MEFT APP#: 230125000903

ENVIRONMENTAL ASSESSMENT
SCOPING REPORT
FOR THE CONSTRUCTION AND OPERATION OF AN AGRICULTURAL TRAINING FACILITY AT
OSHIFUKWA VILLAGE, OMUTHIYA CONSTITUENCY, OSHIKOTO REGION

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Title	ENVIRONMENTAL ASSESSMENT (EA) FOR THE CONSTRUCTION AND OPERATION OF AN AGRICULTURAL TRAINING FACILITY AT OSHIFUKWA VILLAGE, OMUTHIYA CONSTITUENCY, OSHIKOTO REGION		
MEFT Application Number	230125000903		
Proponent	NAMIBIA COLLEGE OF TECHNOLOGY AND VOCATIONAL TRAINING P. O Box 6922 KATUTURA, WINDHOEK		
Report date	January 2023 resubmission		
	Name	**Signature**	**Date**
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EXECUTIVE SUMMARY

Namibia College of Technology and Vocational Training (NCTVT), **the proponent**, is a Namibian private Vocational Training Institution, established in 2009. The Vocational Training Institution intends to construct and operate an agricultural Training facility at Oshifukwa village in Omuthiya constituency, Oshikoto Region. NCTVT is registered with the Namibia Training Authority (NTA). The proposed project will be developed on a parcel of land measuring about 9000 m^2 at Oshifukwa Village. The land was granted by the Ondonga Traditional Authority (OTA) to NCTVT after following all the correct communal land acquisition procedures. The Traditional Authority has given NCTVT the permission to construct and operate an agricultural training facility at the village, since it will contribute immensely to capacity building & human resource development in the area and contribute to the economic upliftment of the village. The agricultural training facility intends to provide specialized Vocational Training programs mainly in two streams namely, animal husbandry and crop production both at NQA level 2 and 3 respectively. The agricultural training institution is accredited by the Namibia Qualification Authority (NQA) and is currently offering agricultural courses at its campus in Windhoek. NCTVT intends to expand in offering vocational training courses in other parts of the country and Oshifukwa village, outside Omuthiya town has been identified as the potential place due to its proximity to agricultural activities such as communal livestock and crop farming. NCTVT will provide career and work force development training to the Grade 10 and 12 school leavers. Additionally, the training facility will provide skills to vulnerable members of society who have individual initiatives and can empower themselves. The construction of the proposed development will include listed activities in terms of Namibia's Environmental Management Act (No. 7 of 2007) and EIA regulations (GN 30 of 6 February 2012). Therefore, the proponent appointed Healthy Earth Environmental Consultants CC (HEEC) to apply for an Environmental Clearance Certificate (ECC) from the Office of the Environmental commissioner, Department of Environmental Affairs and Forestry (DEAF) within the Ministry of Environment, Forestry and Tourism (MEFT) is required and this prompted this Environmental Assessment (EA) to be conducted.

List of Acronyms

AIDS	Acquired Immune Deficiency Syndrome
DEA	Department of Environmental Affairs
ECC	Environmental Clearance Certificate
EIA	Environmental Impact Assessment
EMA	Environmental Management Act
EMP	Environmental Management Plan
HEEC	Healthy Earth Environmental Consultants CC
HIV	Human Immunodeficiency Virus
I&APs	Interested and Affected Parties
MEFT	Ministry of Environment, Forestry and Tourism
NCTVT	Namibia College of Technology and Vocational Training
NQA	Namibia Qualification Authority
NTA	Namibia Training Authority
OTA	Ondonga Traditional Authority
PPE	Personal Protective Equipment

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1. PROJECT BACKGROUND

1.1 INTRODUCTION

Namibia College of Technology and Vocational Training (NCTVT), the proponent, is a Namibian private Vocational Training Institution, established in 2009. The Vocational Training Institution intends to construct and operate an agricultural Training facility at Oshifukwa village in Omuthiya constituency, Oshikoto Region. NCTVT is registered with the Namibia Training Authority (NTA). The proposed project will be developed on a parcel of land measuring about 9000 m^2 at Oshifukwa Village. The land was granted by the Ondonga Traditional Authority (OTA) to NCTVT after following all the correct communal land acquisition procedures. The Traditional Authority has given NCTVT the permission to construct and operate an agricultural training facility at the village, since it will contribute immensely to capacity building & human resource development in the area and contribute to the economic upliftment of the village. The agricultural training facility intends to provide specialized Vocational Training programs mainly in two streams namely, animal husbandry and crop production both at NQA level 2 and 3 respectively. The agricultural training institution is accredited by the Namibia Qualification Authority (NQA) and is currently offering agricultural courses at its campus in Windhoek. NCTVT intends to expand in offering vocational training courses in other parts of the country and Oshifukwa village, outside Omuthiya town has been identified as the potential place due to its proximity to agricultural activities such as communal livestock and crop farming. NCTVT will provide career and work force development training to the Grade 10 and 12 school leavers. Additionally, the training facility will provide skills to vulnerable members of society who have individual initiatives and can empower themselves. The construction of the proposed development will include listed activities in terms of Namibia's Environmental Management Act (No. 7 of 2007) and EIA regulations (GN 30 of 6 February 2012). Therefore, the proponent appointed Healthy Earth Environmental Consultants CC (HEEC) to apply for an Environmental Clearance Certificate (ECC) from the Office of the Environmental commissioner, Department of Environmental Affairs and Forestry (DEAF) within the Ministry of Environment, Forestry and Tourism (MEFT) is required and this prompted this Environmental Assessment (EA) to be conducted.

NCTVT, hereinafter referred to as the proponent intends to carry out the following activity:

- **Environmental Assessment (EA) for the establishment and operation of an agricultural training facility at Oshifukwa Village, Omuthiya Constituency, Oshikoto Region.**

Table 1: List of triggered activities identified in the EIA Regulations which apply to the proposed project.

EMA 2007 Legislation	Description of activity	Relevance to the agricultural training facility
Activity description and No(s):	**Description of relevant Activity**	**The proposed portion of the development as per the project description that relates to the applicable listed activity.**
Activity 5.1 (a) (Residential use to industrial or commercial use)	The rezoning of land from residential to industrial use or commercial use	The proposed project includes; rezoning the land

The above activities will be discussed in more detail in the Environmental Scoping Report. Healthy Earth Environmental Consultants CC (HEEC) intends to undertake an independent Environmental Assessment (EA) in order to obtain an Environmental Clearance Certificate (ECC) for the above activities on behalf of the proponent. The competent authority is the Ministry of Environment, Forestry and Tourism: Department of Environmental Affairs (MEFT: DEA).The EA process will be undertaken in terms of the gazzetted Namibian Government Notice No. 30 Environmental Impact Assessment Regulations (herein referred to as EIA Regulations) and the Environmental Management Act (No 7 of 2007) (herein referred to as the EMA). The EA process will investigate if there are any potential significant bio-physical and socio-economic impacts associated with the intended activities. The EA process would also serve to provide an opportunity for the public and key stakeholders to provide comments and participate in the process, i.e. Integrated Environmental Principles will be adhered to.

1.2. SCOPE OF THIS WORK AND ASSESSMENT APPROACH

In line with the environmental regulatory requirements and project registration, HEEC was appointed by NVTC to carry out an environmental scoping assessment for the proposed construction and operation of a new agricultural training facility and related activities. The following is the summary of the activities associated with the preconstruction, construction, operational and rehabilitation stages of the proposed new agricultural training facility that have been considered in the impact assessment as potential sources of impacts (impact factors):

- Existing access road re-grading and creation of a new access road that goes straight to the proposed training facility;

- Vegetation clearing and ground preparation (removing shrubs and leveling);
- Water pipelines (galvanised) establishment to supply water to the training facility
- Digging of trenches for civil works
- Civil construction works of the training facility and associated activities.
- Maintenance (every year);
- Decommissioning / Upgrade of the Facility.

The primary objective of the scoping is to identify potential impacts associated with the different development phase of this project. The assessment consisted of a site visit to the project location and public consultation with the Interested and Affected Parties (I&APs). Comments, suggestions, and inputs received during the consultation process with the neighbours have been attached (**Annexure C**).

1.3 NEED AND DESIRABILITY

Oshikoto Region being one of the densely populated regions in Namibia, has always been one of the top-performing regions in the country when it comes to Grade 10 results. However, even though the pass rate is so high at junior level, results for Senior Secondary level are not as good as for junior level (Ministry of Education, 2010). This is because; the region is faced with congestion especially at secondary level. The establishment of an agricultural training facility is aimed to reduce rural-urban migration of youth in search for tertiary education in towns and cities.

Furthermore, agriculture being the backbone for every economy, agricultural training facilities are needed to train community members in sustainable agricultural practices to promote food security and alleviate poverty. The proposed site is considered ideal given it easy accessibility and because basic infrastructural services such as electricity and water supply are easily accessible and can cater for the proposed development.

1.4 TERMS OF REFERENCE AND SCOPE OF STUDY

The terms of reference for this Environmental Impact Assessment (EIA) are to determine the potential Environmental, Social and Economic Impacts arising from the construction and operation of the proposed agricultural training facility. The scope of this study is in line with the EIA process as stipulated in the Environmental Management Act (Act No.7 of 2007) and its Regulations of February 2012.The study made use of multidisciplinary approach which include: baseline assessment of the project site through collection of both primary and secondary data, consulting relevant stakeholders and Interested and Affected Parties (I&APs) and review of relevant literatures and legal instruments. This resulted in the preparation of this Scoping Report and its Environmental Management Plan (EMP).

1.5 SITE SELECTION PROCESS AND ALTERNATIVE SITES

The site for the establishment of the new agricultural training facilities was selected by the project proponent. The site has been allocated by Ondonga Traditional Authority (OTA) to the proponent after following the correct communal land acquisition process. The proponent is also in possession of the proof of land ownership document. The development and establishment of an agricultural training facilities would provide direct and indirect employment to the local people in and around the towns of Omuthiya. Employment will be created during construction and operation phases of the agricultural training facility. The facility will empower unemployed youth and prevent rural-urban migration. Furthermore, the facility will equip unemployed youth and community members with skills in crop production and animal husbandry and promote entrepreneurship in agriculture. Enhance the quality of life of the community members and employees and contribute to economic development of the area, nearby town, and the region. Other considerations taken into account during the selection process are : that the area is strategically located, easily accessible, not in a prone flooding area and the area has access to water and electricity.

1.6 SUMMARY OF THE IMPACT ASSESSMENT RESULTS

Though the initial set up costs are high during the preconstruction and construction phases of the proposed new agriculture facility, it does offer direct and indirect employment opportunities and capacity development in the receiving towns of Omuthiya. However, minor negative impacts in the form of increased noise and vibration levels, air pollution from dust, potential contamination of ground water with oil and lubricants substances especially during the preconstruction, construction, operation, and rehabilitation phases will be experienced. The following is a summary of the likely positive impacts that have been assessed for the different phases of the proposed agricultural facility:

i. Natural Environment: Conservation of environment through planting of trees and improving aesthetic by planting floristic plants and landscaping at the agricultural training facility.
ii. Economic: Creation of job opportunities, capacity development, promotion of development activities, creation of market and provision of quality vocational education.
iii. Social Impact: Improvement of the living standard of workers through employment, promotion of community development through corporate social responsibility and promoting social development since the area is in the vicinity of the township.

The following is a summary of the likely negative impacts that have been assessed for the different phases of the proposed agricultural training facility:

i. Fugitive dust and air pollution as a result of particles emanating from construction activities, (Likely impacts are high but localized and however dust suppressing measures can be employed).
ii. Impact to soil: soil erosion and degradation (Likely impacts are low and localized).
iii. Noise (Likely impacts are low as the site is located few kilometers the main road).
iv. Ecological and biodiversity loss (Likely impacts are localized and low).
v. Health and safety (Overall likely impacts are low with correct PPE).
vi. Solid and hazardous waste generation during construction and operational phases (Likely impacts are low with a solid waste management plan).
vii. Socioeconomic (Likely negative impacts are low)
viii. Water pollution risk from oil and grease spills and leakages (Likely impacts are low with a wastewater mitigation regime as prescribed in the environmental management plan and no interference with the ground water table during excavation of trenches).

1.7 CONCLUSION AND RECOMMENDATIONS

It can be concluded that positive impacts for the construction and operation of the new agricultural training facilities and related activities outweigh the negatives impacts identified during the process of EA. In relation to the project mitigation and environmental management measures that will be incorporated during construction and operation phases; and the developments' input to the proponent and the general society, the project is considered beneficial and important. Major concerns should nevertheless be focused towards minimizing the occurrence of impacts that would degrade the general environment. This can however be overcome through close follow-up and implementation of the recommended Environmental Management and Monitoring Plans. Based on the environmental assessment of both the identified positive and negative impacts undertaken for the proposed new agricultural training facilities and related activities, the positive effects of this project significantly outweigh the negative ones. Most of the negative impacts are localized especially in terms of biodiversity loss, dust and water pollution, mitigation measures as prescribed in the Environment Management Plan should be adhered to, to minimize these effects as much as possible. The construction and operation of the new agricultural training facilities and permission to carry out the related activities have been obtained through following the proper channels and the surrounding community members have been incorporated into the project so as to enable them to sustain their livelihoods.

It is hereby recommended that the proposed construction and operation of the agricultural training facility shall go ahead. The proponent Namibia College of Technology and Vocational Training shall be issued with the

Environmental Clearance Certificate for the construction and operation of an agricultural training facility. The Environmental Management Plan and the proposed mitigation measures must be adhered to and it is the responsibility of the proponent to implement them so as to enhance the positive impacts and reduce the negative effects to a minimal. Healthy Earth Environmental Consultants CC will periodically carry out environmental audits to assure adherence to the EMP of the proposed project.

2. PROJECT RATIONALE

The aims of the proposed project are to:

- Promote, coordinate, and provide training to youths as well as members of the society.
- Offer standard training through practical training and exchange programs to students from other training facilities or institutions.
- Assist students or learners prepare for internal and external assessments as well as to be a national assessment center.
- Empower unemployed youth and prevent rural-urban migration through training.
- Equip unemployed youth and community members with skills in crop production and Animal husbandry to see the entrepreneurial side of agriculture and create jobs for themselves.
- Create job opportunities for unemployed Agriculture graduates and unskilled members of the community.
- Contribute to economic development of the area, nearby towns and the region.
- Enhance the quality of life of the community members and employees-poverty alleviation.

3. PROJECT LOCATION

The proposed agricultural training facility will be constructed on communal land at Oshifukwa Village located approximately 3 Km west of Omuthiya town, Omuthiya Constituency in Oshikoto Region (**Figures 1, 2 & 3)** below for the proposed site geo-reference. The proponent has been granted a permission by the traditional authority through the village headman. The access to the proposed agricultural training facility will be gained from the existing B1 road (Omuthiya-Ondangwa road) west of Omuthiya town.

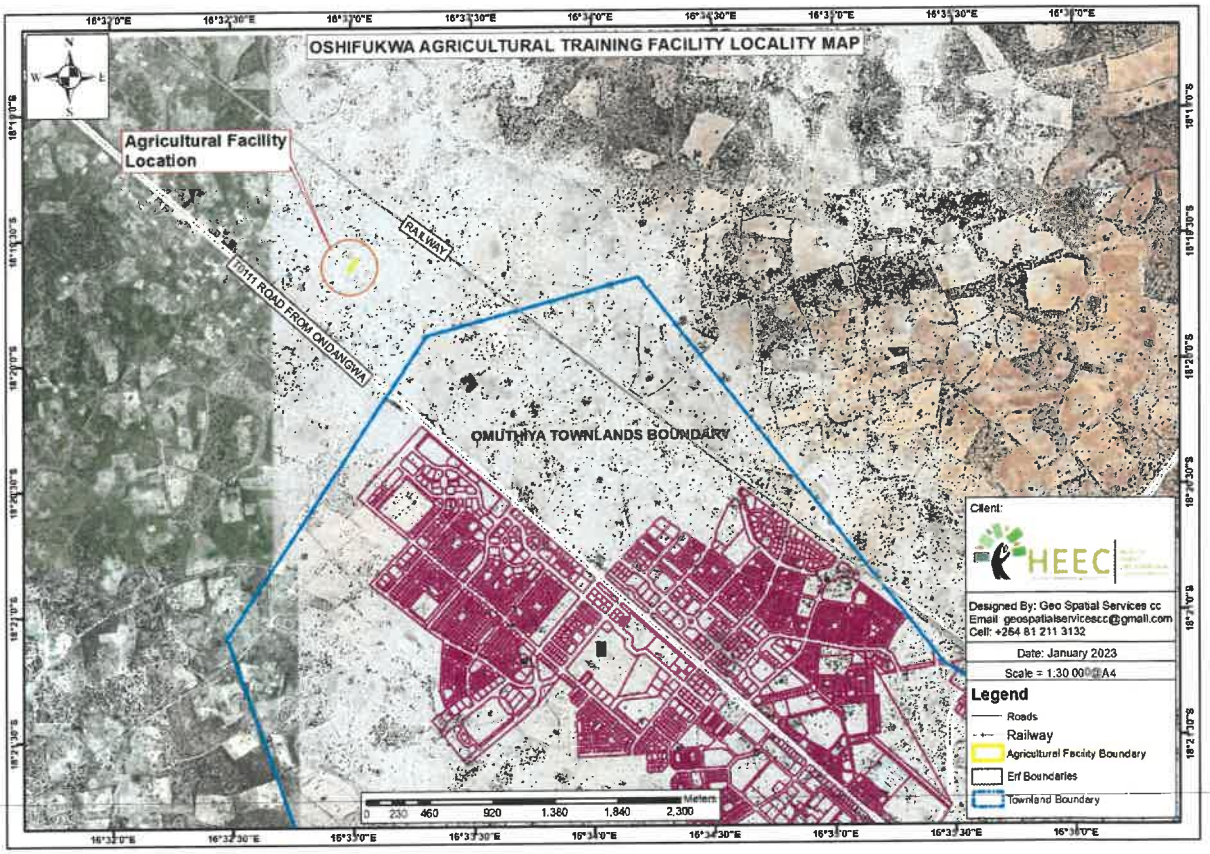

Figure 1: Locality map of the proposed Agricultural Training Facility for Namibia College of Technology and Vocational Training CC at Oshifukwa Village, Oshikoto Region, (HEEC, Google Earth, 2023).

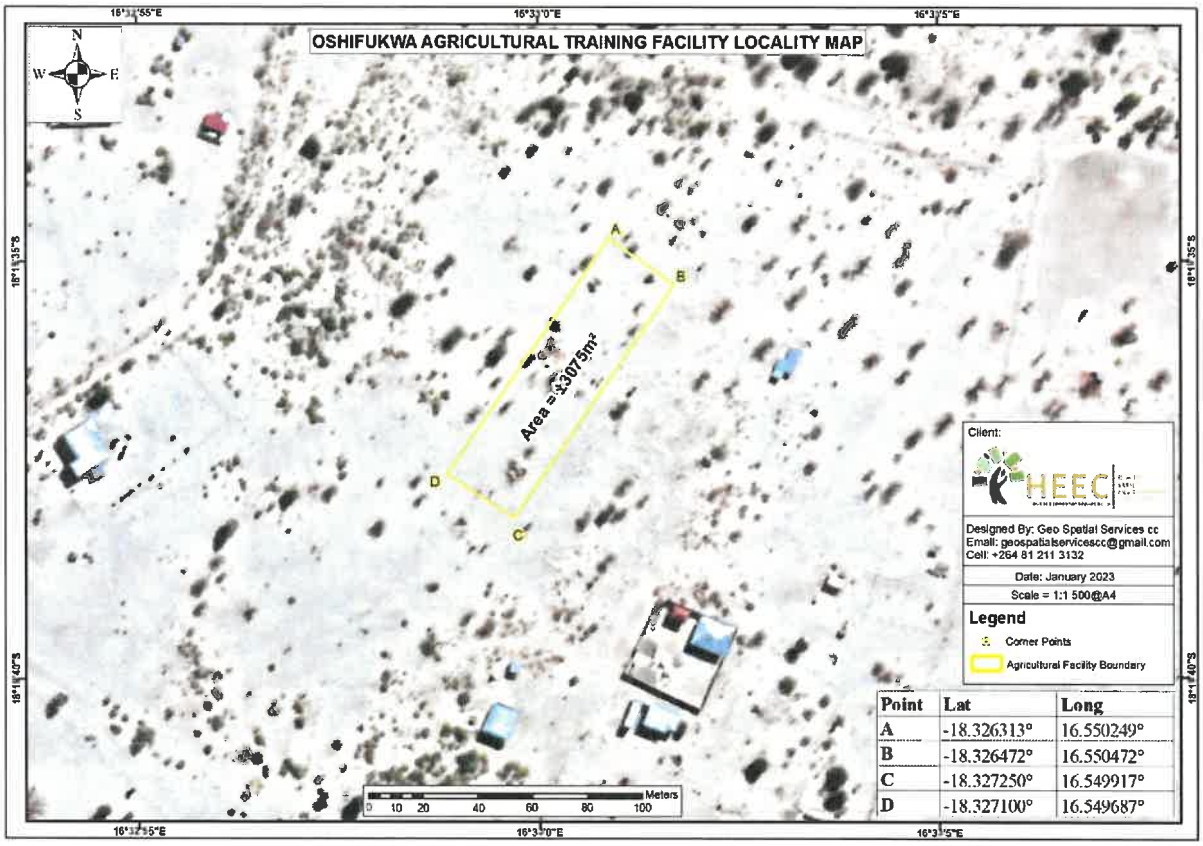

Figure 2: Coordinates of the proposed Agricultural Training Facility for Namibia College of Technology and Vocational Training CC at Oshifukwa Village, Oshikoto Region, (HEEC, Google Earth, 2023).

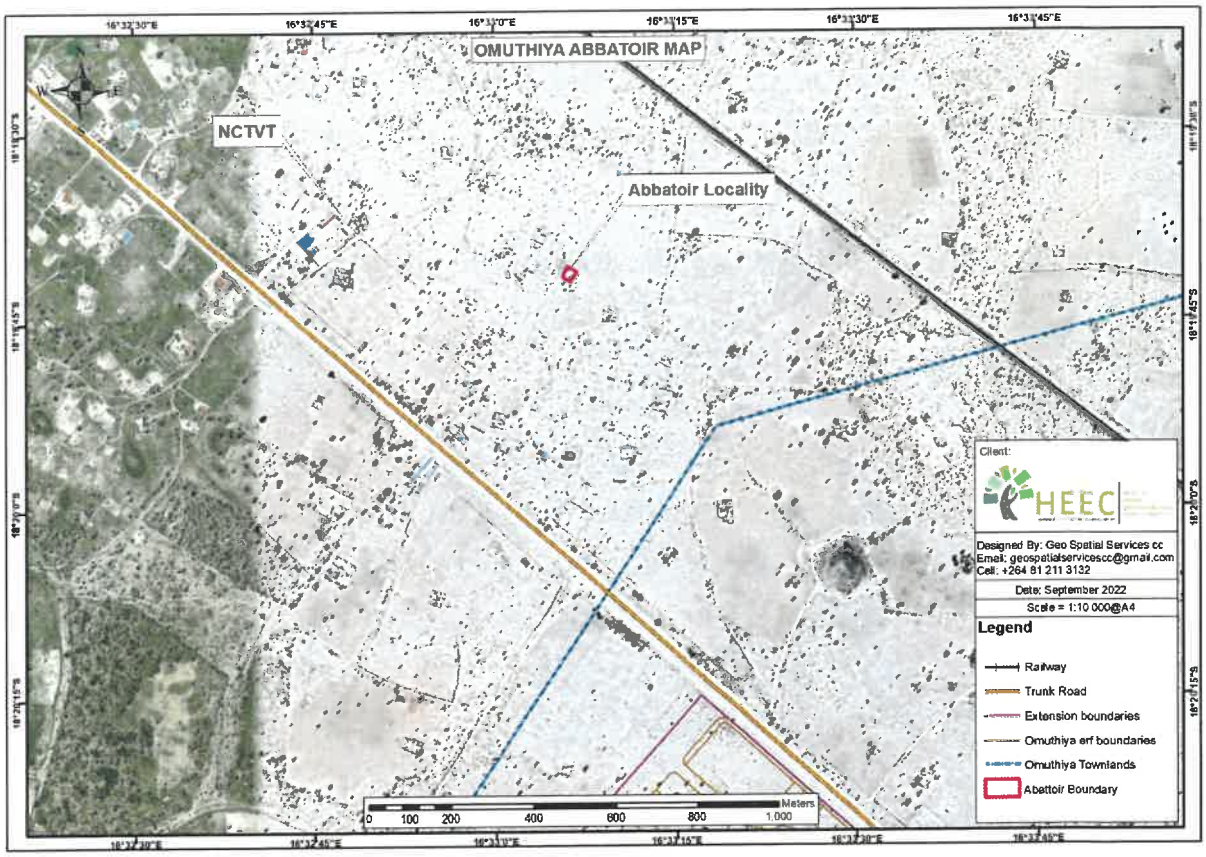

Figure 3: Locality map of the proposed Abattoir Facility for Namibia College of Technology and Vocational Training CC at Oshifukwa Village, Oshikoto Region, (HEEC, Google Earth, 2023).

4. PROPOSE PROJECT ACTIVITIES

The proposed development entails the construction and operation of an agricultural training facility as well as associated facility. The parcel of land has been rightfully allocated to the proponent after following the correct communal land acquisition procedures. The project involves the establishment and operation of a new agricultural facility. The facility will comprise of an administration block, library, laboratory, dining hall, a workshop, girls' and boys' hostels, female and male supervisor houses, ablution facilities. In general, the design of the project has and/will optimize the best use of the available technology to prevent or minimize potentially significant environmental impacts associated with the project and to incorporate efficient operational controls. Since Namibia College of Technology and Vocational Training has been accredited by the Namibia Qualifications Authority (NQA) the qualification evaluation criteria's will be optimised.

3. LEGAL REGULATORY FRAMEWORK

This section provides a review of applicable and relevant Namibian legislation, policies and guidelines regarding the environment which were considered while conducting the Scoping/EIA report for the proposed project.

Table 3: Legislation applicable to the proposed establishment and operation of the Agricultural training facility at Oshifukwa Village in Oshikoto Region

Legislature/Policies	Relevant provision	Project Implication
The Constitution of the Republic of Namibia	Article 95(1) of the Constitution of Namibia states that: "The State shall actively promote and maintain the welfare of the people by adopting policies aimed at the maintenance of ecosystems, essential ecological processes and biological diversity of Namibia and utilization of living natural resources on a sustainable basis for the benefit of all Namibians, both present and future". Article 91 (c) provides for duty to guard against "the degradation and destructions of ecosystems and failure to protect the beauty and character of Namibia".	To undertake the EA in order to maintain the ecological process and diversity of ecosystem. The proponent shall advocate for sound environmental management as stipulated in the Constitution through the implementation of the environment management plan prepared for this project. The operation for an Agricultural Training Facility should be done in a sustainable manner to ensure that the beauty of the area and or Namibia is maintained.
Environmental Management Act No. 7 of 2007 (EMA)	Section 2 outlines the objective of the Act which is to promote the sustainable management of the environment and the use of natural resources by establishing principles for decision-making on matters affecting the	The management of this project must be informed by the EMA.

	environment; to provide for a process of assessment and control of projects which may have significant effects on the environment. The Act gives legislative effect to the Environmental Impact Assessment Policy. Additionally, the act also provides procedure for adequate public participation during the environmental assessment process for the interested and affected parties to raise and register their opinions and concern about the proposed project.	
EIA Regulations GN 28, 29, and 30 of EMA (2012)	GN 29 Identifies and lists certain activities that cannot be undertaken without obtaining an environmental clearance certificate. GN 30 provides the regulations governing the environmental assessment (EA) process.	Construction and clearing of vegetation are one of the listed activities hence this EA study.
Environmental Assessment Policy of Namibia (1995)	The Policy seeks to ensure that the environmental consequences of development projects and policies are considered, understood and incorporated into the planning process, and that the term ENVIRONMENT is broadly	This EA should consider the term "Environment".

	interpreted to include biophysical, social, economic, cultural, historical and political components.	
The Occupational Safety and Health Act No. 11 of 2007;	Safety risk is a statistical concept representing the potential of an accident occurring, owing to unsafe operation and/or environment. In the working context "SAFETY" is regarded as "free from danger" to the health injury and to properties. Occupational Health is intended at the promotion and maintenance of the highest degree of physical, mental and social wellbeing of workers in all occupations. This is done by ensuring that all work-related hazards are prevented and where they occur, managed.	The construction and operation of an agricultural training facility should comply with the guidelines outlined.
Draft Procedures and Guidelines for conducting EIAs and compiling EMPs (2008)	Part 1, Stage 8 of the guidelines states that if a proposal is likely to affect people, certain guidelines should be considered by the proponent in the scoping process.	The EA should incorporate the aspects outlined in the guidelines.
Public Health Act No. 36 of 1919	The Act serves to protect the public from nuisance and states that no person shall cause a nuisance or shall suffer to exist on any land or premises owned or occupied by him or of which he is in charge any	The construction and operation of an agricultural training facility should adhere to this regulation.

	nuisance or other condition liable to be injurious or dangerous to health.	
Namibian Vision 2030	Vision 2030 states that the solitude, silence and natural beauty that many areas in Namibia provide are becoming sought after commodities and must be regarded as valuable natural assets.	Care should be taken that the construction and operation of the Agricultural Training facility; do not lead to the degradation and destruction of the habitat.
Water Resources Management Act No. 11 of 2013	Section 13(1) deals with the prohibition of pollution of underground and surface water bodies. The Act also provides provision for the control, conservation and use of water for domestic, agricultural, urban and industrial purposes. In addition, the Act clearly gives provision that pertain with license or permit that required abstracting and using water as well as for discharge of effluent.	The pollution of water resources should be avoided at all costs during both the construction and operation of an Agricultural Training facility. The use of mobile toilets during the construction phase should be properly positioned while placement of permanent ablution facilities for the institution should be far from watercourse to avoid any see page into existing water course, or infiltration into soil.
The Ministry of Environment and Tourism (MET) Policy on HIV & AIDS	MET has recently developed a policy on HIV and AIDS. In addition, it has also initiated a programme aimed at mainstreaming HIV and gender issues into environmental impact assessments.	The proponent is required to adhere to the guidelines provided to manage the aspects of HIV/AIDS.
Communal Land Reform Act 5 of 2002	Section 36 B. Stipulates the allocation of rights in respect to	The proponent acquired land from the relevant traditional authority.

	communal land to anyone who seek to occupy land for the purposes of providing public services.	
Labour Act No. 11 of 2007		Given the employment opportunities presented through the construction and operation of an Agricultural Training facility, compliance with the law by contractors and sub-contractors is necessary.
Public and Environmental Health Act of 2015	This Act (GG 5740) provides a framework for a structured uniform public and environmental health system in Namibia. It covers notification, prevention and control of diseases and sexually transmitted infections; maternal, ante-natal and neo-natal care; water and food supplies; infant nutrition; waste management; health nuisances; public and environmental health planning and reporting. It repeals the Public Health Act 36 of 1919 (SA GG 979).	The construction and operation of an agricultural training facility should comply with these legal requirements.
Hazardous Substances Ordinance No. 14 of 1974	This ordinance gives provision to control the handling of hazardous substance in all circumstances, such as manufacturing, imports and exporting of these to ensure human and environmental safety.	The proponent should comply with this legislation.
Nature Conservation Ordinance No. 4 of 1975	Chapter 6 provides for legislation regarding the protection of indigenous plants.	Indigenous and protected plants must be managed within the legal confines.

Soil Conservation Act 6 of 1969 Ministry of Agriculture, Water and Forestry	The Act advocates for the prevention and combating of soil erosion; the conservation, Improvement and manner of use of the soil and vegetation; and the protection of water sources.	Soils should not be polluted or left un-rehabilitated.
National Heritage Act No. 27 of 2004	The Act provides for the protection and conservation of places and objects of heritage significance and the registration of such places and objects. Part V Section 46 of the Act prohibits removal, damage, alteration or excavation of heritage sites or remains, while Section 48 sets out the procedure for application and granting of permits.	Any material of cultural, heritage or archaeological importance shall be reported in accordance with this act.
Higher Education Act 26 Of 2003	Section 25 (1) stipulates how a private higher education institution should go about registering.	This regulation must be adhered to in its entirety.
Vocational Education and training Act 1 of 2008	The act entrusts NTA with the effective regulation and funding of the provision of Vocational Education and Training in Namibia.	The institution and its programs are already registered with NTA.
Forestry Act 12 of 2001 & Nature Conservation Ordinance 4 of 1975	Prohibits the removal of protected plants species. The Act further requires any project activity that will result in clearance of certain Forests to obtain a Forest Permit before-hand.	These regulations should be adhered to for the conservation of vegetation. Species protected under this Act must be conserved as per requirements
Pollution Control	The Bill aims to regulate and	All activities shall be conducted within the

and Waste Management Bill	prevent the discharge of pollutants to air and water as well as providing for general waste management. The Bill will be licensed is charge into watercourses and emissions into the air.	framework of this Bill

4. APPROACH TO THE STUDY

This Environmental Scoping Assessment Report included the following activities: Desktop study, site assessment (site visit), public participation and scoping. In line with the Environmental Management Act (No 7 of 2007), an Environmental Scoping Assessment needs to be compiled as part of the process to affect the proposed establishment and operation of the agricultural training facility. The aim of this report is to provide all the relevant information on the socio-economic and bio-physical conditions in which these activities might take place, inform the local community and any I&APs about the proposed project, and to establish the significance of impacts that these activities might have on the natural and socio-economic environment. A site visits to the sites was conducted to collect information on the natural and socio-economic environment. A call for public participation meeting was made through the placement of advertisements in two local newspapers for two consecutive weeks (**see Annexure D**) but no comments were received during the commenting period.

Table 4: List of prompted activities identified in the Environmental Assessment Regulations which apply to the proposed project.

EMA 2007 Legislation	Description of activity	Relevance to the agricultural training facility
Activity description and No(s):	**Description of relevant Activity**	**The proposed portion of the development as per the project description that relates to the applicable listed activity.**
Activity 5.1 (a) (Residential use to industrial or commercial use)	The rezoning of land from residential to industrial use or commercial use	The proposed project includes; rezoning the land

5. DESCRIPTION OF THE CURRENT ENVIRONMENT

5.1 Climate baseline

The annual average rainfall of Oshikoto Region ranges from 350 mm in the south-west to 550 mm in the north-east. Usually, most of the rain is expected between November and April with a peak in February. Temperatures are relatively high in summers, reaching up to 40° C (Mendelsohn, 2003). During April to October, the Oshikoto region does not receive any rain and the average minimum temperature range between 4° and 20° C. Generally, the summers are hot, and winters are mild but the winter nights are very cold.

5.2 Topography Baseline

The topography of Oshifukwa village and the surrounding areas of Omuthiya is characterized by flat plain, which forms part of the Etosha depression. The most prominent topographic features of the central northern regions are: the Etosha pan and its surrounding saline plains in the south, the Cuvelai delta feeding into the Etosha pan from the north and the Kalahari sand plateau to the east and west of the Cuvelai delta.

5.3 Geology

The geology of the area is characterized by Kalahari deposits, being between 200 m (in the south-east at Oshivelo) and up to 400 m (in the NW near Okankolo) deep (Geological Survey, 1980), are formed by various sandstone to clay deposits of the Beiseb formation, the Olukonda Formation and the Andoni formation (all of the Kalahari group). The red-brown sands found in the south-eastern parts are windblown sands of a more recent age.

5.4 Hydrology baseline

The Cuvelai delta (better known as the Oshana system between Ondangwa and Ruacana) was formed by a varying regime of flooding, slow-flowing water, and the depositing of wind-blown sands from the east. In time shallow channels formed the present *oshanas*. The soils are rich in clay and loam, often with a high saline content. The western *oshanas* are fairly active, flooding annually with the *efundja*. From Ondangwa eastwards, the oshanas are rudimentary channels, which only flood due to local run-off (Cunningham et al. 1992). The Cuvelai system is characterized by shallow depressions or *oshanas* which fill up with surface water during the rainy season. Most of the land surface of this basin is very flat dipping from some 1150 m above sea level. All surface water within the basin flows towards the Etosha Pan, due to the structure of the basin. These seasonal flows provide fishing grounds, renew pastures and recharge ground water supplies. Starting from the border of the marginal areas of the Cuvelai basin, water salinity increases proportionally

towards the central areas of the basin due to the high concentrations of chlorides, sodium, Fluoride and sulphates. Good quality underground water predominates along the southern edge of the Etosha pan, in the Tsumeb sub-basin, in the Niipele sub-basin to the southwest basin of Olushandja and in the area of Uukwaluudhi south-east of Ruacana respectively.

Locally, there are seasonal superficial aquifers in central areas of the basin after rainfall in the Cuvelai surface drainage system. The aquifers in the northern areas of Omusati region belong to the Kalahari Sequence and more especially to the Omusati Multi-Zone Aquifers (KOM) and the Oshana aquifer (KOS). The KOM aquifers lie within the unconsolidated or semi-consolidated sediments of the Kalahari Sequence, mainly consisting of sand, clay and limestone and evaporate deposits. Water quality is poor because of salinity; however, there are local shallow freshwater deposits. The KOM aquifer is distinguished from the KOS aquifer because it is not replenished by the Cuvelai surface drainage system. Replenishment comes from the lateral water courses through the western aquifers. The subsoil sediment is high due to the deterioration of the water quality coming from the center of the basin.

5.5 Biodiversity baseline

5.1 Fauna diversity

The proposed area for the establishment and operation of an agricultural training facility is situated in the proximity of the townlands and there are no wild animals but since the project area is a communal area domesticated livestock occur.

5.2 Flora diversity

The proposed area is characterized by mixed trees, shrub sand grass species. The area has limited vegetation, some of the indigenous plant's species recorded in the proposed project area are listed in the table below:

Table 5: Plant species occurring on the proposed site

Species	Occurrences	Protection status	Conservation categories
Croton gratissimus	√	-	-
Albizia anthelmintica	√	F	-
Terminalia prunioides	√	F	-
Boscia albitrunca	√	F	-
Ximenia americana	√	-	-

Pechuel-loeschea leubuitziae	√	-	-
Ficus sycomorus	√	F	-
Acacia arenaria (Vachellia arenaria)	√	-	-
Vangueria sp	√	-	-

Keys: **LC**- Less Concern; **E**-Endemic; **NE**-Near Endemic; **P**- Protected; **F**- Forestry protected under Forestry Management Act of 2001

Since the area is poorly vegetated due to anthropogenic activities taking place in the area. There are no plans of cutting down any trees except for the removal of few shrubs and grass during the construction phase. However, the proponent intends to landscape the area using indigenous plants.

Figure 4: *Albizia anthelmintica* (protected species) recorded in the project area (HEEC, 2022)

5.3 Alien Plants

The alien plants were taken into consideration during the botanical assessment. However, there were no alien plants recorded in the area.

6. BULK SERVICES AND INFRASTUCTURES

6.1 Water Supply

The proposed area has access to clean drinking water being supplied by NamWater through a major water pipeline between Omuthiya and Ondangwa. The proposed area for the agricultural training facility is connected to a supply point branching from the main pipeline.

Figure 5: Water available at the proposed project area (HEEC,2022)

6.2 Electricity Supply

The proposed area is already electrified and power will be sourced from existing infrastructure Northern Region Electricity Distributor (NORED) power-line, the custodian of all electricity related activity within the town-land of Ongwediva. The existing power supply is substantial for the proposed development. In long term

the proponent is of the intention to supplement the energy supply by installing solar panels on the rooftops of the facility, this will reduce the use of electricity and cut-down on the carbon footprint.

Figure 6: Existing electricity infrastructures (powerlines) in the area (HEEC, 2022)

6.3 Accessibility to the Site

The facility will be serviced by an existing access road which branches from the B1 which stretches from Omuthiya to Ondangwa and is currently being used by the residents. The road will be upgraded to a gravel road and will be graded on a regular basis. Access to the vocational training centre will be gained from the existing internal road network in the area.

7. SOCIO-ECONOMIC

7.1 Regional information

The proposed development will be situated in Oshifukwa Village approximately 3 Km west of Omuthiya town in Oshikoto Region in the northern part of Namibia. Oshikoto Region is one of the most densely populated regions in Namibia with a total population size of 181,973 and a population density of 4.7 people per Km^2. About 87% of the population live in rural areas (Namibia Population and Housing Census, 2011).

7.2 Economic Activities

The main economic activities in Oshikoto Region are mainly agriculture, tourism, and mining. Agricultural activities, both communal and commercial, are the main source of income. Most of the households in the communal area engage in subsistence farming. Commercial farming is mostly practiced beyond the veterinary cordon fence also known as the red line. The sale of agricultural products in the region is mainly dominant in the local markets. The underground water which is found in the vicinity of Tsumeb and Oshivelo makes the region to be main producing region of fruits and vegetables (Oshikoto Regional Development Profile, 2011).

7.3 Unemployment

The unemployment rate for both genders in Oshikoto Region is recorded at 36.2 %. According to the latest labour force survey report (NSA, 2018), the overall unemployment rate is higher for males (37.1%) than females (35%).

7.4 Tourism

Tourism is one of the major contributors to the region's economy. Oshifukwa is in close proximity of tourist attraction places such as Etosha National Park, Okashana water spring and King Nehale conservancy and lodge.

7.5 Education

Education is an important catalyst to the socio-economic development of any region as it contributes highly to the literacy, knowledge and competence needed in the daily functioning of individuals and communities. The education sector in Oshikoto region covers the pre-primary education, primary education, secondary education, and adult education. According to the Oshikoto 2011 regional profile, it was recorded that 38.7% of the population had completed their primary education and 15.1% had completed their secondary education before leaving school. About 41.9% had not completed primary school and only 3% of the population had completed their tertiary education. As of 2011, Omuthiya constituency had a combined total of 27 schools which translates to 12% of the total number of schools in the region. The 27 schools in Omuthiya constituency comprise of 15 combined schools, 9 primary schools, 2 secondary schools and only 1 junior primary school (Oshikoto Regional Development Profile, 2011).

8. ARCHAEOLOGICAL AND HERITAGE RESOURCES

There are no known heritage sites in the vicinity of the proposed project area. However, if any heritage object(s) that may be encountered during any stage of the development, the National Heritage Council of Namibia should be informed.

9: PUBLIC PARTICIPATION PROCESS

In terms of Section 21 of the EIA Regulations a call for open consultation with all I&APs at defined stages of the EIA process is required. This entails participatory consultation with members of the public by providing an opportunity to comment on the proposed project. Public Participation has thus been incorporated in the requirements of Namibia's legislation, but also takes account of international guidelines, including Southern African Development Community (SADC) guidelines and the Namibian EIA Regulations. Public participation in this project has been undertaken to meet the specific requirements in accordance with the international best practice. Please see **Table 4** below for the activities undertaken as part of the public participation process.

Table 4: Table of Public Participation Activities

TASK	DESCRIPTION	DATE
Notification - regulatory authorities and IAPs		
IAP identification	Notice for Environmental Impact Assessment for public meeting.	11 – 24 March 2022 (Confidente & Windhoek Observer Newspapers)
Distribution of BID	Background Information Document (BID) for the establishment and operation of an agricultural training facility at Oshifukwa Village, Omuthiya, Oshikoto Region.	To registered I&APs
Site notices	Notice for Environmental Impact Assessment for public comments	Inception Site Visit
Newspaper Advertisements	Notice for Environmental Impact Assessment for public meeting Confidente and Windhoek Observer.	11 – 24 March 2022 (Confidente & Windhoek Observer Newspapers)
Public Participation Meeting	Public meeting	Only if there is interest from the registered I&APs

The public was given time to comment from **11 March 2022** to **08th April 2022.** A Background Information Document was prepared by Healthy Earth Environmental Consultants CC and made available to stakeholders as part of the public consultation requirements preceding the development of the site specific Environmental Scoping Report. This was in line with the environmental regulatory requirements and project registration. Due to lack of interest from I&AP a public meeting could not take place. However, consultation process with the neighbours and the traditional authority were carried out and the consent letters were granted (**see Annexure B & C**).

10: Assessment Methodology

This chapter intends to describe the assessment method utilized in determining the significance of the construction and operation impacts of the establishment and operation of an Agricultural training facility.

To deal with uncertainties in a comparable manner, a standardized and internationally recognized methodology has been developed. The accepted method is applied in this study to assess the significance of the potential environmental impacts of the proposed development. This is illustrated in **Table 4** below.

Table 4: Impact Assessment Criteria

CRITERIA	CATEGORIES
Impact	**Description of the expected impact**
Nature **substantiate the type of effect**	**Positive**: The activity will have a social / economical / environmental benefit. **Neutral**: The activity will have no effect **Negative**: The activity will have a social / economical / environmental harmful effect
Extent **Substantiate the scale of the impact**	**Site Specific:** Expanding only as far as the activity itself (onsite) **Small:** restricted to the site's immediate environment within 1 km of the site (limited) **Medium:** Within 5 km of the site (local) **Large:** Beyond 5 km of the site (regional)
Duration **Predicts the lifetime of the impact.**	**Temporary:**< 1 year **Short-term:** 1 – 5 years **Medium term:** 5 – 15 years **Long-term:**>15 years (Impact will stop after the operational or running life of the activity, either due to natural course or by human interference) **Permanent:** Impact will be where mitigation or moderation by natural course or by human interference will not occur in a particular means or in a particular time period that the impact can be considered temporary
Intensity **Describe the magnitude (scale/size) of the Impact**	**Zero:** Social and/or natural functions and/ or processes remain unaltered **Very low:** Affects the environment in such a way that natural and/or social functions/processes are not affected **Low:** Natural and/or social functions/processes are slightly altered **Medium:** Natural and/or social functions/processes are notably altered in a modified way **High:** Natural and/or social functions/processes are severely altered and may temporarily or permanently cease
Probability of occurrence	**Improbable:** Not at all likely **Probable:** Distinctive possibility

Describe the probability of the Impact occurring	**Highly probable:** Most likely to happen **Definite:** Impact will occur regardless of any prevention measures
Degree of Confidence in predictions **State the degree of confidence in predictions based on availability of information and specialist knowledge**	**Unsure/Low:** Little confidence regarding information available (<40%) **Probable/Med:** Moderate confidence regarding information available (40-80%) **Definite/High:** Great confidence regarding information available (>80%)
Significance Rating **The impact on each component is determined by a combination of the above criteria.**	**Neutral:** A potential concern which was found to have no impact when evaluated **Very low:** Impacts will be site specific and temporary with no mitigation necessary. **Low:** The impacts will have a minor influence on the proposed development and/or environment. These impacts require some thought to adjustment of the project design where achievable, or alternative mitigation measures **Medium:** Impacts will be experienced in the local and surrounding areas for the life span of the development and may result in long term changes. The impact can be lessened or improved by an amendment in the project design or implementation of effective mitigation measures. **High:** Impacts have a high magnitude and will be experienced regionally for at least the life span of the development or will be irreversible. The impacts could have the no-go proposition on portions of the development despite any mitigation measures that could be implemented.

11: Assessment of Potential Impacts and possible Mitigation Measures

11.1 Introduction

The main purpose of this chapter is to identify and assess the most significant (biophysical and socio-economic) environmental impacts which may occur due to the construction and operation of an agricultural training facility at Oshifukwa Village, Omuthiya Constituency, Oshikoto Region. Mitigation measures of possible impacts will be provided in order to minimize the extent of the impacts resulting from various activities during the construction and operation phases.

11.2 Impacts during the construction phase of an agricultural training facility

The impact during the construction phase is primarily impacting on the biophysical and socio-economic environment that would occur during the construction of the proposed facility. These impacts are temporary in nature, but they may have long-lasting effects. The construction phase impacts could potentially include:

11.3 Impacts on the biophysical environment during construction phase

11.3.1 Dust and Emission impacts

During the construction phase, the movements of construction vehicles and excavations are expected to generate fugitive dust and contribute to the emission of harmful gases such as carbon monoxide and Sulphur oxides into the atmosphere. These gases are dangerous to the environment and are a threat to human health. Since the proposed project site is located close to where people live, appropriate mitigation measures should be implemented during the construction phase to reduce the effects of dusts and emissions to the environment.

11.3.1.1 Impact Assessment

Dust and emission impacts for the proposed development are considered to be Low (Negative) without mitigation measures and Very-Low (Negative) with mitigation measures.

11.3.1.2 Mitigation Measures

The following mitigation measures are recommended to reduce the impacts of dust and emissions on the environment:

- The contractor should provide construction workers with dust masks and face shields when performing a task that generates dust and or any kind of emissions.
- Dampen the roads or dusty places with water to suppress the dust.
- Excavations and other dust generating activities should be avoided under high wind conditions.
- Stockpiles of construction materials, building sand etc. should be covered or placed in sheltered areas where they are not exposed to erosive effects.

12. Littering or generation of wastes

Wastes in the form of pipe cuttings, electrical cuttings, packaging materials, oil spills and other construction wastes may be generated during the construction phase.

12.1 Impact Assessment

The impacts of the generation of waste during the construction phase are considered to be Medium-Low (Negative). However, with appropriate mitigation measures these impacts can be reduced to Negligible (Negative).

12.1.1 Mitigation Measures

Below are the mitigation measures recommended to reduce the impacts of wastes:

- The contractor or proponent should ensure that there are wheelie bins on site for the disposal of construction waste.
- Bins should be emptied regularly by a reputable service provider at designated landfill at Omuthiya.
- All construction wastes should be disposed off-site at approved waste management facility at Omuthiya.
- The contractor should sensitize workers on waste handling, segregation, and disposal to avoid incorrect disposal of wastes.

13. Storage and utilization of hazardous substances

The use and storage of hazardous substances such as paints and oils during the construction phase may have negative impacts on the environment if used or stored inaccurately. Hazardous substances may cause injuries or ill-health because of their toxic, corrosive, and irritant in nature.

13.1 Impact Assessment

The impact of storage and utilization of hazardous substances is considered to be **Low (Negative)** impacts on the environment. The following mitigation measures should be implemented for the significance rating to be dropped to **Very-Low (Negative) Impact**.

13.1.1 Mitigation Measures

The following mitigation measures are recommended to reduce the impacts of wastes on the environment:

- It is highly recommended that construction workers use PPEs when handling hazardous substances.
- The storage of hazardous substances should be done in unreactive containers and in places where there is no direct sunlight.
- Containers holding hazardous substances should be inspected frequently and if any leaks are observed, proper measures should be taken as soon as possible.
- Smoking near storage room or near containers holding hazardous substances should not be allowed.
- The international standards procedures associated with the handling of hazardous substances should be known by all the workers.
- Hazardous wastes should be stored in separate containers and should be disposed-off correctly.

14. Impacts on surface water

There are no surface water bodies in the vicinity of the proposed site however; surface water contamination may occur as surface water run off if construction occurs during the rainy season. Contaminants such as petroleum, chemicals, dust and other hazardous substances may contaminate surface water. Contaminants in the form of oil leakages, lubricants and grease from construction machinery and equipment may also contaminate surface water.

14.1 Impact Assessment

Since there are no surface water bodies in the vicinity of the proposed site, the impact of construction activities on surface water is considered to result in **Low (Negative)** impact. By implementing the following mitigation measures it will be possible to reduce the impacts to **Very-Low (Negative).**

14.1.1 Mitigation Measures

- In case of spillages of hazardous substances such as paints, oils, fuel or cleaning solvents, clean up should be done immediately, stored and transported off to a designated hazardous waste disposal/management facility.
- Use drip trays, lining or concrete floors as soon as leaking of oils is observed from construction vehicles.
- Prevent discharge of pollutants such as cements, concrete, chemicals and hydrocarbons into the streams or any other water body.
- Prevent contamination runoff from the construction site from entering the water bodies by all means.
- Provide ablution facilities to construction workers and place them 30m away from the water bodies and ensure that they are properly maintained.
- When necessary, washing of equipment should be done in such a way that surface water is not contaminated and only use environmentally friendly detergents.
- It is recommended that construction takes place during drier months to avoid flooding and surface water running off into water bodies.

15. Groundwater Impacts

Ground water quality could be impacted through leachate of petroleum, chemicals and other hazardous substances. Leaks, spills or overflows of portable toilets could also contaminate groundwater.

*15.*1 Impact assessment

The impact of the construction of an agricultural training facility is considered to result in a **Medium (Negative)** impact on the ground water. The implementation of the following mitigation measures would be possible to reduce the impacts to **Low (Negative).**

15.1.1 Mitigation Measures

- In case of spillages of hazardous substances such as paints, oils, fuel or cleaning solvents, clean up should be done instantly.
- In case of spillage, the contaminated soil must be properly and timely rehabilitated.
- Use drip trays, lining or concrete floors as soon as leaking of oils is observed.
- Provide ablution facilities to construction workers and place them 30m away from the water bodies and ensure that they are properly maintained.
- Properly use and maintain on-site septic system.
- Septic tank should be inspected regularly for early detection of overflows.
- When necessary, washing of equipment should be done in such a way that ground water is not contaminated and only use environmentally friendly detergents.

16. Soil Impacts

If construction takes place during the rainy season, soil erosion is likely to be encountered. Also, the constant movement of heavy construction vehicles during the construction phase tends to compact the soil thus reducing the infiltration capability of the soil and increasing surface water runoff.

16.1 Impact Assessment

The impact of soil erosion on the proposed site is considered to result in a **Medium (Negative)** impact on the natural environment during the construction phase this is likely to occur when construction takes place during the rainy season and when appropriate mitigation measures are not implemented. The following mitigation measures could possibly reduce the impacts to **Low (Negative).**

16.1.1 Mitigation Measures

- It is highly recommended that construction takes place in drier months to limit possible flooding and soil erosion.
- Stabilize cleared areas as soon as possible to prevent and control surface erosion.
- Carry out inspections regularly to identify areas where soil erosion is occurring and act as soon as possible.

- Maintain the grass found on the site and only remove vegetation that hinder construction.

17. Flora impacts

Vegetation clearance during site preparation is unavoidable. This could lead to habitat destruction and land degradation. Small animals will lose their habitants and also at risk of being killed by construction activities.

17.1 Impact assessment

The impacts of the proposed project on flora are **Low (negative)** impact on the natural vegetation due to the fact that there is no a high significant cover of protected and red listed vegetation. The following proposed mitigation measures should be put in place to reduce the impacts to **Very-Low (negative).**

17.1.1 Mitigation Measures

- Clearing of the entire development site is not allowed. Only remove the plants that are directly affecting the construction. Leave out vegetation outside the construction area.
- Prevent contractors from collecting firewood or other plant products.
- Encourage the planting of indigenous plants to replace the lost plants.
- The removal of vegetation outside the development site should not be allowed.

18. Construction impacts on the Socio-Economic Environment

18.1 Heritage Impacts

The proposed development is considered to result in **Very Low to Negligible (Negative)** impact on the cultural and heritage resources as there are no known heritage and historical areas in the vicinity of the proposed site. However, if the contractors come across archaeological features or objects that possess cultural values during construction, it is strongly advised that the findings are reported to the National Heritage Council of Namibia as per the National Heritage Act 27.

18.2 Health, Safety and Security Impacts

Safety and health risks are expected during the construction phase. Construction workers will be exposed to dust, high noise levels, sun exposure and dehydration during summer months, and other potential hazards associated with the use of heavy construction machinery. Therefore, it is recommended that workers are provided for with Protective Personal Equipment such as overalls, safety boots, gloves, hard hats, dust masks and sun hats to be protected from the weather elements and associated work hazards. A fully stocked first aid kit must always be on site.

Safety issues may arise from construction vehicles, earthmoving equipment and tools that will be used during the construction phase. These are a threat to the safety of construction workers and the contractor should make sure that workers are aware of the potential risks of injuries on site. Also, construction materials and building materials may attract criminals, therefore appropriate safety measures should be put in place.

18.2.1 Impact Assessment During the Construction Phase

The proposed development is considered to result in a (**Medium-Low Negative)** impact on the community health, safety and security during the construction phase. However, it is highly recommended that the project manager collaborates with relevant stakeholders such as Omuthiya Town Council, Ondonga Traditional Authority and other local agencies such as clinics, fire brigade and police in order to incorporate a health and safety guideline or plan for the local community and construction workers before construction commences. With the implementation of such a plan the following mitigation measure, the significance rating can be dropped to **Low (Negative) Impact**.

18.2.1.1 Mitigation Measures

The following mitigation measures are recommended:

- The contractor should provide suitable emergency and safety signage on site, clearly demarcating the dangerous areas and no entry areas on site.
- Contractor should provide Personal Protective Equipment (PPEs) to workers and ensure that they are always used for the right task or duties.
- Ensure that all equipment and tools are properly stored in such a way that they do not attract criminals.
- It is highly advisable that the workers are equipped with first aid kits and that they are always available on site. Also, workers should be trained on how to use first aid kits.
- Proper fencing should be erected around the construction area to avoid entrance of unauthorized persons.
- Sensitize machinery and tools operators to switch off engines of vehicles or machineries not in use.
- A wellness program should be prepared to raise awareness on health issues especially on HIV/AIDS.
- Staff and visitors to the site should be made aware of all health safety measures and emergency procedures.

18.3 Traffic Impacts

Traffic is expected to increase during the construction phase of the project. Given that the site is in the village, no diversion of traffic or closure of the road is expected a slight nuisance might be expected by motorists using the same road. This will most likely be caused by slow moving delivery vehicles.

18.3.1 Assessment Impacts

The impact of increased traffic is considered to be **Low (Negative**) impacts on the community. The following mitigation measures should be implemented for the significance rating to drop to **Very-Low (Negative) Impact**.

18.3.2 Mitigation Measures

The following mitigation measures are recommended:

- Avoid peak hours 06h00-08h00 am and 16:30-18:30 pm.
- Speed limit signs should be erected to minimize accidents.
- All construction vehicles should be tagged with reflective tapes or signs to maximize their visibility and reduce accidents.
- Stopping of construction vehicles in the road whether wholly or partially should not be allowed.
- Contractor should ensure that construction vehicles are road worthy and maintained throughout the construction phase.
- Transportation of materials should be done in the least number of trips as possible.

18.4 Noise Impacts

Excessive noise may be experienced during the construction phase primarily from construction vehicles, generators, and machineries.

18.4.1 Impact Assessment During Operational Phase

The major negative impact that could result is the noise generated during night hours or early morning. This impact will disturb residents in the neighborhood. Noise impact for the proposed development is considered to be Medium-Low (Negative) impacts on the community. The following mitigation measures should be implemented for the impacts to be reduced to Low (Negative).

18.4.2 Mitigation Measures

The following mitigation Measures are recommended:

- Any audio equipment should not be played at levels considered intrusive by others.
- Construction activities should be limited to acceptable daylight hours (07h00-19h00).
- Amplified music should not be played on site.
- Contractor should inform people living near the proposed site on the commencement of construction activities.

18.5 Fires and explosions

Fires and explosions incidents are not so common at construction sites; however, they may occur when they are least expected. Welding and smoking on-site may ignite combustible materials available onsite. Also, poor handling of electricity systems, faulty electrical equipment, carelessness may result in fire incidents. The impact of these incidences on the workers' health and safety can be devastating.

18.5.1 Impact Assessment

The impact of fires and explosives are considered to be **Low (Negative**) without mitigation measures and **Very-Low (Negative)** with mitigation measures.

18.5.2 Mitigation Measures

The following mitigation measures are proposed to be implemented to reduce the impacts of fires and explosives:

- The contractor should provide fire extinguishers and ensure that they are always present on site.
- All construction workers should be trained on how to use fire extinguishers and on fire protection measures.
- Smoking on-site should only be allowed at designated areas.
- Combustible materials should be stored properly to reduce the risk of catching fire.

18.6 Employment Opportunities

The construction of an agricultural training facility is expected to create employment opportunities for both skilled and unskilled construction workers from Oshifukwa village and the surroundings.

18.6.1 Impact Assessment

Employment opportunities impacts are considered to be **High (Positive).**

19. Impacts during the operational phase of an agricultural training facility

The operation of an agricultural training facility at Oshifukwa Village, can results into many socio-

economic benefits to people living in the area and its surrounding. These may range from job creation to decreasing rural-urban migration.

19.1 Impacts on Soil

Crop production is one of the courses the agricultural training facility will offer. Soil contamination is likely to occur if the institution uses fertilizers, herbicides and pesticides that contain pollutants or toxic substances in their garden (s). Excess manure piled at one place to be used as fertilizer can be toxic to the soil as soil becomes compacted. Pollution of soils can result in the loss of soil functionality as an ecological driver in the sense that it can create a toxic environment for vegetation, vertebrates and invertebrates that rely on the soil. It may also negatively impact the chemistry of the soils.

19.1.1 Impact Assessment

The impact of the operation of an Agricultural training facility on the soil is considered to be **Low (Negative)** without mitigation measures and **Very-Low (Negative)** with mitigation measures.

19.1.2 Mitigation Measures

- It is highly advisable that the institution uses organic fertilizers (in moderate amounts) and biological methods of reducing pests and weeds in the garden to reduce soil contamination.

19.3 Impacts on Surface and ground water

Surface water contamination may occur during the operation phase. Agricultural contaminants impair the quality of both surface and ground water. Fertilizers, herbicides and pesticides do not remain stationary on the landscape where they are applied. Surface and groundwater may be contaminated through runoff and infiltration transport of these contaminants in streams, rivers and groundwater.

Also, Groundwater impacts may be encountered during the operation phase through accidental spillage of vehicle or machinery oils, fuels, wastewater from kitchens, leakages of sewage water etc.

19.3.1 Impact Assessment

The impacts of operation activities on surface and ground water are considered to result in **medium (Negative)** impact. By implementing the following mitigation measures it will be possible to reduce the impacts to **Low (Negative).**

19.3.2 Mitigation Measures

- Use drip trays or lining as soon as leaking of oils is observed from vehicles or machineries.

- If possible, parking lots and yard should be paved to make sure that oils or fuels leaking from vehicles do not contaminate the soil, surface, and groundwater.
- Prevent discharge of pollutants such as pesticides, herbicides, fertilizers, hydrocarbons or any chemical into the streams or any other water body.
- Ablution facilities should be placed 30m away from the water bodies and ensure that they are properly maintained.
- When necessary, washing of equipment should be done in such a way that surface water is not contaminated and only use environmentally friendly detergents.
- Residual grease accumulated in the kitchen grease traps should be removed and disposed of properly.
- The institution facilities such as laboratories must be floored with concrete cast instead of blocks and should be tiled properly to avoid any seepage of chemicals.
- Maintenance of sewage lines and manholes in term of blockages should be done regularly.

19.4 Littering and generation of waste impacts

Waste in the form of solid and hazardous, medical and food will be generated from the operation of an agricultural facility. Wastes can contaminate the land, air, and water thus it is highly advisable that waste management is taken seriously. Waste is expected to be generated from kitchen and dining hall, hostels, animal houses, garden, workshops, animal clinic and offices.

19.4.1 Impact Assessment

The generation of wastes impacts for the development is considered to be Medium-Low (Negative). However, with appropriate mitigation measures these impacts can be reduced to Low (Negative).

19.4.2 Mitigation Measures

The following mitigation measures are recommended to minimize the impacts of waste generation:

- The proponent is advised to put in place a waste management plan for the institution and train the employees and students on waste segregation and disposal.
- Waste bins should be made available at all key locations, and they should be clearly marked to indicate the type of waste to be placed in such bins.
- Waste should be properly collected and disposed of at designated waste disposal/ management sites.

- The proponent is highly advised to enter into agreement with waste management service providers like Rent-a-drum or Omuthiya Town Council to manage the wastes that will be generated by the operation of an agricultural training facility.
- Ensure regular inspections of littering and ensure that wastes are picked up regularly and handled correctly.

19.5 Impacts on the Air quality

Possible release of unpleasant odor from animal houses and ablution facilities due to sewer system failure or maintenance may be a nuisance to people living in the surrounding area.

19.5.1 Impact Assessment

The impact of the operation of an agricultural on the air quality is considered to be **Low (Negative)** without mitigation measures and **Very-Low (Negative)** with mitigation measures.

19.5.2 Mitigation Measures

- Sewer system should be inspected and maintained regularly.
- It is highly advisable that ablution facilities be located a distance away from the classrooms, workshops etc. and should have sufficient ventilation.

19.6 Socio-Economic Impacts

The major positive impact of establishing and operating an agricultural training facility is the creation of job opportunities for the locals and people from surrounding areas, creation of educational opportunities and potential creation of qualified workforce for the surrounding gardens and farms. The facility is expected to recruit employees from different fields like lecturers, administrators, accountants, janitors, guards, etc. Local businesses will benefit directly or indirectly from the operation of an agricultural facility through increased sales and service deliveries.

19.6.1 Impact Assessment

Socio-economic impacts on the operation of an agricultural training facility are considered to be **High (Positive)**.

19.7 Noise Impacts

Noise may be experienced from the training facility and may be a disturbance to the residents in the surrounding areas. This will be mainly felt during the arrival and departure times and during lectures.
Fortunately, the noise will only be heard during short periods throughout the day and after classes.

The impact of noise pollution during the operation phase of an agricultural training facility is considered to be **Very-Low (Negative)** therefore no mitigation measures are required.

19.8 Health and Safety Impacts

The operations of an agricultural training facility my cause health and safety risk to workers, students and visitors. Health impacts may be in the form of the spread of communicable diseases like COVID-19, hepatitis A, flu, lice, chicken pox etc., inhalation of toxic gases, ingestion or handling of hazardous substances, exposure to animal bacteria or viruses etc.

Safety issues could arise from movement of vehicles in and around the facility, workshop or garden equipment and tools. The movement of vehicles and handling of equipment and tools increases the risk of injuries to students and employees.

Also, students or employees making use of an Animal clinic and workshop are at risk of injuries, and exposure of hazardous substances like sharp or heavy tools. The facility is also at risk of theft and robberies since it will house valuable tools, machineries, and equipment.

19.8.1 Impact Assessment

The proposed development is considered to result in a **Medium-Low (Negative)** impact on the community health and safety during the operation phase. With the implementation of mitigation measures, the significance rating can be dropped to **Low (Negative) Impact**.

19.8.2 Mitigation Measures

- A wellness program should be prepared to raise awareness on health issues especially on HIV/AIDS and other communicable diseases.
- General cleanliness and hygiene, most importantly the sanitary facilities should be maintained.
- A medical examination room should be made available for students or employees suspected with a disease to be isolated and receive first aid.
- Students or employees handling hazardous substances or working in hazardous laboratories or workshops should always be provided with Personal Protective Equipment (PPEs).
- All laboratories and workshops should be equipped with First aid kits.
- Animals should be vaccinated from all diseases and vaccination programs should be up to date.
- Where possible, limit the number of people getting in contact with animals.
- Disinfect hands, shoes, and clothes (if possible) of people getting in contact with animals.

- Proper fencing should be erected around the development area to avoid entrance of unauthorized persons on the facility and theft of valuables.
- The premises should be always guarded.
- If possible, surveillance cameras should be installed.
- Sensitize machinery and tools operators to switch off engines of vehicles or machineries not in use.
- Staff and visitors to the site should be made aware of all health safety measures and emergency procedures.
- Ensure that contact details of emergency service providers in the area are displayed at strategic areas like reception, hostels, workshops etc.

19.9 Impacts of increased vehicular traffic

Increase in traffic will be experienced during the operation phase especially during picking up and dropping off hours. Traffic congestion may become a burden on the residents that are close to the facility. The impacts will be long-lived, and this will have a potential impact on traffic movement in the area.

19.9.1 Impact Assessment

The impact of increased traffic is considered to be **Low (Negative**) impacts on the community. The following mitigation measures should be implemented for the significance ratings to be dropped to **Very-Low (Negative)** Impact.

19.9.2 Mitigation Measures

The following mitigation measures are recommended:

- Speed limits and road signs should be adhered to in order to minimize accidents.
- Establish traffic control measures when necessary.
- Proper entrances and exits as well as parking spaces should be made available.

19.10 Fires and explosions

Fires and explosions incidents may occur during the operation of an agricultural training facility. Smoking and electrical faults may ignite combustible materials and cause fire. The impact of these incidences on the health and safety of residents can be devastating. Since the facility will have hostel facility, fire incidences from kitchens may occur.

19.10.1 Impact Assessment

The impact of fires and explosives is considered to be **Low (Negative)** without mitigation measures and **Very-Low (Negative)** with mitigation measures.

19.10.2 Mitigation Measures

The following mitigation measures are proposed to be implemented to reduce the impacts of fires and explosives:

- Fire-fighting equipment such as fire extinguishers should be made available in every building and should be replaced when necessary.
- All workers should be trained on how to use fire-fighting equipment and on fire protection measures.
- Smoking on-site should only be allowed at designated areas.

20: Conclusions

This report has considered all potential environmental impacts associated with the construction and operation of an Agricultural training facility at Oshifukwa village in Oshikoto region. All the legal procedures associated with the project have been followed and addressed. The potential impacts of activities of the proposed development were evaluated of which most of them were negative with low significance. Mitigation measures of these impacts were suggested to mitigate the impacts and it is highly advised that they are put into consideration. It is our opinion that these impacts are not significant enough for the project not to go ahead. The activities of the proposed development are compatible with the area because the proposed site is in communal land where farming is being practiced so trainees will be able to relate. The proponent is however advised to implement the Environmental Management plan to reduce adverse impacts and boost good environmental practices. Guidelines on environment, health and safety should be followed to reduce incidences of accidents, health problems and compromise to environmental well-being. This project should therefore be granted an Environmental Clearance Certificate (ECC) and continuous monitoring from the construction phase until the operational phase should be conducted.

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Annexure A: An architectural design of the proposed Agricultural Training Facility for Namibia College of Technology and Vocational Training CC at Oshifukwa Village, Oshikoto Region.