambyu Traditional Authority**

Full Names: Mukoro E. Sikereke Designation: SNR Cllk.  
Signature: E. Sikereke Date: 04/04/2019



## Appendix C: Newspaper adverts



Market Watch Kleinadvertensies • Classifieds

SPERTYE: 13:00 TWEE WERKSDAE VOOR PLASING
DEADLINES: 13:00 TWO WORKING DAYS PRIOR TO PLACEMENT

TEL: 061-297 2055

FAX: 061-239 63

EMAIL: classifieds@republiek.com.na

Geen advertensies sal telefonies aanvaar word nie.

No advertisements will be accepted telephonically

Table with columns INHOUDSOPGAWE and CONTENTS listing various categories like Real Estate, Business, and Legal Notices.

RATES & DEADLINES

To avoid disappointment of an advertisement not appearing on the day you wish, please base accordingly. Classified weekly, notices and display weekly...

CONSENTS OF ACCEPTANCE. Republisher reserves the right to withhold or modify any advertisement which has been accepted...

BOOK & PAY FOR YOUR CLASSIFIED ADS ONLINE

Visit https://classifieds.na to log in the year up as normal and follow the easy steps to upload your classified ad.

Advertisement for ONLINE SHOP featuring CYBER MONDAY and GREEN + ORANGE. Includes an image of a laptop with a shopping cart icon.

Real Estate Notices

Advertisement for J. van der Merwe Optometrist. Exciting opportunities at Olympia Eye and Laser Center. Text: "The purpose of the position is to assist on an administrative and clinical level by providing specialist optometry services..."

Yaketers Vacancies

Advertisement for ALANON. Help for individuals of Alcoholism. Text: "ALANON is a non-religious, non-professional organization of individuals who are concerned with their own and others' alcoholism..."

Qualified Spray Painter

Job advertisement for a Qualified Spray Painter. Requirements: License, computer literacy, proof of healthy strength, 10 years experience.

Travel & Recruitment

Recruitment advertisement for a Call Centre Representative. Requirements: Must have previously worked for Call Centre Representative (Broadbanding), typed application, knowledge of Afrikaans/English, fluent in Afrikaans.

Recruitment advertisement for a Sales Representative. Requirements: Must have previously worked for Call Centre Representative, typed application, knowledge of Afrikaans/English, fluent in Afrikaans.

Vakatures / Vacancies

Recruitment advertisement for a qualified person with a Health Profession Council (HPC) to be up to date. Requirements: Attention to detail & thoroughness, Analytical, Critical thinking and problem-solving skills.

Real Estate Notices

Real estate advertisement for OOSMA VILLAGE DEVELOPMENT. Phase-B houses now available ready to move in December 2021. 3 Bedrooms, 2 bathrooms, solar geyser, bit in all bedrooms and bit and Diefy stove in the kitchen...

Real Estate Notices

Real estate advertisement for a 5 bedroom, 2 bathroom, 2 bath, 2 car garage, open-plan kitchen, living room, dining room, study, backyard. Dealer's garage also visitors parking. Available: 1 December 2021.

Real estate advertisement for a 2 bedroom, 2 bathroom, 1 car garage, open-plan kitchen, living room, dining room, study, backyard. Dealer's garage also visitors parking. Available: 1 December 2021.

To lease / To Let

Real estate advertisement for a 2 bedroom, 2 bathroom, 2 bath, 2 car garage, open-plan kitchen, living room, dining room, study, backyard. Dealer's garage also visitors parking. Available: 1 December 2021.

Real Estate Notices

Real estate advertisement for a 4 bedroom, 2 bathroom, 2 bath, 2 car garage, open-plan kitchen, living room, dining room, study, backyard. Dealer's garage also visitors parking. Available: 1 December 2021.

Real Estate Notices

Real estate advertisement for a 3 bedroom, 2 bathroom, 2 bath, 2 car garage, open-plan kitchen, living room, dining room, study, backyard. Dealer's garage also visitors parking. Available: 1 December 2021.

Real estate advertisement for a 2 bedroom, 2 bathroom, 1 car garage, open-plan kitchen, living room, dining room, study, backyard. Dealer's garage also visitors parking. Available: 1 December 2021.

Real Estate Notices

Advertisement for KAROD-DCHSE SENTRAAL VERKOOPDAG 2021 REHOBOTH. BEES VEILING 01 DESEMBER 2021. NAVRAE. Willy Nayer 061 297 2055 - 20259

Real Estate Notices

Advertisement for the High Court of Namibia. Notice of the High Court of Namibia. In the matter between FIRST NATIONAL BANK OF NAMIBIA LTD, Plaintiff and JEREMIA KAROD, 1st Defendant; TABITA MAY DAT YUOHAN-GAMBI KAROD, 2nd Defendant. NOTICE OF SALE IN EXECUTION OF AN IMPROVABLE PROPERTY.

Real Estate Notices

Advertisement for the High Court of Namibia. Notice of the High Court of Namibia. In the matter between WHIDDER MOTOR CLUB, Executive Committee and YARIN VOORWAARD, Debtor. NOTICE OF SALE IN EXECUTION OF A JUDICIAL MORTGAGE granted by the High Court of Namibia.

Advertisement for LOST CONTROL? AA. ALCONOLIC ANONYMOUS NAMIBIA. Losing Control? AA. Alcoholic Anonymous Namibia. If you want to drink less and live better, you have to stop drinking. AA is the only way to stop drinking.

Real Estate Notices

Advertisement for the Republic of Namibia. Act 1998, Notice of Appointment to a Committee of the Liquor Act, 1998. Notice of Appointment to a Committee of the Liquor Act, 1998. The Committee of the Liquor Act, 1998 will be made up of the following members: Mr. J. van der Merwe, Mr. J. van der Merwe, Mr. J. van der Merwe.

Real Estate Notices

Advertisement for the High Court of Namibia. Notice of the High Court of Namibia. In the matter between WHIDDER MOTOR CLUB, Executive Committee and YARIN VOORWAARD, Debtor. NOTICE OF SALE IN EXECUTION OF A JUDICIAL MORTGAGE granted by the High Court of Namibia.

Real Estate Notices

Advertisement for the High Court of Namibia. Notice of the High Court of Namibia. In the matter between WHIDDER MOTOR CLUB, Executive Committee and YARIN VOORWAARD, Debtor. NOTICE OF SALE IN EXECUTION OF A JUDICIAL MORTGAGE granted by the High Court of Namibia.

Advertisement for the High Court of Namibia. Notice of the High Court of Namibia. In the matter between WHIDDER MOTOR CLUB, Executive Committee and YARIN VOORWAARD, Debtor. NOTICE OF SALE IN EXECUTION OF A JUDICIAL MORTGAGE granted by the High Court of Namibia.

## Appendix D: Background Information Document (BID)

### BACKGROUND INFORMATION DOCUMENT (BID) FOR THE PROPOSED ANIMAL FEEDLOT IN THE KAVANGO EAST REGION, KAYENGONA TEYA DISTRICT, NAMIBIA

#### The purpose of this document is to:

Provide a brief description of the proposed project and EIA process that will be followed and obtain initial comments and contributions from Interested and Affected Parties (IAPs) on the issues relating to the proposed development.

Provide the objectives of the project and approach to the EIA and EMP to be undertaken; and

Invite Interested and Affected Parties (I&APs) to register and provide input throughout the EIA process.

#### 1. Introduction

The proponent, Mr. Shinkeva Thimoteus Shinkeva is proposing to establish a nimal feedlot husbandry unit on a 20 hectare of

land at Kayengona teya village in the Kavango East region. Kayengona Teya village is situated about 40 Kilometres from Rundu, under the jurisdiction of the Shambyu Traditional Authority.

#### 2. Legal requirements

In accordance with the Environmental Management Act (2007) and EIA Regulations (2012), an Environmental Impact Assessment (EIA) is required for the proposed project.

#### 3. Project description

The planned activities at the Kayengona Teya project site will involve rearing livestock, thereby feeding them with fodder which will be organically produced at the project site, and other farming activities like horticulture. **Figure 1** shows the locality

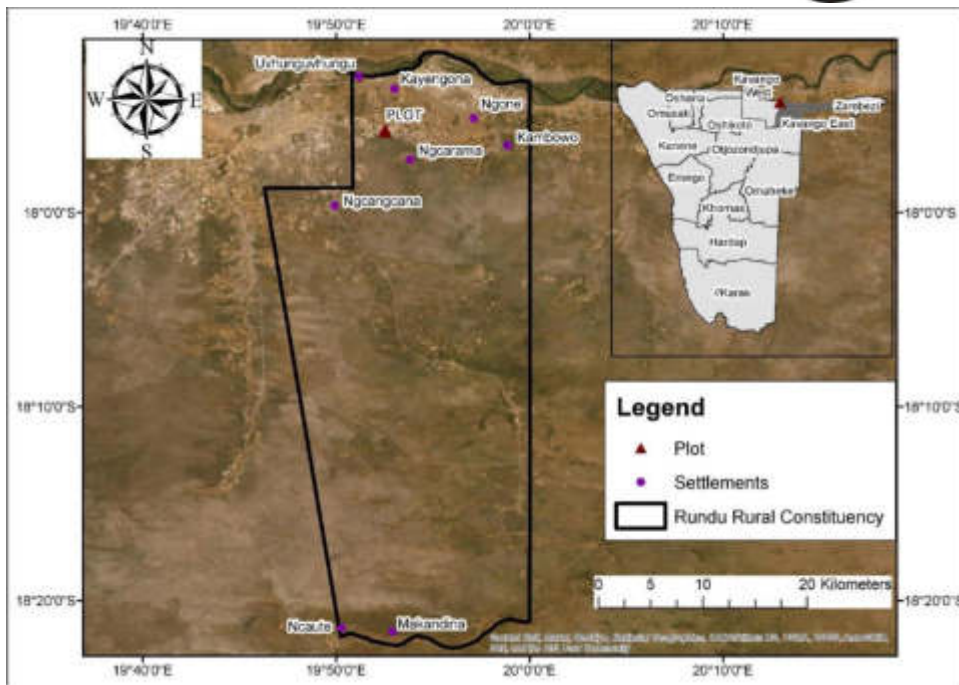


Figure 13: Locality Map

The nature, extent, duration, intensity, probability, and significance of the potential impacts associated with the proposed project will be discussed in the Draft Scoping Report which will be circulated to all registered Interested and Affected Parties (I&AP) in due course. The following potential key socioeconomic and biophysical impacts associated with the construction, operation and maintenance of the proposed project will be addressed in the scoping:

- Increase in employment opportunities
- Waste generation
- Land disturbance/ Soil erosion
- Water pollution potential
- Loss of biodiversity ( Fauna and Flora)
- Air and noise pollution

This list only presents potential impacts. During investigation phase identified potential impacts will be assessed in detail to determine their relevance and significance. More potential impacts may be identified during scoping when stakeholders provide their comments and these will be incorporated into the list and used to determine the final scope of the investigation.

### **Who is doing the EIA?**

In terms of the Environmental Impact Assessment (EIA) regulations, an independent Environmental Assessment Practitioner must be appointed to conduct the EIA. HJGeo-Enviro Consulting and trading Cc has been appointed to conduct the EIA. HJGeo-Enviro Consulting and trading Cc will identify and assess the potential environmental impacts associated with the proposed activity by conducting an objective and independent EIA in which all the relevant information and opinions of Interested and Affected Parties (IAPs) will be collected and passed on to the Ministry of Environment Forestry, & Tourism (MEFT). In this way an informed decision-making process can take place.

### **4. EIA process**

The proposed Animal feedlot requires an environmental clearance (EA) in terms of the National Environmental Management Act (2007), and the EIA regulations of 2012. may not be undertaken without Environmental Clearance Certificate. The development must therefore be subjected to an Environmental Impact Assessment to obtain an Environmental Clearance Certificate before the development commences.

The EIA will be carried out in the following phases as provided for in the Environmental Management Act No.7 of 2007 and its EIA Regulations of 2012:

#### **Scoping Phase:**

- Identify Interested and Affected Parties.
- Announce the EIA process and identify key issues.
- Consult Interested & Affected Parties through public meetings and other platforms.
- Prepare Draft Scoping Report.
- Prepare Draft Environmental Management Plan (EMP).

- Prepare Final Scoping Report and EMP to submit to the competent authority (Environmental Commissioner's Office).

#### **EIA Phase:**

- Conduct specialist studies to address issues identified in the Scoping Phase.
- Prepare Draft Scoping Report
- Public review of Draft Scoping Report.
- Prepare final Scoping and EMP and submit to the Office of the Environmental Commissioner for the issuance of an Environmental Clearance Certificate.

The scope of the assessment is envisaged to end in the scoping phase in view of the proposed locality which is not a sensitive environment that is already disturbed by farming activities. The approach of the Scoping and EMP is based on the Environmental Management Act no.7 (2007) and its EIA regulations of 2012 as mentioned above.

#### **5. Public consultation**

Public consultation is a crucial part of the EIA process. This provides an opportunity to stakeholders or Interested & Affected Parties to find out more about what is being proposed, and to raise any issues or concerns.

To enable access to this communication process, Interested and affected parties (I&As) need to either request that their name be added to the register or submit their comments in writing to us (see contact details).



### **Registration as an I&AP**

Your registration as an I&AP is a key component of the EIA process. Through your participation, you actively take responsibility for the utilization of our legislation, as well as contributing to ensuring responsible environmental management and decision making. Registration will ensure that you are kept up to date with developments in the EIA process and that you are invited to the relevant meetings.

Please find the registration form on the last page of this document.

Your registration as an I&AP, as well as any comment you wish to make on this BID, need to reach **Hj Geo-Enviro Consulting and Trading Cc** by Friday, 06 January 2022.

For any question please contact the environmental expert on:

**Email: [hjgeoenviro@gmail.com](mailto:hjgeoenviro@gmail.com)**



**REGISTRATION AND COMMENTS SHEET**

**EIA PROCESS FOR THE PROPOSED ANIMAL FEEDLOT IN KAVANGO EAST REGION,  
KAYENGONA TEYA DISTRICT, NAMIBIA**

I request to be registered as an Interested and Affected Party in respect of the proposed project. Please ensure that I receive all updates of information and that I am invited to the meetings, as well as kept fully informed of the EIA process.

Attention: **Joseph Kawina**  
**hjgeoenviro@gmail.com**

Email:

Name:	Telephone:
Organization:	Fax:
Designation:	Email:
Postal address/City:	
My interest in this project:	
Comments and matters of concern:	
Signature:	Date:

Please return this completed document (with all requested details)	
Email: <a href="mailto:hjgeoenviro@gmail.com">hjgeoenviro@gmail.com</a>	

