

**UPDATED ENVIRONMENTAL MANAGEMENT
PLAN (EMP)
FOR THE EXISTING & OPERATIONAL HENTIES BAY DESERT CHICKEN
FARMING PROJECT ON PORTION 3394 HENTIES BAY EXTENSION 9,
ERONGO REGION**



Assessed by:
NYEPEZ CONSULTANCY CC



Environmental Clearance for:
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19 April 2023

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1. INTRODUCTION

Johannes Christiaan Slabbert t/a Desert Chickens are the developers and owners of Henties Bay Poultry & chicken farming project. The developers acquired land from the Municipality of Henties bay, first through leasehold agreement and then subsequent purchase of the portion through private treaty. The project is on a portion of semi-serviced land (with Water & Electricity Services) plus an additional power generator. The project is on 17 Hectares. the projects development is existing and operational farming project based in Henties bay extension 9 and is currently zoned “Undetermined”. The portion is situated about +- 1 kilometers from the Henties bay Central Business District (CBD) in a General Industrial area. The project started its operation in the 2006. Currently the poultry farming project is engaged in different activities that leads to its successful operations. It is the intention of the developer to rezone the property from “Undetermined” to “Urban Agriculture” once the land sale transactions are finalized by the deed’s registry.

The project’s current business Activities include poultry (Poultry or chickens related productions, including poultry sale, poultry meat and eggs production) and ducks’ production. Currently the farm has more than close 3000 hatchery. The project currently employs about eight (8) people and the number is expected to increase to 30, once the farm operations are fully fledged.

The aim and objective for applying for a clearance certificate is therefore to ensure the continuous operation and existence of the project to run it in a profitable, eco-friendly and sustainable way. The aim is to follow the Principles of Eco-friendly and offer customers the attraction that conserves the environment and improves the well-being of local people. Eco-project development is about uniting conservation, communities, and sustainable environmentally friendly project by minimizing impact on the environment.

The intention for renewal of the clearance certificate is therefore to ensure the continuous operation and existence of the project to run it in a profitable, eco-friendly and sustainable way. The aim is to follow the Principles of Eco-friendly and offer customers the attraction that conserves the environment and improves the well-being of local people. Eco-project development is about uniting conservation, communities, and sustainable environmentally friendly project by minimizing impact on the environment

- To minimize the impact of new and existing Henties bay Desert Chicken Poultry Farms on the Environment, including natural resources, local residents and existing surrounding land uses;
- To ensure site selected for Desert Chicken Poultry Farm is appropriate for long term operation and that farming methods are sustainable;
- To ensure proper consideration of the effects of new developments on existing poultry facilities; and,
- To ensure compliance with environmental requirements.
- Provide training and empowerment for local communities to achieve sustainable development in the region create jobs for the local community

1.2 Main Objective

- To apply for the acquisition of the Environmental Clearance Certificate (ECC) for continuous operation of the existing and operational Henties bay Poultry and Chicken farm development on portion 3394 Henties bay Extension 9, in Henties bay town of Erongo Region which was obtained in 2006 under lease but was later sold to the developer Messrs JC Slabbert
- To provide a brief background of the existing project and its proponents;
- Provide the Renewed, Compliant and updated Environmental Management Plan for the project and explain all new amendments on physical environment of the project area;
- To explain the process that was followed during the Environmental Scoping Study;

1.3 Poultry Farm Activities

The Henties bay Poultry Chicken farm was established in 2006 for commercial business purposes. The following facilities were established on the site.

- egg production
- hatchery house,
- chicken breeding housing, incubator, & organic natural hatching;
- production packaging area and a slaughter floor;
- rendering facility; Waste water collection point;

There are also plans to expand the farming project to include more poultry farming component once the ECC is approved and issued. Upon acquiring of the ECC and the finalisation of the

sale transactions the farm production activities will is expected to expand and include the following activities;

- Manure / Compost plant
- Vegetable Gardens and/or hydroponics
- Piggery
- Agricultural planting (grass, lucern, etc)
- Bio-Gas Plant from manure
- Staff accommodation / dwellings

MUNICIPALITY OF HENTIES BAY

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Dear Sir/ Madam

RE: MOTIONS OF MEMBERS

The Council *consensus as idem* resolved by –

CO06/29/03/2023/03rd/2023

THAT:

- (a) Council resolved to reconsider the purchase price for urban agricultural plots in extension 9 to be N\$ 5.00 per square including Desert Chicken, therefore council amends resolution No: CO11/17/02/2023/2nd/2023 vide resolution No: CO06/29/03/2023/03rd/2023
- (b) In terms of Section 30 (1) (t) of the Local Authorities Act no. 23 of 1992, the proposed reduction in the purchase and alienation of portion 3394 in extent of 17.291 hectares of the farm of Hentiesbaai townland no. 133, by way of private treaty at a purchase price from N\$ 1 037 460.00 to N\$ 860 550.00 (Eighty Hundred & Sixty thousand, Five Hundred & Fifty Namibia Dollars) be approved;
- (c) Developer pay 10 % of purchase price upon approval and 90% within 90 days after approval.
- (d) An EIA be conducted on the specific erf as it is undermined and in terms of the energy act, an assessment be done for the relevant business.
- (e) All municipal services infrastructure be designed and construction to the satisfaction of council at developers cost.
- (f) In terms of Section 55, read together with Section 127 of the Urban & Regional planning Act, the exemption for none payment/ compensation fee by the developer after the rezoning processes has complete be approved;

Yours faithfully,

Handwritten signature of Elizabeth Coetzee in blue ink.

ELIZABETH COETZEE
CHIEF EXECUTIVE OFFICER



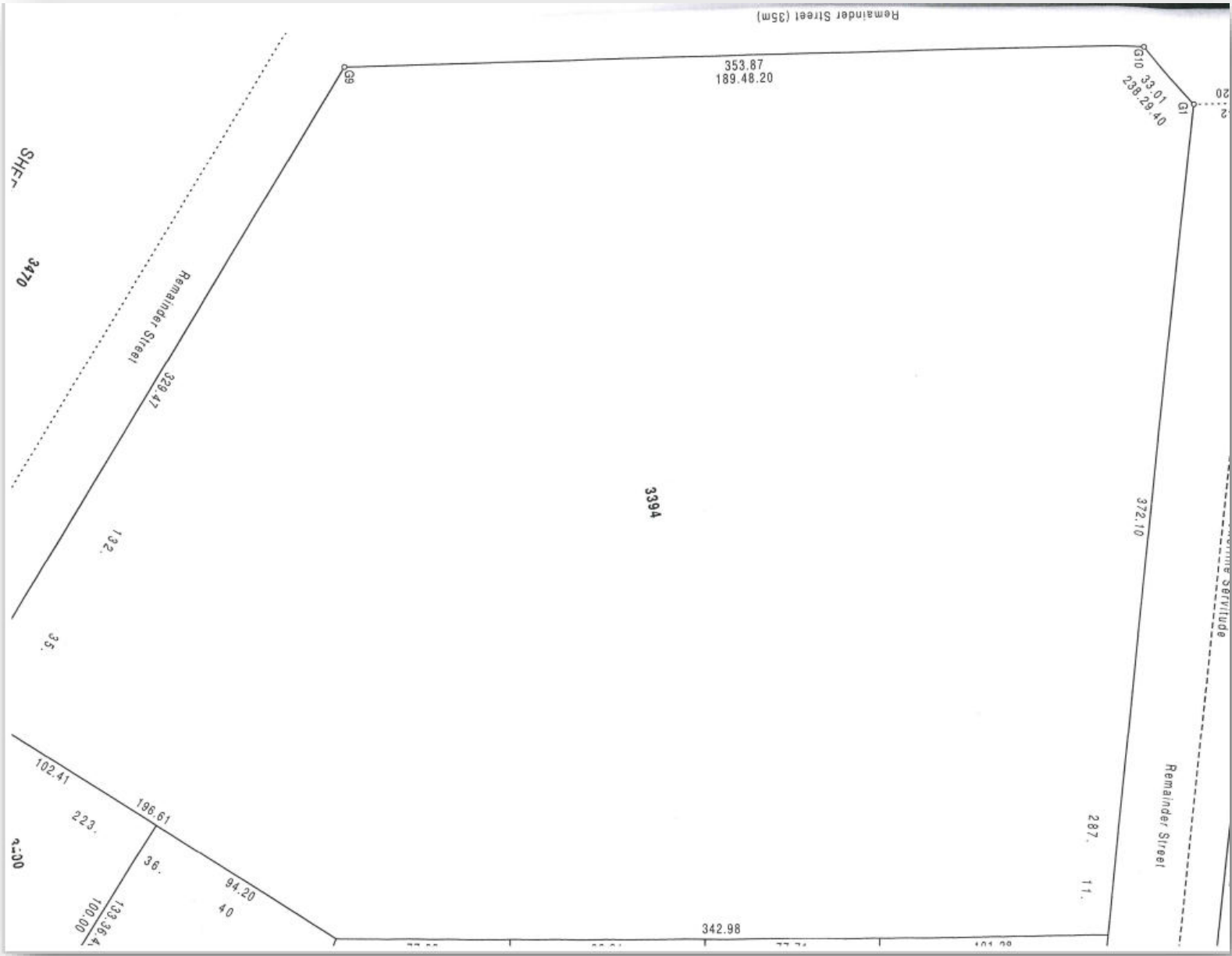
1.4 Aims of the Study

The aims of initial scoping submitted was to:

- Comply with Namibia's Environmental Assessment Policy, Environmental Management Act (2007) and its February 2012 EIA Regulations;
- To provide for a compliant and updated Environmental Management Plan for activity monitoring and evaluation purposes
- Consult all Interested and Affected Parties (I&AP's) to ensure that their input is taken into account;
- Review the legal and policy framework and its relevance to this project;
- Describe the biophysical and socio-cultural environment of the project to determine its sensitivities and suitability;
- Identify and assess impact related to the construction, operation and later decommissioning of the poultry farm and associated infrastructure and propose suitable mitigation strategies.
- A Compiled Management plan in line with the 2012 EIA Regulations of the Environmental Management Act (2007) and terms of reference to be submitted, approved.

1.5 Locality

The existing and operational Henties bay Poultry farming project is on a 17 Hectares of Land (as depicted in the map). The chicken farm is functional and operational project based on portion 3394 in Henties bay Extension 9 in a proclaimed township. The project site, situated about +- 1 kilometres from the CBD of Henties bay. The area is within the Henties bay in Arandis Constituency, in the Erongo Region.



1.6 Project Economics & Operational Activities

The objectives of establishing and developing the site was ideally intended for the development site of the existing and operational poultry farm and farming facilities, since it is situated a few kilometres from the main town and have strong connection of people movement and traffic flow to & from the main town. This Chicken farming project gives an important or vital economic importance and upliftment to the Henties bay Town, the Erongo region and the residents in the Henties bay town at large. It is also outlined in NDP4 that the Goal of Agriculture, is to increase productivity and water use efficiency and improving food security through development, adoption and dissemination of sustainable technology.

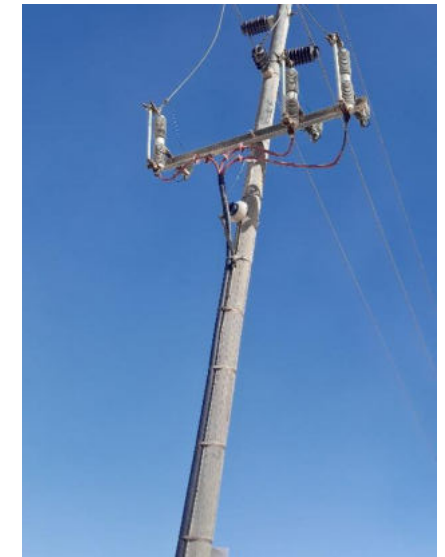
This project has also created employment opportunity by employing about 28 people. The business has established a school feeding program where a total number of 100 school learners & pensioners were and are being feed by the Henties bay poultry project. The Henties bay Desert Chicken poultry farm is also contributing to sponsorship of school & community activities such as soccer, providing uniforms, books, clothes, shoes to needy children.

As a result of the long-term mutual relationship between the Henties bay Poultry farm owners and Henties bay community was and is developed. Significant community empowerment such as training on farming, community gardens, assistance for education financial assistance is also being offered to the community.

Project	Potential Impacts
Construction	No construction activity - undertaken as the project is operational. the construction was already completed in 2017
Decommissioning	Nuisance dust generated from demolition equipment and general decommissioning activities

1.7 Existing business operation & Chicken farm land uses





2. LEGAL AND REGULATORY REQUIREMENTS

The Namibian Environmental Management Act (Act No. 7 of 2007) promotes the sustainable management of the environment and the use of natural resources by establishing principles for decision making on matters affecting the environment. With regard to managing ambient air quality in a sustainable way and limiting impacts, health-based ambient standards, emission standards, and ambient monitoring are considered the most appropriate approaches.

3. IMPACT ASSESSMENT

3.1 Identification of key impacts

A summary of some significant impacts that are like to be caused by the existing & operational Henties bay Poultry during its operations can be summarized as follows:

Potential Impact activities
Odor / chicken organic manure
Flies
Groundwater Surface Water and Soil contamination
Noise pollution
Water Use
Air Emissions

3.2 Sustainability / Potential Appraisal			
Impact on Ecological & Socio Economic	Level of Impact		Comments
	Positive	Negative	
Creation of Employment	High	None	08 unskilled local workers are currently contracted to work on the operational chicken farm and is expected to increase to 30 workers once the ECC is approved for upgrading and further expansion of the business operations.
Flies' generation	N/A	Limited	Keep waters from leaking, cull birds that habitually produce very loose manure, remove broken eggs and dead birds and reduce feed spillage to improve fly

			control. Proper use of Screening on all doors and windows will keep flies out of egg rooms and offices.
Abstraction of water	High	None	The water extracted from the Nam water pipeline situated about 20 meters from the proposed site.
Water Pollution	N/A	None	There are no chemical and/or hazardous substances that are produced from the poultry farm development, substances which will contaminate or pollute surface and underground water. The area does not have surface water and it is dominated by sandy and is a dry savannah land. Based on this the level of underground water is evident and presumed to be very low and far from the surface.
Odor prevention /control	High	Limited	Minimizing the surface area of slats and solid floors where manure can dry to produce dust and urine can evaporate to produce ammonia will reduce odor levels both inside and outside of buildings. Frequent flushing of gutters and frequent pit drawdown and recharge reduce the build-up of odorous gases
Tenure insecurity & land use disputes	Limited	N/A	Area is registered under a leasehold for a period of time for leasing to the investors, there are currently no land use activities in the proposed project area

Key Consideration Area

- Contribute to local economy
- Employment Creation
- Local level economic empowerment

4. IMPACT ASSESSMENT AND MITIGATION

4.1 Assessment of Impacts

The purpose of this section was and is to assess and identify the most prominent environmental impacts and provides possible mitigation measures that are expected from both the operational and the decommissioning for the activities of the Desert Chicken poultry project. The following component or section below summarizes categories of impacts identified, following the site visits that were undertaken at the site area and from other comments received from relevant stakeholders

- Biodiversity and ecosystem impact
- Fire
- Socio-economic impacts
- Health and safety impacts
- Cumulative impacts

The above identified impacts were assessed and evaluated in different phases of the development. By subjecting each of the potential impacts to the criteria stipulated above, was possible to establish the significance of each impact prior to implementing mitigation measures and then after mitigation measures have been implemented. Detailed descriptions of management actions in terms of mitigation measures are contained in the accompanying EMP.

The process of accessing the significance of each of the possible impacts is contained in the above tables. It must be noted that the impacts described in these tables considers the nature of the potential impact before (pre) and after (post) mitigation as set out in the EMP.

Although the significance rating of the most of the impacts can be reduced considerably to a “low significance” by implementation proper mitigation measures the proponent should however understand that a “low significance” impact still exerts pressure on the environment and therefore the proponent intends to go above and beyond the prescribed mitigation and management measures provided in this report by aiming to improve the remaining environment. There are specific policies and guidelines that address environmental issues related to the development. The policies and guidelines were referred to in the legal section.

Table 1: criteria used to describe impacts Description

Nature	Reviews the type of effect that the proposed activity will have on the relevant component of the environment and include “what will be affected and how”
Extent	Indicates whether the impact will be site specific: local (limit to within 15 km of the area); regional (Limited to -100 km radius); national (limited to the coastline of Namibia); or international (extending beyond Namibia’s borders)
Duration	Reviews the lifetime of the impact, as being short (days, <1 month), medium (months, <1 year), long (years, <10 years), or permanent (generations, or >10 years).
Intensity	Establishes whether the magnitude of the impact is destructive or innocuous and whether or not it exceeds set standards, and is described as none (no impact); low (where natural/social environmental functions and processes are negligibly affected); medium (where the environment continues to function but in a noticeably modified manner); or high (where environmental functions and processes are altered such that they temporarily or permanently cease and/or exceed legal standard/requirements).
Probability	Considers the likelihood of the impact occurring and is described as improbable (low likelihood), probable (distinct possibility), highly probable (most likely) or definite (impact will occur regardless of prevention measures).
Degree of confidence in predictions	Is based on the availability of specialist’s knowledge and other information

The application of the above criteria to determine the significance of potential impact uses a balanced combination of duration, extent, and intensity/magnitude, modified by probability, cumulative effects, and confidence. Significance is described as follows.

Table 2: Significance ratings

Significance Rating	Criteria
Low	Where the impact will have a negligible influence on the environment and no modifications or mitigations are necessary for the given project description. This
Medium	Where the impact could have an influence on the environment, which will require modification of the project design and/or alternative mitigation. This would be allocated to impacts of moderate severity/magnitude, locally to regionally, and in the short term
High	Where the impact could have a significant influence on the environment and in the event of a negative impact the activities causing it, should not be permitted (i.e. there could be a no-go implication for the project, regardless of any possible mitigation). This would be allocated to impacts of high magnitude, locally for longer than a month, and/or of high magnitude regionally and beyond.

The FAO guidelines for fields projects (FAO, 2012) used during the assessment.

Table 3: Environmental categories for FAO field projects

Environmental Category	Environmental and Social Impacts	Environmental Analysis or Assessment Required
Category A	Significant, or irreversible adverse impacts	Mandatory environmental impact assessment
Category B	Less significant adverse impacts that may be easily prevented or mitigated	Environmental analysis to identify more precisely potential negative impacts
Category C2	Minimal or no adverse impacts	No further environmental and/ or social analysis or assessment required

Based on the above FAO’s categories of field project analysis, the project development of Henties bay Desert Chicken Poultry farming project on portion 3394 Henties bay Extension 9, falls under category B, where there is less significant adverse impacts that may be easily prevented or mitigated. Environmental analysis is required to analysis to identify more precisely potential negative impacts.

The following box below specify the type of projects under Category B, which according to FAO (2012) do not require a full EIA but will require further deepening of environmental or social considerations, depending on the expected magnitude of risks. In many cases, the analysis would aim at gathering additional information in sufficient detail so as to be able to discuss concretely how risks could be addressed and minimized (and possibly eliminated) in the project design. According to Pastakia (1998) the Rapid Environmental Assessment method was used to assess projects related to the Poultry development project and Pastakia’s method was used during the assessment. The ranking formulas area calculated as follows;

$$A=A1 \times A2$$

$$B=B1 +B2+B3$$

$$\text{Environmental Classification (ES)} =A \times B$$

Table 4: Environmental Classification of Impacts according the Rapid Impact Assessment Method of Pastakia 1998

Environmental Classification (ES)	Class Value	Description of Class
108 to 72	5	Major positive change/impact
71 to 36	4	Significant positive change/impact
35 to 19	3	Moderate positive change/impact
10 to 18	2	Positive change/impact
1 to 9	1	Slight positive change/impact
0	0	No change/status quo/not applicable
-1 to -9	-1	Slight negative change/impact
-10 to -18	-2	Negative change/impact
-19 to -35	-3	Moderate negative change/impact
-36 to -71	-4	Significant negative change/impact
-72 to -108	-5	Major negative change/impact

Table 5: Assessment Criteria

Criteria	Score
Importance of condition (A1) –Assessed against the spatial boundaries of human interest it will affect	
Important to national/international interests	4
important to regional/national interests	3
important to areas immediately outside the local condition	2
important only to the local condition	1
No importance.	0
Magnitude of changes /effects (A2) –measure of scale in terms of benefits of an impact or condition	
Major positive benefits	3
Significant improvement in the status quo	2
Improvement in status quo	1
No change in status quo	0
Negative change in the status quo	-1
Significant negative disbelief or change	-2
Major disbelief or change	-3
Permanence (B1) –defines whether the condition is permanent or temporary	
No change/not applicable	1
Reversible	2
Permanent	3
Cumulative (B3) –reflects whether the effects will be a single direct impact or will include cumulative impacts over time, or synergistic effect with other conditions. It is a means of judging the sustainability of the condition-not to be confused with the permanence criterion	
Light or No cumulative Charater /Not applicable	1
Modern Cumulative character	2
Strong Cumulative character	3

Table 6: Criterion for Impact Evaluation (Directorate of Environmental Affairs, 2008)

Risk Event	Description of the risk that may lead to an impact
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Probability	<p>Refers to the probability that a specific impact will happen following a risk event</p> <p>Improbable (low likelihood)</p> <p>Probable (distinct possibility)</p> <p>Highly probable (most likely)</p> <p>Definite (impact will occur regardless of prevention measures)</p>
Confidence level	<p>The degree of confidence in the predictions based on the availability of information and specialist knowledge</p> <p>Low (based on the availability of specialist knowledge and other information) Medium (based on the availability of specialist knowledge and other information)</p> <p>High (based on the availability of specialist knowledge and other information)</p>
Significance (no mitigation)	<p>None (A concern or potential impact that, upon evaluation is found to have no significant impact to all)</p> <p>Low (any magnitude, impact will be localised and temporary. Accordingly, the impact is not expected to require amendment to the project design)</p> <p>Medium (Impacts of moderate magnitude locally to regionally in the short term, accordingly the impact is expected to require modification of the project design or alternative mitigation)</p> <p>High (Impacts of high magnitude locally and in the long term and/or regionally and beyond. Accordingly, the impact could have a ‘no go’ implication for the project unless mitigation or re-design is practically achievable)</p>
Mitigation	Description of possible mitigation measures
Significance (with mitigation)	<p>None (A concern or potential impact that, upon evaluation is found to have no significant impact to all)</p> <p>Low (any magnitude, impact will be localised and temporary. Accordingly, the impact is not expected to require amendment to the project design)</p> <p>Medium (Impacts of moderate magnitude locally to regionally in the short term, accordingly the impact is expected to require modification of the project design or alternative mitigation)</p> <p>High (Impacts of high magnitude locally and in the long term and/or regionally and beyond. Accordingly, the impact could have a ‘no go’ implication for the project unless mitigation or re-design is practically achievable)</p>

The following tables evaluate the identified impacts, both positive and negative of the poultry farming project activities on the environment. This includes the social, economic and natural environment affected by the activities on the proposed site.

4.2 Operational Phase Impacts Prior to Mitigation

4.2.1 Negative Impacts of Low Significance for the operational phase prior to mitigation

NEGATIVE IMPACTS (LOW)	DESCRIPTION OF IMPACT
Land transformation – Dust levels	The development would result in increased dust levels during the operational phase.
Land transformation – Noise levels	<p>The area is situated in a townland area and the farmers in the area are accustomed to the sound of working machinery</p> <p>The chickens themselves does not generate any significant levels of noise during the operational phase.</p> <p>Some noise arises in relation to the expected increase in traffic to and from the site, especially at the end of a production cycle</p>
Heritage	The project development does not and/or is not expected to have any significant impact on archaeological or palaeontological remains during the operational phase.

4.2.2 Negative Impacts of Medium-Low Significance for the operational phase prior to mitigation

NEGATIVE IMPACTS (MEDIUM-LOW)	DESCRIPTION OF IMPACT
Hydrology – Storm water and drainage	The roofs of chicken houses and other buildings will increase storm water runoff. Hardened surfaces around chicken houses due to trampling, nesting and foraging by chickens will increase storm water runoff and subsequent erosion (loss of topsoil).
Hydrology – Water supply	Water use for chickens and irrigation purposes

<p>Land transformation – Soil chemistry and fertility</p>	<p>Soil chemical properties and vegetation yield can however be negatively affected if large amounts of manure is applied over long periods of time.</p> <p>Solid and chicken waste is mixed with sawdust and is used as manure on the farm especially for vegetables and maize plantation. All waste is kept on the farm and used as manure.</p> <p>It is therefore not expected that manure will negatively affect soil properties and vegetation production, but this aspect must be taken into consideration, should manure loads be left to build up in the veld.</p>
<p>Land transformation – Visual impacts</p>	<p>any proposed expansion will consist of the existing agricultural land use of the property and surrounding areas.</p> <p>All buildings and associated infrastructure are sited as unobtrusively as possible. A natural buffer zone is maintained between the chicken houses and neighbouring farms. Indigenous trees and shrubs have been planted and maintained to reduce visibility from adjoining roads and properties.</p>
<p>Increased traffic volume</p>	<p>The transportation of chickens to and from the site will increase traffic levels in the area.</p>
<p>Land transformation – Loss of ecological processes (Ecological Support Areas)</p>	<p>The construction of roads and fence lines through the project site area will impact on Ecological Support Areas (ESAs) and the level of ecological connectivity (corridors) that they offer.</p> <p>No chicken houses were constructed within 32m from any ephemeral watercourse. No disposal or irrigation of grey water is allowed to accumulate or occur within a few meters from any watercourse. Ablution facilities for farm workers are placed a distance from any ephemeral watercourse.</p>
<p>Land transformation – Odour nuisance levels</p>	<p>It is not possible to avoid all odours, but it is ensured that the ventilated houses and free-range pastures emanate less odour than the conventional closed intensive broiler houses. Chicken houses are located well away from any human settlements and houses are frequently cleaned and disinfected after every production cycle.</p>

	Subject to good management of poultry, housing systems and waste disposal, odour are and should not present a significant impact.
Faunal biodiversity	<p>Potential faunal habitat was lost, transformed and fragmented due to the clearance of land and the construction of infrastructure.</p> <p>The potential attraction of predators and problem animals to the foraging chickens might interfere with natural predator-prey relationships of the area and can also cause infestation of problem animals, e.g. rodents which are carriers of certain diseases.</p>
Floral biodiversity	Approximately 17 hectares of desert open land was allocated to the proponent and NO vegetation was cleared for the construction of chicken houses and associated infrastructure (the site is a dry desert with no flora). The Trampling and the concentration of chickens around chicken houses will impact on natural vegetation.
Waste – Sewage/effluent/ hydrocarbons	<p>There are two potential sources of effluent – sewage from ablution facilities and grey water from house wash down procedures. Relatively small amounts of waste water are generated during the cleaning and disinfecting of chicken houses which occurs at the end of each production cycle.</p> <p>The Applicant uses biodegradable detergents. All chemicals used during the cleaning and disinfecting processes does break down swiftly once they are exposed to sunlight. It was proposed to reuse the grey water for irrigation purposes.</p>
Veldfire	Machinery and human activity would increase veldfire risk levels, especially during the dry seasons.

4.2.3 Positive Impacts for the operational phase prior to mitigation

POSITIVE IMPACTS	DESCRIPTION OF IMPACT
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<p>Socio-Economic: Economic upliftment</p>	<p>Approximately 28 permanent employment opportunities were created during the operational phase. Approximately 60% of the expected value of the employment opportunities was accrued to previously disadvantaged individuals.</p> <p>Any proposed expansion of the free-range chicken farm will make the farms economically more viable. The farm is the abattoir’s main source of meat since there are no other large-scale free-range chicken farms in the Henties bay</p>
<p>Socio-Economic: Food security</p>	<p>The local production and subsequent processing of meat at the Desert Chicken Poultry farm & Chicken Abattoir in Henties bay communal area boosts the Environmental Management Programme Expansion of the free-range chicken farm on Farms and economy of Henties bay and surrounds, while aiding in securing the local availability and access to an additional food source.</p>
<p>Socio-Economic: Healthier food option produced in a more humane and sustainable manner</p>	<p>Free-range products are generally more expensive compared to commercially produced products. The demand for free-range products are however escalating due to an increased demand for healthy living and an increased awareness regarding animal welfare.</p> <p>Free-range chicken meat is a healthier food option compared to meat that is produced in the conventional intensive broiler industry.</p> <p>The operational poultry farm has thus supplied an alternative food source to the population that is produced in a more humane and sustainable manner. The proponent proposed to base the project development on a permaculture system which is based on core values and ecological design principles that seek to develop sustainable agricultural systems.</p> <p>The project development has the potential to set a positive precedent for sustainable agriculture in Erongo region & Namibia as a whole.</p>

As depicted in the tables above, impacts related to the operational phase are expected to mostly be of medium significance but can mostly be mitigated to have a low significance. The extent of the impacts is mostly of low likelihood. An Environmental Management Plan (EMP) will ensure that the impacts of the operational phase are minimised and included measures to reduce the identified impacts during the operation of the Poultry project

activities while ensuring that the local environment is rehabilitated and employees working on the guesthouse are suitably protected to avoid accidents and injuries.

4.3.4 Mitigation Measures during Constructions Phase

All appropriate mitigation measures should be implemented by the Applicant for the duration of the construction phase.

Objective	Mitigation: Action/control
<p>Protection of floral biodiversity – indigenous plant species and vegetation type</p>	<p>Extensive earth moving activities and levelling is highly undesirable. Vegetation cover should be left intact where possible, except for development areas such as the chicken houses and roads. A certain amount of damage is expected during construction phase.</p> <p>Where vegetation cover is too high, trimming back to at most to 0.5m height is recommended instead of the complete removal of vegetation.</p> <p>Disturbance or removal of the topsoil should be prevented as far as possible to reduce the risk of erosion and to prevent the impact on dormant geophytes. Wherever topsoil is disturbed, geophytes should be removed and relocated to buffer areas.</p>
<p>Protection of biodiversity – ecological processes</p>	<p>Proper construction and maintenance operations of roads and fence lines must be followed to reduce impact and obstruction of Ecological Support Areas</p> <p>It is recommended that the forage camps only be partly fenced around the chicken houses to separate chicken flocks, while maintaining ecological connectivity in the form of ecological corridors. Natural vegetation should remain intact to allow for natural storm water infiltration and dust management.</p>
<p>Protection of faunal biodiversity</p>	<p>Maintain intact habitat wherever possible. Parked construction vehicles and machinery must be inspected before they are moved to ensure that no slow-moving animals (e.g. tortoises) are killed while hiding beneath the vehicles.</p> <p>Animals must be allowed to cross the site unharmed during the construction phase.</p>

	<p>Refuse should be removed from site regularly.</p>
Storm water management	<p>The Applicant should only clear the land necessary to accommodate the development to reduce potential erosion.</p> <p>Physical disturbance to topsoil should be restricted to demarcated areas (Chicken houses, roads and associated infrastructure).</p>
Reduce risk of erosion	<p>Internal roads must be constructed in areas where the minimum amount of vegetation will be disturbed.</p> <p>Steep gradients must be avoided for the construction of chicken houses and associated infrastructure. Any eroded area must be repaired as soon as possible to prevent further damage.</p>
Protection of water resources	<p>Water abstraction should be kept to a minimum and personnel should be instructed not to waste water.</p> <p>Storm water from the roofs of buildings should be captured in rain water tanks. This could also be used for drinking water.</p>
Protection of heritage resources: Archaeology & Palaeontological	<p>If any archaeological or palaeontological (e.g. human remains, bones, teeth, fossil wood, plant- or shell-rich beds) material is found or exposed during earthmoving and construction, work must cease, the site should be moved elsewhere by arrangement</p>
Minimisation of visual impact	<p>The Applicant should only clear the land necessary to accommodate the development. Layout and construction of roads and infrastructure should be planned with due cognizance of the topography.</p> <p>Rehabilitate areas disturbed during construction to prevent visual scarring.</p> <p>A “no development” buffer area must be maintained between the chicken houses and neighbouring crop fields.</p>
Minimization of Dust	<p>Earthworks and vegetation clearing / trimming should not be undertaken during very windy conditions.</p> <p>Cleared land should be exposed for a minimum time possible and rehabilitated after construction. Rehabilitation should include.</p> <p>Mulching and re-vegetation to stabilise the soil.</p>

Minimisation of Noise	<p>All construction equipment, including vehicles, must be properly and appropriately maintained in order to minimise noise generation.</p> <p>Silencers (sound bafflers) should be used to ensure effective sound dampening, if necessary.</p> <p>Noise levels will be kept to a minimum by limiting operation of heavy earthmoving equipment and construction activities to normal working hours, and to normal work days (i.e. Monday to Friday, between 08h00 and 17h00).</p>
Waste and effluent management	<p>Construction vehicles and machinery should be properly maintained to prevent contamination of soil and water through the spillage or leakage of hydrocarbons such as petrol and diesel. All vehicles leaking fuel or other liquids should immediately be removed to the maintenance area and repaired. Spills should be cleaned up promptly and disposed of correctly.</p> <p>Portable toilets should be supplied for personnel during the construction phase.</p> <p>Any building & solid waste must be transported to the Henties bay Council dumping site.</p>
Minimisation of traffic impact	<p>Construction vehicles may only park on specific demarcated areas. Appropriate traffic safety measures should be put into place to ensure the safety of travellers.</p> <p>Appropriate traffic warning signs shall be maintained. Trained and equipped flagmen shall be used where the access road intersects with public roads.</p>
Socio-economic development	<p>Local workers, companies and contractors should be used as far as possible during the construction phase.</p>
Protection of Agricultural resources	<p>Officials from the Department of Agriculture, water & Forestry:</p> <p>Land Use and Soil Management should be allowed to visit the farm without consultation or prior notice for the entire construction period. An agricultural specialist in natural resources should be appointed as part of the installation team.</p> <p>The agricultural specialist must periodically visit the site to make recommendations with regard to the protection of natural resources or</p>

	identify risks and impose preventative measures for the identified possible negative impacts
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4.2.5 Mitigation Measures during Operation Phase

All appropriate mitigation measures should be implemented by the Applicant for the duration of the operational phase.

Objective	Mitigation: Action/control
Protection of floral biodiversity - indigenous plant species and vegetation type	<ul style="list-style-type: none"> ▪ Overstocking should be prevented. ▪ No additional vegetation should be cleared during the operational phase. ▪ Existing roads must be used as far as possible. ▪ Indigenous species (also water-wise) must be used for the establishment of paddocks, pasture and natural barriers.
Protection of biodiversity – ecological processes	<ul style="list-style-type: none"> ▪ Maintain intact habitat and ecological corridors wherever possible. ▪ Provide additional natural shelter in the pasture (veld) for chickens. ▪ External shade by way of either trees or artificial structure must be provided ▪ Educate operational personnel, if the need arises, about the importance of conservation and to understand that exploitation of local resources is prohibited.
Prevention of veldfires	<ul style="list-style-type: none"> ▪ Open fires (e.g. cooking) should not be left unattended. ▪ Cigarette buds should be safely disposed of and not thrown into the veld. ▪ A fire break should be created and maintained around the perimeter of the farm. ▪ The Applicant should ensure that fire-fighting equipment is available in the event of an accidental fire breaking out.
Storm water management	<ul style="list-style-type: none"> ▪ Overstocking, overgrazing and subsequent erosion should be prevented. ▪ Storm water from the roofs on buildings should be captured in rain water tanks. This could be used for drinking water at the chicken houses, irrigation and for cleaning and disinfecting purposes.

	<ul style="list-style-type: none"> ▪ Storm water diversions / furrows along internal gravel roads should be maintained. Any signs of erosion should immediately be addressed
Reduce risk of erosion	<ul style="list-style-type: none"> ▪ Effective storm water measures must be implemented. ▪ Any erosion sites must be repaired as soon as possible to prevent further damage. ▪ Disturbances within and around the development area caused by the construction activities should be rehabilitated once construction is completed (re-vegetated or stabilize the soil).
Protection of water resources	<ul style="list-style-type: none"> ▪ Water abstraction should be within the amounts stipulated by the farm's existing water use rights, including additional availability from the borehole ▪ High pressure equipment should be used for the cleaning and disinfecting of chicken houses to reduce water usage.
Protection of heritage resources: Archaeology & Palaeontological	<ul style="list-style-type: none"> ▪ If any archaeological or palaeontological (e.g. human remains, bones, teeth, fossil wood, plant- or shell-rich beds) material is found or exposed during earthmoving and construction, work must cease, the site should be demarcated. ▪ The material should not be removed until inspected by an archaeologist.
Reduce Visual impact to public roads	<ul style="list-style-type: none"> ▪ A “no development” buffer area must be maintained between the chicken houses and neighbouring crop fields. ▪ The height of all buildings on site should be kept as low as possible to reduce visual impact.
Minimisation of Dust	<ul style="list-style-type: none"> ▪ Overstocking, overgrazing and subsequent wind erosion should be prevented. ▪ Cleared areas should be exposed for the shortest time possible. ▪ Land clearing should not be conducted under strong windy conditions.
Reduce Odour levels	<ul style="list-style-type: none"> ▪ Manure and bedding material should be removed from site on a regular basis by a registered contractor. ▪ No storage and processing of waste should occur on site. ▪ A detailed Mortality Disposal Procedure (MDP) should be compiled and implemented by the Applicant according to which dead chickens are collected and disposed off on a daily basis. ▪ Biosecurity and optimum hygiene practices should be applied on a daily basis

Solid waste management	<ul style="list-style-type: none"> ▪ Chicken manure and bedding material should be removed from site on a regular basis. ▪ Dead chickens and other hazardous material should be collected from the veld and chicken houses on a daily basis. ▪ A mortality register should be kept. ▪ Mortalities should be stored in closable bio-hazard bins at a suitable and controlled holding facility until they are removed from site and disposed of at the Henties bay town council Waste Disposal Site. ▪ Workers should be instructed not to litter on site. ▪ General and household waste should be properly disposed of on a regular basis at the Henties bay Municipality dumping site.
Effluent management	<ul style="list-style-type: none"> ▪ Septic tanks should be installed further than 100m on either side of any watercourse. ▪ The quantity of grey water used for irrigation purposes should be kept below the thresholds stipulated in the National Water Act ▪ Surface and groundwater quality should also be routinely sampled and analysed for potential pollutants
Socio-economic development - employment	<ul style="list-style-type: none"> ▪ Local workers, companies and contractors should be used as far as possible during the operational phase.

The EMP have specific targets for each year that will be evaluated by the annual Environmental audit. The audit makes recommendations which will necessitate changes in the EMP. The EMP is and will be reviewed on an ongoing basis as new environmental challenges arise or targets/objectives are achieved. The Operations Manager will ensure that this review occurs in a timely manner.

5. DECOMMISSIONING PHASE

The development for Henties bay Desert Chicken Poultry farming Leasehold have ended, the proponent has thus purchased the property to expand the business project which will not be subject for sale to third parties once the developer ceases operation of the business. Although the proponent owns the land, certain works will require decommissioning once the project stops operating. the decommissioning phase described for the purposes of this EMP consist of the following activities:

- Chicken houses and associated infrastructure should be dismantled.
- A hierarchical waste management approach should be adopted, namely:
 - re-using whole components and infrastructure,
 - recycling all useful materials such as metals, glass and plastics,
 - energy and material recovery at a gasification plant or similar,
- Safe disposal of remaining waste portions at a licensed incineration or landfill site.
- Concreted areas should be broken up and building rubble recycled or disposed of at a licensed landfill site.
- Compacted areas such as roads should be ripped and rehabilitated using local vegetation.
- Disturbed or eroded areas should be rehabilitated using suitable methods and natural local vegetation.
- All rehabilitation should be supervised by a suitably qualified professional such as a botanist, hydrologist or engineer.

6. CONCLUSIONS AND RECOMMENDATIONS

This environmental scoping report that was submitted in 2016 has addressed the key issues as identified in this EMP and no significant impacts have been identified.

6.1 Conclusion

In the current Namibia society, businesses such as the Henties bay Desert Chickens /Poultry farm for agricultural production and services have proved to have major positive socio-economic impact on the development of towns, region the nation's development. These types of businesses are important tool in alleviating poverty and providing alternative livelihoods, especially in Namibia's community areas with a low rate of unemployment.

This project development in Henties bay on portion 3394 Henties bay extension 9, has proved to have a high potential for trading or supplying on local markets, for export to SADC countries and for export to other countries outside African continent. It also offers socio-economic benefits to the local communities with minimised ecological impacts.

Since the project site falls within the Erongo region which is rated as a second poorest region according to the regional poverty profile (NPC, 2004) the surrounding communities can only benefit from the proposed Poultry farm in terms of increased long-term quality of life.

6.2 Recommendations

Development related impacts must be prevented or mitigated by implementing strict monitoring and control mechanisms. All permits and approval must be obtained from the relevant ministries or authorities for the operation of the Poultry Farm, such as business fitness certificates & certificates of operation from Ministry of trade. It is imperative that the mitigation measures as set out in this EMP be implemented during the planning (layout design) construction and operational phases to prevent unnecessary damage to the natural environment.

The EMP should be added to all contractors' agreements and be signed by such contractors. The recommendations made in this report places the developer under a legal obligation to ensure that all mitigation measures are implemented and followed through during construction and operation of the Henties bay Desert Chicken/Poultry farm.

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