



BUSINESS SUCCESS CONSULTING
Environmental Sustainability

**ENVIRONMENTAL MANAGEMENT PLAN FOR LIMBANDUNGILA COUNTRY
LODGE AT ONANKALI VILLAGE, ONYAANYA CONSTITUENCY OF OSHIKOTO
REGION, NAMIBIA**

Prepared for:

LIMBANDUNGILA COUNTRY LODGE

P. O. BOX 440, ONDANGWA

CELL: 0812902698 /0812519998

Att: Ms. Victoria Namene Ndeyapo Paulus &

Paulina Hambeleleni Nagula Paulus

Email: alimbandungila@yahoo.com

Prepared By:



Business Success Consulting Cc

Cell: 0813097475/0811622154

P.O. Box 3382 Ongwediva,

Office 1, No. 5059, Omatando Street – Ongwediva, Namibia

TABLE OF CONTENTS

I. Preface	1
II. Structure of the Report	1
1.0 PROJECT BACKGROUND.....	2
1.1. Introduction	2
1.3. Purpose of the Environmental Management Plan	3
1.3 Description of Activities	4
2. DESCRIPTION OF THE RECEIVING ENVIRONMENT.....	5
2.1 Location	6
2.2 Accessibility	6
2.3 Topography	7
2.4 Climatic Conditions	8
2.5 Geological Aspects	9
2.6 Land Uses and Capabilities	9
2.7 Hydrology	9
2.7.1 Surface Water.....	9
2.7.2 Groundwater	9
2.8 Dust Disturbances	9
2.9 Noise Disturbances	9
3.0 Visual Intrusions.....	10
3.10 Archaeological, Heritage & Cultural Aspects.....	10
3.11 The Ecosystem.....	10
3.11.1 Flora observed.....	10
3.11.2 Animals and birds observed in the area.....	11

3.12 The Socio-economic Environment.....	12
3. ENVIROMENTAL IMPACTS.....	13
3.1 Method of Assessment.....	13
3.2 IMPACTS	15
4. ENVIRONMENTAL MANAGEMENT PLAN FOR LIMBANDUNGILA COUNTRY LODGE AT ONANKALI VILLAGE, ONYAANYA CONSTITUNCY OF OSHIKOTO REGION.....	16
4.1 EMP Administration	16
4.2 Socio-economic impacts and mitigation.....	16
4.3 Water quality and mitigation.....	17
4.4 Soil quality and mitigation	18
4.5 Soil erosion, soil topography and mitigation	19
4.6 Noise pollution and mitigation	20
4.7 Air Pollution and mitigation.....	21
4.8 Dust and mitigation.....	22
4.9 Loss of biodiversity and mitigation	22
4.10 Health and safety impacts and mitigation	23
4.11 Visual Intrusion	24
4.12 Archaeological and Cultural Heritage Sites	25
4.13 Solid Waste, Sewerage and Hazardous Waste and mitigation.....	25
5. DECOMISSIONING	26
6. CONCLUSION AND RECOMMENDATIONS.....	27
10.1 Conclusion.....	27
10.2 Recommendations.....	27
7. REFERENCES.....	28

LIST OF FIGURES

Figure 1: location of LIMBANDUNGILA COUNTRY LODGE (RED DOT).....	6
Figure 5: EAse access to the site	7
Figure 6: flat topology.....	8
Table 1: observed trees.....	10
Figure 11: Berchemia discolor (Omuye) & Sclerocarya birrea (Omwoongo)	11
Table 2: Birds in the project area.....	11
Table 3: Criteria used to determine the significance of impacts and their definitions.....	13
Table 4: Definition of the various significance ratings	14
Table 5: Assessment of impacts associated with the Socio-economic development.....	16
Table 6: Assessment of impacts associated with the Water Pollution	17
Table 7: Assessment of impacts associated with the soil pollution.....	18
Table 8: Assessment of impacts associated with the soil erosion	19
Table 9: Assessment of impacts associated with the noise pollution	20
Table 13: Assessment of impacts associated with the AIR POLLUTION	21
Table 10: Assessment of impacts associated with the dust emission	22
Table 11: Assessment of impacts associated with the loss of biodiversity	23
Table 12: Assessment of impacts associated with the Health and safety.....	23
Table 13: Assessment of impacts associated with the solid and sewerage waste	25

ACRONYMS

LCL	Limbandungila Country Lodge cc
OTA	Ondonga Traditional Authority
MEFT	Ministry of Environment Forestry and Tourism
NamWater	Namibia Water Corporation
NBRI	National Botanical Research Institute
NORED	Northern Regional Electricity Distributors
OEC	Office of the Environmental Commissioner
PPE	Personal Protective Equipment
BSC	Business Success Consulting
DEA	Directorate of Environmental Affairs
DSR	Draft Scoping Report
DWA	Directorate of Water Affair
EA	Environmental Assessment
ECC	Environmental Clearance Certificate
EIA	Environmental Impact Assessment
EMA	Environmental Management Act
EMP	Environmental Management Plan
F	Forestry Protected
GPS	Global Position Systems
Ha	Hectares
I & APs	Interested and Affected Parties

I. Preface

Limbandungila Country Lodge cc (LCL) has commissioned Business Success Consulting cc (BSC), an independent EIA consultant to prepare an Environmental Management Plan (EMP) for the existing small lodge establishment at Onankali village in Onyaanya Constituency of Oshikoto Region.

The lodge (LCL) is located in a communal area at Onankali, 50 km from Ondangwa (along the B1 main road between Ondangwa and Omuthiya).

Limbandungila Country Lodge cc is hereby applying for an Environmental Clearance Certificate for the lodge. This will ensure that the lodge operational activities are permitted as provided for by the Environmental Management Act (EMA), Act No. 7 of 2007 and related regulations. This EMP is therefore assessing the partial fulfillment in terms of compliance with the Environmental Management Act as required by the Ministry of Environment, Forestry & Tourism (MEFT).

LCL will be directly involved in the operational activities of the lodge. Hence once the EMP is approved, LCL shall assume the responsibility of overseeing, supervise, monitor and control all activities at the lodge thereby ensuring that the implementation is conducted in an orderly, safe manner and adhering to the Environmental Management Plan and consequently safeguarding the environment.

II. Structure of the Report

This report covers the following sections. It is worth noting that the purpose of this exercise is to prepare the EMP component and briefly only touching on the baseline environment as highlighted below;

Section 1: Background Information

Section 2: Biophysical Environment

Section 3: Environmental Impact

Section 4: Environmental Management Plan (EMP)

1.0 PROJECT BACKGROUND

1.1. Introduction

This report presents the Environmental Management Plan (EMP) for LCL for the management of the lodge operational activities at **Onankali village in Onyaanya Constituency of Oshikoto Region.**

The LCL lodge was established in 1989 and is currently struggling to attract customers. At this point in time it is mostly the bar that is generating revenue for the lodge business. It is for this reason that the proponent has started a process to first ensure environmental friendly operation, formalize and market the lodge in order to create more jobs.

The lodge has 6 rooms for resting (3 double and 3 single rooms) as well as a reception and bar section. The establishment also has ablutions in each room as well as at the bar section. All ablutions and showers are all connected to a septic tank. The proponent has no intention to expand nor upgrade the facility at this point in time.

The land where the lodge operates is 2,874m² / 2.874 ha as allocated to LCL by the Ondonga Traditional Authority. Hence, the occupational land right in terms of the Communal Land Reform Act No. 5 of 2002 is vested in LCL lodge.





This EMP Plan assesses and evaluates those impacts which the lodge's operation might have on the physical, natural and socio-economic environments. Where the operational activities poses negative impacts, mitigation measures are proposed to minimize such negative impacts and where the operation makes positive impacts, recommendations are made to maximize such benefits.

This EMP is developed in line with the Environmental Management Act, Act 7 of 2007, which list Lodge Establishment as one of the activities that requires an EIA. The Environmental Impact Assessment (EIA) Regulations No. 30 of 2012 as gazetted under the Environmental Management Act, (EMA), 2007, (Act No. 7 of 2007), requires that an EIA and Environmental Management Plan (EMP) for the proposed project should be undertaken in order to apply for ECC from the Ministry of Environment, Forestry and Tourism (MEFT).

Since this is an existing development from 1989, this EMP is developed with an aim to aligns the project with Namibia's Environmental Law Framework. LCL has no intention to expand at this point in time, however if need arises, a separate EIA will be conducted prior.

1.3. Purpose of the Environmental Management Plan

The Lodge establishment is a listed activity which may not be undertaken before an EIA and EMP have been conducted and prepared. The EIA process provides precautionary measures in the form of an Environmental Management Plan in which mitigation measures are provided.

The overall objective is therefore to ensure that the lodge operational activities are carried out in a manner which makes it technically sound, economically feasible, socially acceptable and environmentally sustainable. In this regard, the EMP process is expected to provide a mechanism whereby the overall environmental performance of the planned activity is enhanced through:

- i. Identification of sensitive environmental components likely to be affected by the lodge operation.
- ii. Identification and evaluation of the potential impacts associated with the operation,
- iii. Preparation of recommendations regarding measures that minimize adverse impacts and enhance beneficial impacts.

In a nut shell, this phase of assessment determines the key elements of the Environmental Management Plan (EMP) for the Project and to anticipate, prevent, minimize and manage potential negative impacts that the lodge operation may have.

1.3 Description of Activities

Activities involved in the process of project implementation are indicated hereunder;

- Maintenance
- Lodge operation

Section 2

2. DESCRIPTION OF THE RECEIVING ENVIRONMENT

This section provides an overview of the aspects of the natural environment that may be impacted by the lodge operation.

It is worth noting that this is a disturbed site where site clearance activities have already taken place to make way for the construction of the lodge in 1989. Hence the natural environment is disturbed.

No.	ASPECTS OF THE RECEIVING ENVIRONMENT
1	Location
2	Accessibility to the site
3	Topography
4	Climatic Conditions
5	Geological Aspects
6	Land Use and Capabilities
7	Hydrology (Surface and Underground water)
8	Air Quality & Dust Disturbances
9	Noise Disturbances
10	Visual Intrusions Aspects
11	Archaeological, Heritage & Cultural Aspects
12	The Ecosystem (Flora and Fauna) and
13	The Human Environment (the Social-economic Environment)

2.1 Location

The Limbandungila Country Lodge is located within the communal land, about 50 km from Ondangwa Town along the Ondangwa –Omuthiya B1 road.

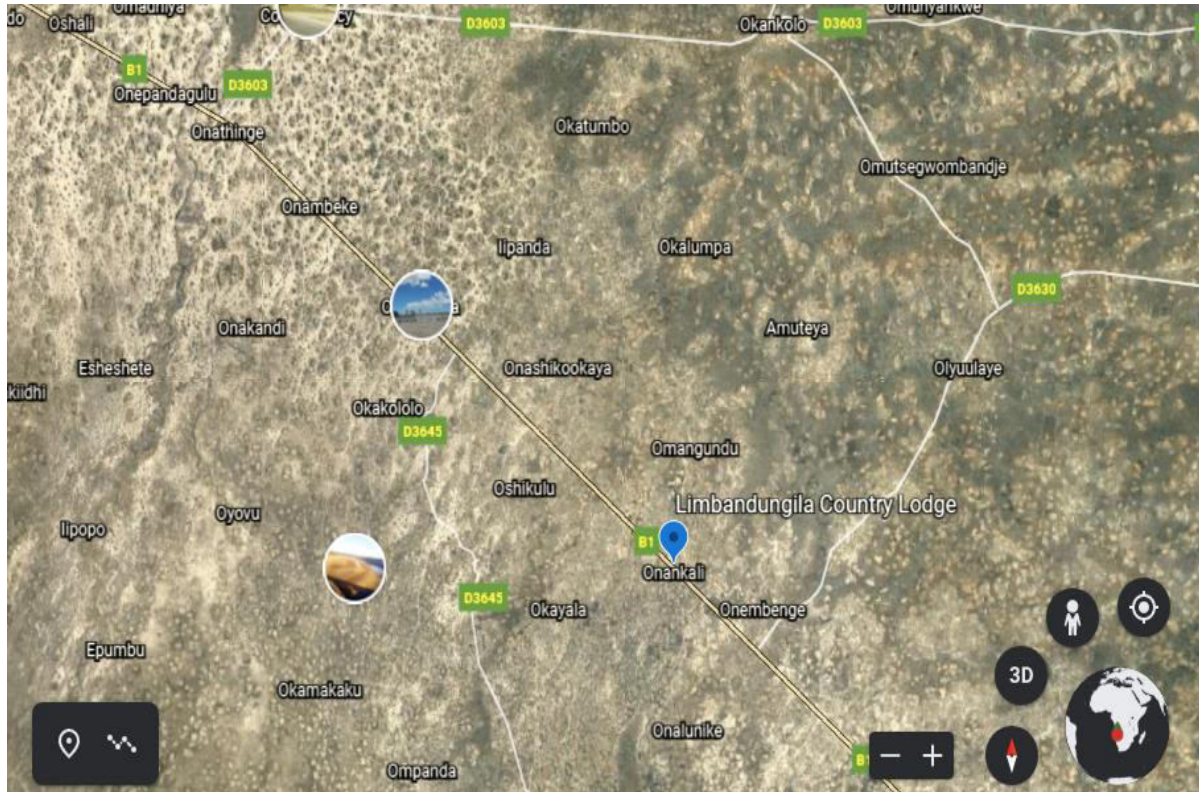


FIGURE 2: LOCATION OF LIMBANDUNGILA COUNTRY LODGE

2.2 Accessibility

In terms of accessibility, the lodge is residing next to the main road (B1 man road) and therefore easily accessible.



FIGURE 3: EASE ACCESS TO THE SITE

2.3 Topography

The lodge is located on a flat topography without significance difference in the elevations across the entire site. Rainwater is likely to accumulate on the surface and to seep easily through the sand deposit with little chance of causing soil erosion.



FIGURE 4: FLAT TOPOLOGY

2.4 Climatic Conditions

The climatic condition of Onankali is similar to that of Ondangwa. The project area receives an estimated average of 400 mm of rain per year with the highest precipitation received in the summer months (December to February). There are no prevailing wind directions and wind blows in any direction with a slightly greater frequency from the east to the northwest. Calm conditions occur for 70% of the time.

In Ondangwa, the wet season is mostly cloudy, the dry season is mostly clear, and it is hot year round. Over the course of the year, the temperature typically varies from $49^{\circ}F$ to $98^{\circ}F$ and is rarely below $45^{\circ}F$ or above $103^{\circ}F$.

2.5 Geological Aspects

There are no geological rocks encounters anywhere on the surface, near or around the lodge area.

2.6 Land Uses and Capabilities

The entire site is a parcel of land allocated to the proponent in terms of the Communal Land Reform Act No. 5 of 2002 exclusively for the lodge operation (resting rooms/bed & breakfast and a bar). No environmental features of significance were observed on the proposed land.

2.7 Hydrology

2.7.1 Surface Water

There were no permanent potable sources of surface water observed around the establishment. The lodge and surrounding businesses in the village is supplied with piped potable water by Rural Water Supply from which most residents in the village source water for everyday use.

2.7.2 Groundwater

There are no known boreholes or any form of groundwater sources around the establishment.

2.8 Dust Disturbances

No dust will be generated during the operational activities of the lodge. Therefore, the operational activities are not expected to have significant impact negatively on the ambient air quality in the area.

2.9 Noise Disturbances

The bar has no music jackpots that might generate noise. However since this is an entertainment area, it is expected to generate minimal noise during the operational hours as per the approved liquor licence for the establishment. Continuous noise above 85 dh shall not be permitted.

3.0 Visual Intrusions

There will be no new permanent structures lodge and therefore visual intrusions will be limited to the existing facilities. The significance is therefore expected to be negligible.

3.10 Archaeological, Heritage & Cultural Aspects

There are no sites of archaeological, cultural, historical and social significance known or reported around the proposed site.

3.11 The Ecosystem

3.11.1 Flora observed

The vegetation in the Oshikoto Region varies greatly from the north to the south and from the east to the west.

The area within the establishment is disturbed and has few trees that were observed during the site visit as per table below. None of the tree species occurring at the site have been identified as having any special status of being restricted to the project site and as such no tree species will be threatened by the project activities. There are no forestry protected trees at the site. The table below indicates the trees identified during the day of site screening;

TABLE 1: OBSERVED TREES

Scientific Name (Local Name)	Present	Occurrences
<i>Berchemia discolor</i> (Omuye)	Yes	2
<i>Sclerocarya birrea</i> (Omwoongo)	Yes	4
<i>Small Hyphaene petersiana</i> (oivale/ omulunga)	Yes	1



Figure 5: **Berchemia discolor (Omuye) & Sclerocarya birrea (Omwoongo)**

3.11.2 Animals and birds observed in the area

During the field visit, the team has observed birds in the project area around the observed flora. According to Newman's birds by colour, commonality in Southern Africa (Keneth Newman, 2000), the following birds are to be found in the area. However this list is not exhaustive because birds have no boundaries;

TABLE 2: BIRDS IN THE PROJECT AREA

Item No.	Birds
1.	Laughing dove
2.	Grey backed finchlark
3.	Palm swift
4.	Yellow canary
5.	Streaky headed canary
6.	Monteiro Hornbill
7.	Red eyed bulbul
8.	Black chested prinia

9.	Namaqua sandrouse
10.	Social Weaver
11.	Pied Crow

Besides birds, no livestock (cattle) were observed grazing around on the site during the site inspections. The short vegetation in the site, it does not provide suitable habitats larger animals. Small animals like mouse, reptiles and snakes are common to the surrounding but not observed within the establishment.

3.12 The Socio-economic Environment

This section presents a description of the socio-economic receiving environment. The secondary information contained herein was sourced from various sources such as the 2011 Namibia Population and Housing Census, which states that like other parts of the country, the socioeconomic status of the Onankali area is characterized by high unemployment rate at 32%, high level of poverty and slow economic growth due to slow rural development.

The proper management of the lodge establishment is therefore expected to attract guests especially tourists to contribute to the Local Economic Development of Onankali Area. Onankali is a growth centre in Oshikoto region and if businesses flourishes, it has the potential to improve the socio-economic status of the surrounding populace through job creation and value addition to local products.

Section 3

3. ENVIRONMENTAL IMPACTS

The main purpose of this section is to identify and assess the most significant environmental impacts by describing the measurable aspects of these impacts. The mitigation measures of these possible impacts will be provided in order to minimize the extent of the impacts resulting from various activities during the operational phase.

3.1 Method of Assessment

The assessment is carried out in tabular form to facilitate the evaluation, followed by mitigation measures. In order to determine significance, each potential impact was subjected to a range of assessment criteria listed below.

TABLE 3: CRITERIA USED TO DETERMINE THE SIGNIFICANCE OF IMPACTS AND THEIR DEFINITIONS.

Nature	Reviews the type of effect that the proposed activity will have on the relevant component of the environment and includes “what will be affected and how?”
Extent: How far in terms of area will the impact reach. Indicates whether the impact will be within a limited area	
Local	limited to within 25km of the area
Regional	limited to ~200km radius
National	limited to the borders of Namibia
International	extending beyond Namibia’s borders
Duration: How long will the a particular impact least once in has occurred	
Short term	1-5 years
Medium term	5-10 years
Long term	longer than 10 years, but will cease after operation
Permanent	irreversible
Intensity: Determine whether the magnitude of the impact is destructive or innocuous and whether or not it exceeds set standards.	
Low	Where natural/ social environmental functions and processes are negligibly affected.
Medium	

High	Where the environment continues to function but in a noticeably modified manner. Where environmental functions and processes are altered such that they temporarily or permanently.
Probability: Determine the likelihood of the impact occurring	
Uncertain	Low likelihood Distinct possibility Most likely Impact will occur regardless of prevention measures
Improbable	
Probable	
Highly probable	
Definite	
Status of the Impact: A statement of whether the impact is;	
Positive	a benefit to the environment, society or the economy
Negative	a cost to the environment, society or the economy
Neutral.	

TABLE 4: DEFINITION OF THE VARIOUS SIGNIFICANCE RATINGS

Significance Rating	Criteria
Low	Where the impact will have a negligible influence on the environment and no mitigations are required.
Medium	Where the impact could have an influence on the environment, which require some modifications on the proposed project design and/or alternative mitigation.
High	Where the impact could have a significant influence on the environment and, in the case of a negative impact, the activity causing it, should not be permitted.

3.2 IMPACTS

The following potential impacts on the environment have been identified:

- i. Socio-economic
- ii. Water pollution
- iii. Soil pollution & salination
- iv. Site Topography and Soil erosion
- v. Noise pollution
- vi. Air quality
- vii. Dust emission
- viii. Loss of biodiversity
- ix. Health and safety
- x. Visual intrusion
- xi. Archaeological and cultural heritage sites
- xii. Solid waste and hazardous waste management

These identified potential impacts have been assessed. There have been no threats to the birds that have been identified in this study. Mitigation measures are proposed for each identified impacts in the subsequent section of Environmental Management Plan.

4. ENVIRONMENTAL MANAGEMENT PLAN FOR LIMBANDUNGILA COUNTRY LODGE AT ONANKALI VILLAGE, ONYAANYA CONSTITUNCY OF OSHIKOTO REGION

4.1 EMP Administration

This section of the report serves to prescribe mitigation measures to reduce, limit, eliminate or compensate for impacts, to acceptable or insignificant levels. In setting mitigation measures, the practical implications of executing these measures are considered. With early planning at all level of implementation, both the cost and the impacts can be effectively eliminated or minimized to insignificant levels.

This section also outlines the roles and responsibilities of all stakeholders to ensure that the EMP is fully implemented. The Limbandungila Country Lodge cc will ensure the successful implementation of the EMP and its administration. It will also take full responsibility and accountability to consequences of non-adherence to the EMP.

4.2 Socio-economic impacts and mitigation

The lodge establishment will support the socio-economic development of the surrounding villages by providing employment creation, infrastructure development and contribute to the tourism sector.

TABLE 5: ASSESSMENT OF IMPACTS ASSOCIATED WITH THE SOCIO-ECONOMIC DEVELOPMENT

Impact	Employment opportunities, Infrastructure development and vibrant –healthy tourism sector.
Nature	The development will also create job opportunities and this will have a positive economic impact on surrounding communities.
Extent	Regional
Duration	Long term
Intensity	n/a

Probability	Highly probable
Status of the Impact	Positive
Significant rating before mitigation	Low
Timing	operation
Mitigation	<ul style="list-style-type: none"> • Capacity building of the local people • Support local businesses by sourcing goods & services from them (retail shops) • Hire employees from within the local community • Support and contribute to local social upliftment programs • Attend to any possible complaints from the community regard the operation. • Comply with the EMP.

4.3 Water quality and mitigation

There may be possibility of surface water contamination resulting from water runoff containing chemical residues of oil from lodge vehicles/ tour guide trucks, kitchen etc. On ground water will be affected since water for rural community rely on rain water.

TABLE 6: ASSESSMENT OF IMPACTS ASSOCIATED WITH THE WATER POLLUTION

Impact	Water pollution
Nature	The fuel and oil spills if not properly handled can be washed way into oshana's during the rainy season reducing the water quality.
Extent	Regional
Duration	long term
Intensity	Medium
Probability	Definite
Status of the Impact	Negative
Significant rating before mitigation	Medium

Timing	Operation
Mitigation	<ul style="list-style-type: none"> • There are no permanent water bodies near the project area however it is advisable to check and control the parameters for water quality during the rainy season. • An effective drainage system should be consistently maintained to capture all waste water. • Oil spillages from vehicles and lodge machinery will be avoided on site. Compliance with the Hazardous Waste Regulations will be priority. • A good and effective monitoring system will be put in place during operations. • Drip trays will be used when removing used oils from lodge equipment waiting servicing such as lawn mowers, tour vehicles. • Comply with EMP

4.4 Soil quality and mitigation

TABLE 7: ASSESSMENT OF IMPACTS ASSOCIATED WITH THE SOIL POLLUTION

Impact	<ul style="list-style-type: none"> • soil pollution • Salination of soils
Nature	Poor management of new and used oils will result in soil pollution.
Extent	Local
Duration	Short term
Intensity	Medium
Probability	Definite
Status of the Impact	Negative
Significant rating before mitigation	Medium
Timing	Operation

Mitigation	<ul style="list-style-type: none"> • Drip trays will be used when removing used oils from equipment and vehicles. • Maintenance and servicing and inspections for oil leaks from lodge equipment and vehicles • Compliance with EMP
------------	--

4.5 Soil erosion, soil topography and mitigation

Soil erosion may be caused by storm water and or high velocity winds. However, this impact will be local as it will be restricted to the proposed project site. Soil erosion will eventually result into poor soil fertility as the nutrients will be leached out.

TABLE 8: ASSESSMENT OF IMPACTS ASSOCIATED WITH THE SOIL EROSION

Impact	<ul style="list-style-type: none"> • Loss of Soil Fertility and natural nutrients • Loss of cultivable land • Vegetation & plant clearing • Soil erosion
Nature	Poor soil management will result in loss of soil fertility.
Extent	Local
Duration	Permanent
Intensity	Medium
Probability	Probable
Status of the Impact	Negative
Significant rating before mitigation	Medium
Timing	Operation
Mitigation	<ul style="list-style-type: none"> • Confine vehicle movement strictly to vehicle roads/tracks • Topography rehabilitation to be done consistently • Allow vegetation to grow on topsoil • Comply with EMP

4.6 Noise pollution and mitigation

The musical equipment at the establishment might produce high noise levels. Noise will also have an impact on animals like insects and birds that might temporary migrate to other areas.

TABLE 9: ASSESSMENT OF IMPACTS ASSOCIATED WITH THE NOISE POLLUTION

Impact	Increase in noise levels
Nature	Noise and vibration can become a nuisance to workers, animals and nearby shops. The health of the workers is also at risk if they are subjected to continuous noise above 85 dh.
Extent	Local
Duration	Short term
Intensity	Medium
Probability	Definite
Status of the Impact	Negative
Significant rating before mitigation	Medium
Timing	Operation
Mitigation	<ul style="list-style-type: none"> • The musical equipment at the lodge will have little impact on the local surrounding community as the noise levels to be emitted will be within the acceptable audible levels. • The residential areas around the lodge are at reasonable distances unlikely to receive destructive noise levels. • The Management will avoid generating noise levels that are above the recommended limit. • Operations will be limited to working hours as per liquor lincense

4.7 Air Pollution and mitigation

The gaseous emissions from braai area, kitchen and lodge vehicles used in the operation are expected to impact negatively on the ambient air quality. However, the operation is conducted in an open air environment (not a confined space like underground) which allows emissions to escape to the atmosphere.

The environmental Impact Significance Rating for this activity is therefore low to negligible with mitigation.

TABLE 13: ASSESSMENT OF IMPACTS ASSOCIATED WITH THE AIR POLLUTION

Impact	<ul style="list-style-type: none"> Noxious emissions braai areas, kitchen and lodge vehicles and therefore health hazard to workers and community
Nature	The gas emission has long term repercussions on the greenhouse layer and a health hazard for workers
Extent	Local
Duration	Medium term
Intensity	Medium
Probability	Definite
Status of the Impact	Negative
Significant rating before mitigation	Low
Timing	Operation
Mitigation	<ul style="list-style-type: none"> Ensure that all the gas emitting machines used in the operation are regularly serviced and well maintained. All refuse should be dumped at approved dumping site and no burning of refuse on site Comply with EMP

4.8 Dust and mitigation

The movement of vehicles into the lodge will certainly generate small amount of dust. The wind can create a dusty atmosphere at the lodge.

TABLE 10: ASSESSMENT OF IMPACTS ASSOCIATED WITH THE DUST EMISSION

Impact	The health effect of dust to the workers, effect of dust on the ecosystem and nearby residents.
Nature	High wind velocities may also result into dust generation from the bare land that has been cleared of its vegetation.
Extent	Local
Duration	Medium term
Intensity	Medium
Probability	Definite
Status of the Impact	Negative
Significant rating before mitigation	Low
Timing	Operation
Mitigation	<ul style="list-style-type: none"> The site shall have a water bowser which shall be used to suppress dust on the access roads and premises.

4.9 Loss of biodiversity and mitigation

Flora and fauna: There is no protected plant species that was observed onsite. There are no plants and animal species that are endemic to the area. All plant species found here also occur in other areas of Namibia. There is no planned construction and site clearance that may lead to destruction of flora and fauna but operational activities can also have low impact on biodiversity.

The environmental Impact Significance Rating for this activity is therefore low to negligible with mitigation.

TABLE 11: ASSESSMENT OF IMPACTS ASSOCIATED WITH THE LOSS OF BIODIVERSITY

Impact	Loss of Biodiversity <ul style="list-style-type: none"> • Temporary migration of birds, insects due to noise • Destruction of glass covering at the establishment
Nature	Operational activities such as noise might compel birds and insect to migrate from area
Extent	Local
Duration	Permanent
Intensity	Medium term
Probability	Definite
Status of the Impact	Negative
Significant rating before mitigation	Low
Timing	Operation
Mitigation	<ul style="list-style-type: none"> • The proponent should avoid unnecessary clearing of remaining trees • Planting more trees should be considered • surrounding areas should be profiled and rehabilitated • No littering of plastics and papers

4.10 Health and safety impacts and mitigation

The health and safety of the employees and the villagers should be taken into consideration during the operation phase as it may negatively affect them and the environment.

TABLE 12: ASSESSMENT OF IMPACTS ASSOCIATED WITH THE HEALTH AND SAFETY

Impact	Injuries to employees or other health risk associated with the lodge operation
Nature	The potential impacts on human health and safety resulting from project activities could include occupational accidents and injuries,

	vehicle accidents, dehydration, exposure to weather extremes, adverse health effects, long working hours
Extent	Local
Duration	Short term to medium term
Intensity	Low
Probability	Highly probable
Status of the Impact	Negative
Significant rating before mitigation	Medium
Timing	Operation
Mitigation	<ul style="list-style-type: none"> • Adhere to the Labour Law of Namibia (working hours and remunerations) • Develop a Health and Safety Plan for the employees • Train all employees on such a safety plan • Develop an Emergency Response Plan and Procedure • Suitable PPEs should be provided and worn by employees • Procedures for dealing with injuries or accidents must be in place and all contact details for emergency personnel available. • There should be a compulsory safety induction programme for all employees in place and rigorous awareness campaign to the community to avoid injury or death. • Workers provided with protective equipment such as helmets, safety shoes, gloves and eye glasses as appropriate.

4.11 Visual Intrusion

The impact Significance Rating for this activity is very low with and without mitigation.

4.12 Archaeological and Cultural Heritage Sites

There are no known sites of Archaeological interests or cultural heritage on the site, near and around the site. The environmental Impact Significance Rating for this activity is very low with and without mitigation

4.13 Solid Waste, Sewerage and Hazardous Waste and mitigation

Different waste (solid/ refuse, sewerage, biomass) will be generated during operational phase. This impact will be local.

TABLE 13: ASSESSMENT OF IMPACTS ASSOCIATED WITH THE SOLID AND SEWERAGE WASTE

Impact	Solid waste and hazardous impact
Nature	<p>Solid Waste & hazardous</p> <p>Potential domestic waste like plastics, boxes etc can end up polluting the environment. Hazardous (used oil, engine oil, paint cans etc.) waste will be generated during maintenance.</p> <p>Sewerage Waste</p> <p>Sewage will be generated at the lodge. It is therefore very important to have appropriate sewer infrastructure to management this type of waste.</p> <p>Failure to management waste properly will result in pollution and this might have a detrimental impact on the people’s well-being and the quality of the environment, especially those that live in the vicinity of the LCL.</p>
Extent	Local
Duration	Short term to medium term
Intensity	Low
Probability	Highly probable
Status of the Impact	Negative and positive

Significant rating before mitigation	Medium
Timing	Construction
Mitigation	<p>Solid & Hazardous Waste</p> <ul style="list-style-type: none"> • Firstly minimize the generation of waste materials, as far as practicable, • Cleanup program should be implemented to ensure waste is removed from open areas by Developing a Solid Waste Management Plan • Collection and disposal of solid waste should be done by a competent contractor to the approved landfill. • Ensure that there are clearly labelled bins/containers in designated areas for waste with sorting of recyclables, plastic wastes. <p>Sewerage waste</p> <ul style="list-style-type: none"> • The existing septic tank should be consistently inspected and all sewer drainage system should remain connected to that septic tank. • The sewer lines should be inspected regularly to look for any leakages. • A registered contractor should be hired to remove the solid

5. DECOMMISSIONING

A separate EIA process should be conducted before considering at all the decommissioning of the project.

6. CONCLUSION AND RECOMMENDATIONS

10.1 Conclusion

The existing Limbandugila Country Lodge cc is an important tourism facility to the proponent, present potential to the tourism sector and an aspiration of the Onankali community as well as to Namibia as a whole.

Overall, the economic benefits of the project outweigh the limited negative impacts on the natural environment. The project is expected to perform positively if all mitigation measures are adhered to.

10.2 Recommendations

- It is recommended *that the Ministry of Environment, Forestry and Tourism should issue the Environmental Clearance Certificate to Limbandungila Country Lodge cc for the operations of the lodge.*
- LCL will oversee, supervise, monitor and control all activities at the lodge thereby ensuring that the operation is conducted in an orderly and safe manner, hence safeguarding the environment in the interest of the current and future generations to come. Business Success Consulting will conduct periodic inspection to ensure adherence.

7. REFERENCES

A, Curtis, Eds.). Windhoek: Macmillan Education Namibia.

C. A. Mannheimer & B. Mendelsohn, J., Obeid, S. El, & Roberts, C. (2000). Profile of north-central Namibia. Windhoek: Gamsberg Macmillan Publisher.

Curtis, B. and Mannheimer, C. 2005. Tree Atlas of Namibia. National Botanical Research Institute, Windhoek, Namibia

Government Gazette, 27 December 2007. No. 3966, Act No. 7, 2007 Environmental Management Act 2007.

Le Roux, P., and Müller, M. (2009). Trees and Shrubs of Namibia.

Müller, M.A.N. 1984. Grasses of South West Africa/Namibia. John Meinert Publishers (Pty) Ltd, Windhoek, Namibia.

Newmans, K. Birds By Colour, Southern Africa Common Birds Arranged by Colour, Struik New Holland Publishing (Pty) Ltd 2000

Oshikoto Region : II . The Colophospermum mopane shrublands, (January 2000).

Strohbach, B. J. (2014). Vegetation degradation trends in the northern Oshikoto Region : II. The Colophospermum mopane shrublands Vegetation degradation trends in the northern