ALPHA EVENTS AND MARKETING

Environmental Management Plan

For

Noya Natural Chicken

Premium Organic Products

Poultry Business Project

Okahao

Ongandjera

Omusati Region

PROJECT INFORMATION

Environmental Management Plan for The Development of Chicken Farm and Chicken Meat Processing Plant in Okahao Town on Portion Land X, Erf 1213.

Proponent Details:

Business Name: Alpha Events and Marketing CC
Business Registration Number: CC/2019/08783
Project Trading Name: Noya Natural Chicken
Project Principle: Chicken Eggs and Chicken Meat Production

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ACRONYM

Terms	Definition
ECO	Environmental Control Officer
SPC	Stubenrauch Planning Consultants
EIA	Environmental Impact Assessment
EMP	Environmental Management Plan
PPE	Personal Protective Equipment
MET	Ministry of Environment and Tourism
DEA	Department of Environmental Affairs
ECC	Environmental Clearance Certificate
EA	Environmental Assessment
HPP	Harambee Prosperity Plan
NDP5	National Development Plan 5
GDP	Gross Domestic Product
FAO	Food and Agriculture Organization
LED	Light Emitting Diode
HSE	Health, Safety and Environment
CFL	Compact Fluorescent Light
EMA	Environmental Management Act
NORED	Northern Regional Electricity Distributor

FIGURE

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1.1 INTRODUCTION

Alpha Events and Marketing CC have taken up a business mandate to establish a state-of-the-art integrated poultry venture called Noya Natural Chicken. The business's principal activity is chicken farming, which includes broiler, layer and dual-purpose chickens. Its secondary business activity is manufacturing that includes the slaughter and packaging of chicken meat and eggs. The facility structure will include a chicken farm, a chicken meat processing plant, a warehouse, and an administrative block, all on one site.

The entire business concept is to produce and sell all chicken products that includes eggs, chicken meat and giblets. The business will imply zero waste production approach, whereby even by-products such as manure will be sold as fertilizers, while bones and heads will be sold as pet foods. All chicken feathers will be extracted from the meat processing plant, then washed and packed to be sold to bedding and apparel manufacturers.

However, the exploration, identification and development of alternative niche businesses and new products will be an ongoing process aimed at maximizing business profits and fostering business growth. With a fundamental existing mandate of producing organic chicken products, project will trade with a strong brand tag line; “Premium Organic Products.” The proponent set to achieve that as a business objective which will distinguish it from other similar businesses.

The project will employ skilled labour and use modern and efficient technology to meet customer expectations for healthy natural products. The utilization of advanced technology and machineries is prioritized to assure the community that the project’s semi-industrial activities will not destabilize its ecosystem, especially with noise and air pollution. In addition, the disbursement of undesirable substances in the community, such as plastic, oil, chemical and other waste materials will not be done.

Apart from the business interests, operations and establishment verdicts alluded above, project will uphold several national priorities aligned with its business nature. This means that great pursuit of success will be emphasized for nation building as it is to be emphasized for profit making. Mass job creations, food security, rural and infrastructure development, imports reduction and improving the populace livelihood for grassroots social welfare are the business tied-up national strategic goals.

Prior to the commencement of infrastructure set up, Alpha Events and Marketing CC has to obtain an ECC for Noya Natural Chicken in full compliance with the legal requirements, of section 27 of the Environmental Management Act, 2007 (Act 7 of 2007). It is for such cause that Alpha Events and Marketing CC has to appointed (JPinvestmentcc, environmental consultant to conduct an EA and develop an EMP for the project.

Key to the issuance of an ECC is the submission of this EMP document which provides a description of how the project might impact the natural environment in which it will operate. This EMP further clearly sets out commitments from the proponent on how identified impacts will be avoided, minimized and managed to be environmentally acceptable. This EMP is drafted for guidance of the projects' construction, operation and decommissioning.

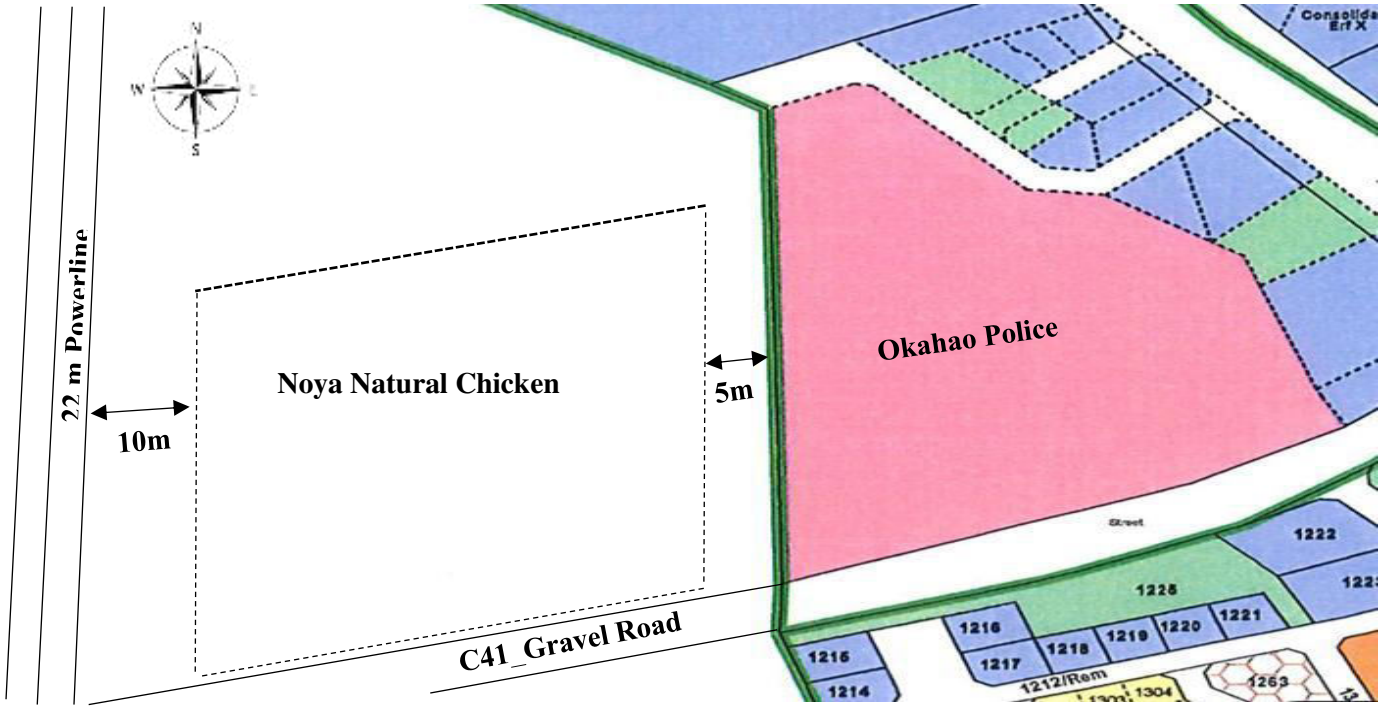
1.2 PROJECT LOCATION

The business site is within the town land of Okahao Town in Omusati Region, located on the East side of the police station, at a non-serviced land demarcated as Portion X, Erf 1213. In review and description of the surroundings, the area is not in the mist of a residential area except traditional homestead on its far east side. The location is accessible from its South side via a gravel road that linked the community of Uukwalumbe village to Okahao Town.

Figure 1: Project Site Arial View

Figure 2: Uukwalumbe-Okahao_C41 Gravel Road

Based on a survey and preliminary civil engineering works conducted on the site to test the environmental safety, project success probability and sustainability, prominent findings include no indigenous plant or perennial rivers within 100m radius of the site. On the other side of the gravel road, there is a town council cattle and goat slaughtering house which is used almost daily by domestic fresh meat vendors. The site has few shallow open pans where waterlogged during the rainy season and it is timely used as a dumping site by few locals. Figure 3 shows the site location while 4 shows the current site status.



1.3 PROJECT OVERVIEW

Figure 5: Okahao Town Council Slaughtering House

Figure 4: Site Used as Dumping Site by

Since this is an integrated poultry project, the proponent will make a significant investment to implement its highly sophisticated and complex business model. In details the chicken farm section will have five houses, mainly for layers, broiler breeders, dual-purpose breeders, and rearing houses for both broilers and dual purposes. While the processing plant will consist of chicken slaughtering house, meat cutting, cleaning, screening, offices, storerooms, ablution facilities and cold storage room.

The warehouse will be divided into three sections, mainly packaging, storage and dispatch department. There will be two administrative blocks, one for management activities and the other for supervision of production and operations as a control unit. These administrative blocks will consist of offices, receptions, boardrooms and a laboratory evaluation unit to verify production inputs and outputs at the farm section and processing plant.

Processes at the processing plant will be done by an automated conveyor machine from slaughtering stage until packaging. About utility services, Okahao Town is one of the Namibian towns with an unstable power supply as it often goes out due strong wind or moderate rain. Therefore, the project will have a backup plan of an independent solar energy system supported by a mobile low-carbon electric generator to provide electricity if NORED's service is unavailable.

Water is another imperative utility element of chicken farming, which cannot be taken lightly, especially for Okahao where water supply is often affected by the availability of electricity. Thereof, the project will have water storage tanks of sufficient capacity to supply water throughout the plant for a minimum of 24 hours' availability. Basically, the business plan carries practical mechanisms to maximize the project efficiency, sustainability and profitability.

The project will practice intensive poultry farming system, which means that it will breed its own chickens to lay eggs then hatch them to rear a next generation of chicken until they mature for slaughtering weight in its chicken houses. Based on their positive characteristics parallel to the geographical traits of the region and the local poultry market status, the proponent chose the following breeds of chicken as the best for production.

- Barred Plymouth Rock – Dual Purpose
- Cobb 500 – Meat
- Rhode Island Red – Eggs Layers

1.4 NEEDS JUSTIFICATION

Economic emancipation, infrastructure and rural development are core national strategic goals of the NDP 5 and strategic pillars of the HHP 1&2 leadership mandate. All these vital governmental directive plans are anchored to this project foundation as propelling guidance and tools towards the achievements of Vision 2030, the Namibian nation dream. Subordinate objectives under economic growth, and rural and infrastructure development are clearly stated in these documents whereby agriculture and agro-processing are leading as prominent instruments.

This is since for almost a decade, agriculture sector has been making commendable contribution to the national GDP. At the same time, agriculture produces, and agro-processed foods have been topping the national imports statistics in terms of value and quantity. In the recent years the country has been encountering concurrent drought and poor rainfall records which affected the production of large livestock and cereal crops farming. As a result, many Namibians turned into horticultural and poultry production at household level.

The government further supported the trends with introducing buy local campaign, setting up import's restrictions and boarder closures during the time of bumper harvest. The aim is to boost local production to bring about food security, self-reliance and reduce imports of primary and secondary agricultural and agro-processed foods products. However, such favour always gets immediately lifted as the high demand pressure mount, especially for poultry products, chicken meat and eggs in particular.

Hence, the Namibian poultry industry is still considered undeveloped, with many medium and small-scale producers. Almost 99% of them practice traditional operating tactics due to lack of

up-to-date technologies and machineries to improve their production in terms of quality and quantity. Fundamentally, most of their business model and setup is completely different from the one of this project. Due to the few participants in the industry and the unfortunate industrial status, the country has recorded low economic inputs from this sector.

During 2018, the chicken egg production in Namibia was recorded at 3,739 tonnes, a significant decrease of 5.37% from the reported 3,951 tonnes in 2017. According to the International Poultry Site report, the country's six major egg producers, all located near Windhoek and Okahandja, market approximately 100 million eggs annually. Although, Namibia continues to spend over US$ 37.1 million per month on egg imports, which reached US$ 186.3 million by the third quarter of 2021.

According to the Namibia Statistics Agency report, the country imported 27,000 tonnes of chicken meat in 2017, valued at N$ 401 million. This figure rose to 36,000 tonnes in 2018, which is worth about N$ 473 million. Recently, Namibia imported about 15,000 tonnes of chicken meat from Brazil, China and South Africa in 2019 and 2020, respectively. This quantity was equivalent to N$ 2 billion worth of chicken meat imported into the country over those two years. Of this amount, an estimated N$ 1.2 billion was imported in 2019 alone and N$ 839.7 million was imported in 2020.

In summary, the Namibian poultry industry contributed 0.71% of GDP, equivalent to N$ 888 million by the end of the 2018 fiscal year. In the same year, the country recorded its highest overall poultry product exports, valued at N$ 1 million. In essence, the Namibian poultry industry's contribution to the GDP in 2018 was laudable at N$ 201 million, an increase of 0.12% from the contribution of 2017. The chart below shows the value of the chicken meat products imported into Namibia for the aforementioned years.

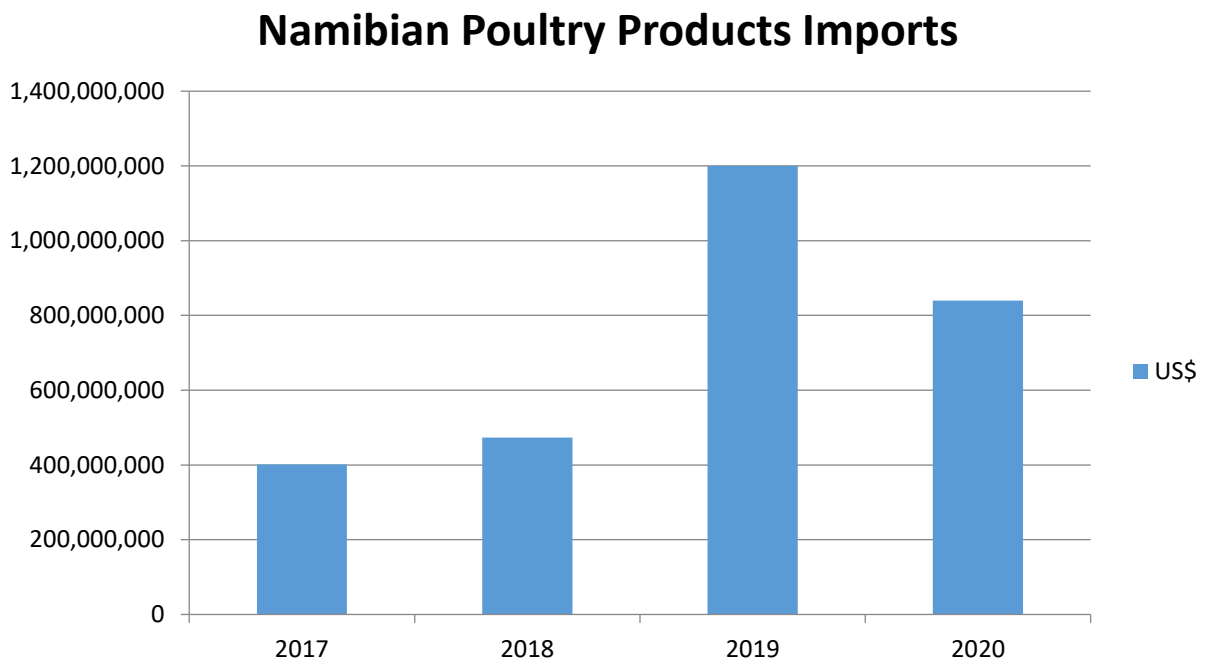


Figure 6: Namibia Chicken Products Imports

In due time, the country currently has a local production capacity of 30,000 tonnes of chicken products annually and is projected to increase with 10% by 2025. This production capacity corresponds to the total amount of frozen chicken meat products, fresh chicken meat products, eggs, live chickens and chicks. The largest and lucrative domestic market for poultry products is Khomas region, followed by Otjozondjupa, then come the four northern regions, namely; Omusati, Oshana, Ohangwena and Oshikoto region.

According to reports on chicken meat imports, a lot of imported products are of low quality and expensive. Some are reported to have implications for consumer's health as a result of artificial growth hormone injections used on chickens. In 2020, Namibia recorded an annual per capita consumption of chicken meat per household at 13 kg, which is much lower than in other African markets with more than 26 kg per capita, per household. The adverse notion to this is that a large number of that consumed products were imports.

On average, local consumption per inhabitant reaches 2,500 tonnes per month, of which 1,900 tonnes are produced locally. This is an unfortunate performance, as aggregate demand in Namibia is estimated at 3,100 tonnes per month, which is equivalent to 37,200 tonnes per year. This is still far from the future market demand, which is projected at 43,300 tonnes per year by 2025. The margin for meeting market demand and adequate supply of quality chicken products is still enormous. As per the above alluded industry and market overview, the Namibian market demand of chicken products is currently recorded as illustrated below.

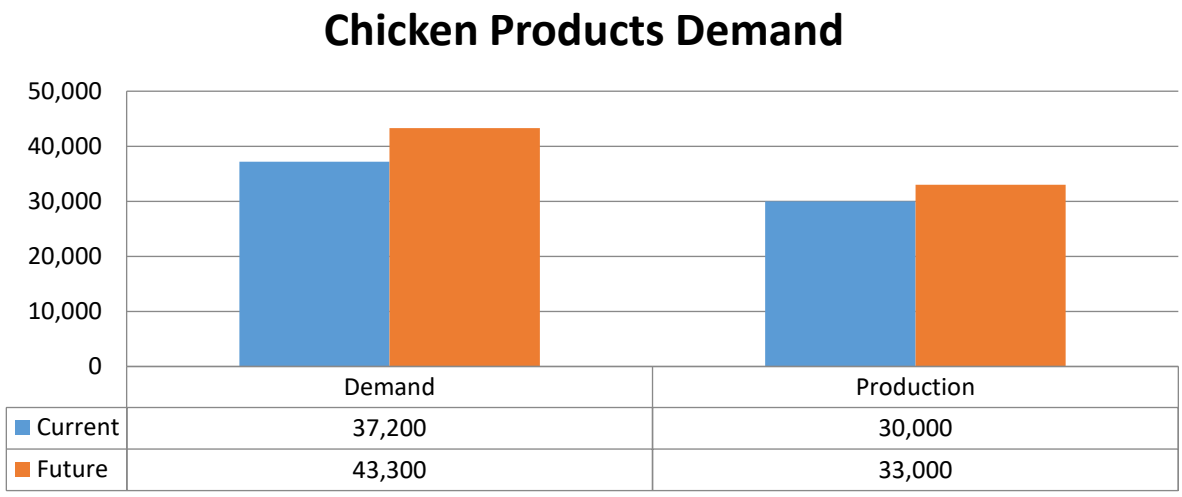


Figure 7: Namibian Market Chicken Products Demand

2 DEVELOPMENT IMPACT

The project will be the first business venture of its kind in Okahao and Omusati Region at large. This alone has placed a mammoth task on the proponent shoulders to make imperative contribution to the constituency as a community treasure and its probabilities of being successful nationally. Consequently, the proponent has enormous responsibilities to develop the community and empower its inhabitants to become self-sufficient in terms of improved livelihoods.

It is of such intention that primary development emphasis is placed on skills transfer for economic emancipation, mass job creation and support community-based organizations for grassroots social welfare of both human and animals. Furthermore, the proponent will incorporate few related attractions acts of Okahao district into its marketing activities. This maneuver aims to expose the local heritage of the inhabitant communities in order to attract specific investors and develop them to generate revenues to the great benefit of all stakeholders.

This means that a range of information about cultural and tourism attractions acts in the communities will be included in the project's promotional materials such as brochures, flyers, catalogues and website. The project will further offer a point-of-sale platform for innovative cultural and artistic handicrafts done by individuals and groups from the constituency and the region at large. Every year, the project will commit a substantial amount to sponsorship of community base events such as sports, cultural festivals and career affairs.

In order to make sure that these costly socio-economic efforts do not go to waste, the proponent will develop an evaluation committee to make sure that the benefits reach the intended beneficiaries. Strategically, the overall development impact of the project will address issues

related to social, economic, rural and infrastructure advancement. Hence, its operation and production activities are framed by sustainable farming and ecosystems preservation, which include planting trees around the town annually.

3 STRUCTURE LAYOUT

Upon commencement, the 2 hectares piece of land will be segmented into three sections, of which one is for the administration, one for the control rooms and another one for the production and operation activities which features the chicken farm houses, the processing plant and the warehouse. There is another fourth section which is meant for the projects' expansion of a niche business, basically a chicken meals restaurant. The entire facility structure and layout is designed in accordance with the predicaments of the following key factors.

- Land acquisition terms and conditions
- Okahao Town Council Strategic Plan
- Environmental and biodiversity preservation
- Sufficient production
- Rural and infrastructure development

Since the proponent is only given 25 years to lease the land for its establishment, it will use both permanent and semi-permanent materials for construction. All standing structure will be made using semi-insulated sandwich prefab panels. Whereas these structures foundation and floor will be of concrete and the roof is insulated corrugated iron sheets. The fencing will be made with precast that are flexible to restructure and invisible for one to see through. The site nature does not require heavy earth workloads as the land is clear of rocks and huge trees, as presented by figure 8 and 9 below.

Figure 9: Site View During Dry Season 2021

Figure 8:Site View During Rainy Season 2022

At the other end, semi-insulated sandwich panels are highly recommended for poultry farming establishment as they assure quality products due to their manufacturing features which

regulates temperature, control noise pollution and odour emission. These materials are also durable and washable which make them best choice to contain surface contamination which can implicate final products quality and human consumption safety. The design has a modern attractive appeal with couple of trees, shrubs and natural turf planted around the premises to specifically complement the unique strategic plan of making Okahao a green town.

Hence, these plants will further comprehend the project efforts to curb unfortunate environmental aspects relating to air pollution and wastewater disposal, as the project will have a portable DAF semi-purification system to treat wastewater from its production and operation activities to be fit for watering trees, shrubs and turf. The flow of sewer and storm water are designed as per town council prior recommendations. Figure 11 below, illustrate the entire project site layout which includes the processing plant, chicken houses, control rooms, water treatment room, entertainment block, VIP lobby, restaurant, security room and administration block.

4 UTILITY SERVICE

As for an integrated poultry project, water, electricity and sewer are the main services elements of operation. Essentially, water and electricity are core inputs of the entire project operations and productions. These services provision have a high influential capacity to the outputs of the project to an extent that no activity or process can take place in their absence. Such make them significant from the very first step of business establishment to the final step of products dispatching.

The proponent has acknowledged their significance in terms of availability, quality and quantity. Whereby their effectiveness and efficiency are influenced by the delivery and reliability of the service provider, geographical traits, infrastructure design and machineries operation capacity. These are important criterion to consider upon choosing the suitable service provider and executing service provision contracts. Inefficiency in delivery from the supplier, turnout to negatively affect the project's productivity and external environment.

Highlighting the shortcomings of the project location, Okahao town has an unfortunate status of electricity provision, as it often goes off due to maintenance, strong wind and moderate rain. At times the availability of electricity further affects the availability of water even for the whole day. Thereof, taking in account the project's operations and production processes aligned to its products sensitivity, the proponent chose to have fully functional backup plans for each utility service as listed below.

- Water
    - Main Supplier: Okahao Town Council
        - Backup Plan: Water Storage Tanks

- Electricity
    - Main Supplier: Nored
        - Backup Plan 1: Solar Power System
            - Backup Plan 2: Mobile Low-carbon Electrical Power Generator

- Sewage
    - Main Supplier: Okahao Town Council
        - Backup Plan 1: DAF Portable Semi-Purification System
            - Backup Plan 2: Portable Sewer Water Pump Station

5 PRODUCTION PROCESS

The entire business production process will take place at the project premise in Okahao. With five chicken houses of about 60m x 8m each, the production and operation area will occupy much land of the project. Each house has a maximum stock density of 10,000 chickens, which means that the farm section will have a total producing capacity of 50,000 chickens per time. Out of that

production capacity, 15,000 are dedicated eggs laying chickens that will produce about 3,150,000 eggs in quantity, which is equivalent to 168 tonne of eggs per a year.

Due to the size of the local poultry market and the Namibian population, the project will start with a meat production capacity of 500 chickens per hour. That is inclusive of both fresh and frozen chicken meat products. The overall chicken meat production per annum is estimated at 4,000 tonne. The project will start with full production capacity and expects to increase its total production capacity in line with the business strategic plan detailed in its business plan.

With three different types of breeds under one farm, raised for two different purposes, the project will have three different production circles on its farm. One circle is intended for meat production, one is egg production, and the other circle is for the breed that is raised for meat and egg production. Therefore, the need for separate houses is vital because determining afactors of productivity of each breed differs in relation to space, ventilation, equipment and machineries.

It is another crucial and important aspect that the processing plant is equipped with high quality machineries, tools and technological equipment to assert quality products and mass production. Considering the guiding principles of environmental impact, it is essential that all houses be constructed using washable and durable materials for hygiene and ease of disinfection. At the centre of its production processes, the proponent has prioritized the following guiding principles.

- Sustainable farming
- Human and animals' welfare
- Biosecurity and ecosystem preservation
- Zero waste production approach

To affirm efficiency of all production processes inline with the above listed principles, all building structures will have proactive emergency gears to prevent any sort of accident or incidence that led to productivity degradation or total production failure. The following list and figures thereafter present some of the essential equipment, machineries and tools that will be in each chicken house and processing plant in relation to internal environmental safety, regards the production process.

- Fire extinguisher
- Water and fire sensor
- CCTV and alarms
- First aid kits
- Personal protective equipment
- Incubator s and hatching machines
- Feed silos
- Automated feeding system
- Automated drinking system
- Automatic manure remover
- Temperature control system
- Power generator
- Solar plant
- H-Type cage
- A-Type cage
- Brooder's equipment
- Cooling equipment
- Veterinary equipment
- Rakes and Brooms
- Knives and cutters

- Tables and trolleys
- Trays and crates
- Eggs cleaning machines
- Eggs grading machines
- Meat packaging
- Eggs packaging
- Fire and water leakage sensors
- Products screening machines
- By-products packaging
- Pressure Sprayers and washers

Figure 11: Rearing House Floor Illustration

Figure 10: A-Type Cage with Automatic Manure Cleaner Illustration

Apart from the above listed and presented equipment and machineries, there are other internal working environment factors that pose direct threat to the project's final products and the end users. Structure interior is the main internal environmental factor of chicken houses and processing plant that has an everlasting and strong influential impact on the health and performance of chickens from their early life stages. Primarily, this very specific factor has been promptly addressed upon infrastructure design and selection of construction materials.

As a matter of concern, environmental stress during the first few days after hatching should be avoided in order to reduce disease exposure, unexpected mortality and inconsistent growth. Similarly, improper internal working environment diminishes the health and performances of employees. In most cases, an unfortunate fallout of an internal working environment factor, often result in a force majeure. Therefore, apart from the interior design of the structures, strict control and constant monitoring of the following internal working environment features will be tightened.

- Water
- Feed
- Temperature
- Humidity

- Stocking density
- Litter
- Ventilation
- Noise
- Odour
- Dust
- Insects
- Leakages

5.4 PRODUCTION INPUTS

Regardless of breed selection and structure design, choosing the right types of production inputs for each breed is important in terms of productivity, cost and environmental impact management. Chicken production inputs need to be clinically controlled and monitored in terms of type, availability, quantity, quality, timing and application. This is due to the fact the level of any pollution impact that emanates from poultry projects is weighed on these descriptive details of the production inputs.

As reflected in the projects' trading name, the project will use natural production inputs at all times. This has significant impact on the odour that comes from the chicken manure since production inputs determine the nutritional composition content of the manures as fertilizers and its smell. In addition to selecting environmentally friendly production inputs, storage of such inputs is another important task to consider in terms of safety and temperature regulations.

Any adverse impacts and unsafe exposure to inputs during storage pose an irrevocable threat of high mortality, diseases outbreak, diminished productivity and hazardous effects on the external environmental of the project. With acknowledgement of the highlighted possible unfortunate turnouts, the project opts use the following production inputs due to the fact that their description content and application procedures are corresponding with the projects' intended environmental management plan.

- Medicines
    - Triple Sulfa + Cocsidiosis
    - Bedgen 40 Antioxidant
    - Cosumix
    - Fosbac T + Wide Spectrum
    - Gutpro
    - Super Air
    - Aviblue
    - Eliminator + Superstar

- Vitamins
    - Vitastress
    - Anchorvite Vitamin
- Vaccines
    - New Castel
    - Gumborro
    - Bronchitus
- Disinfectants
    - Formalin
    - Virukill
    - Virkon S
    - Vet Range Ultracide + Vet Range Superwash
- Fuel and Oil
    - Diesel, Petrol and Grease

6 APPLICABLE LEGISLATIVES

The core purpose of this document is to identify and review the guiding legislatives and policies that will usher all accumulative activities of the project for the proponent to adhere to and enforce them to the contractors. All types of industrial and farming activities have distinctive principles laid by various independent, national and international policies, and constitutional legal doctrines of the country. The proponent is obliged to comply with these legalities during the planning, construction, production, operation and decommissioning.

In honoring all these legal instruments, the proponent has designed a sustainable bidding framework which is clearly stating its position regarding to how the provision of these legal instruments' principles read inline with the relevance of its project establishment and functionalities. The referred framework will be adapted as a guiding instrument laid on legislatives that are applicable to corresponding provisions jointed to the project relevance actions provided. Collectively, legal provisions that have relevance to various aspects of the entire project establishment and developments are detailed in correlation in the table 1 below.

Legislation/Policy/Document	Provision	Relevance
The Constitution of the Republic of Namibia (1990)	Articles 91(c) and 95(i) commits the state to actively promote and sustain environmental welfare of the nation by formulating and institutionalizing policies to accomplish the sustainable objectives which include: • Guarding against overutilization of biological natural resources • Limiting over-exploitation of non-renewable resources • Ensuring ecosystem functionality • Maintain biological diversity	The establishment and operation of the project will address environmental preservation and natural resources sustainability.
Environmental Management Act No. 7 of 2007 (EMA)	The Act aims at the promotion of environmentally sustainable management and the use of natural resources by establishing principles for decision-making on matters affecting the environment; To provide for a process of assessment and control of projects which may have significant effects on the environment;	This document is compiled in line with the objectives of the EMA.

	The Act gives legislative effect to the Environmental Impact Assessment Policy. Moreover, the act also provides procedure for adequate public participation during the environmental assessment process.	
Convention on Biological Diversity (1992)	Article 1 of this legislative lists the conservation of biological diversity amongst the objectives of the convention.	The project should consider the impact it will have on the biodiversity of the area.
Vision 2030 and National Development Plans 5	Namibia's overall Development ambitions are articulated in the Nations Vision 2030. At the operational level, five-yearly NDP's are prepared in extensive consultations led by the National Planning Commission in the Office of the President. The Government has so far launched NDP 5 which pursues the following national strategic objectives: • Economic progression • Social transformation • Environmental sustainability • Good governance	The project will deliver rural and infrastructure development, industrialized agriculture sector and boost the food processing industry. It will further bring about reduced imports on primary and secondary chicken products which will result in a self-sustainable nation.
Environmental Assessment Policy of Namibia 1994	The Environmental Assessment Policy of Namibia requires that all projects, policies, programmes, and plans that have detrimental effect on the environment must be accompanied by an EIA. The policy provides a definition to the term "Environment" broadly interpreted to include biophysical, social, economic, historical and political components and provides reference to the inclusion of alternatives in all projects, policies, programmes and plans.	After the acquisition of the Leasehold Agreement, the proponent will appoint an environmental consultant to carry out a technical EIA for its poultry farm, meat processing and packaging plant. The entire project will only commence after the proponent is awarded an environmental certificate, thus by abiding to the requirements of the Environmental Assessment Policy of Namibia. In line with this EMP the EIA will cater for the sustainable management of biophysical and socio-economic environment.
Forestry Act (No 2 of 2001)	The Act stipulates that there be a general protection of plants species and surrounding environment.	The Act specifies that no living tree, bush, shrub, or indigenous plants within 100m from any river, stream or watercourse, may be removed without the necessary license. Land clearing of an extensive piece of land will be done upon approval from the Directorate of Forestry. The proponent will also have to ensure that there is no

		indiscriminate cutting down of trees during construction and operation
Public Health Act (No. 36 of 1919)	Section 119: "No person shall cause a nuisance or shall suffer to exist on any land or premises owned or occupied by him or of which he is in charge any nuisance or other condition liable to be injurious or dangerous to health."	The proponent will ensure that all legal requirements of the project in relation to protection of the health of their employees and surrounding residents is protected. The development shall follow requirements and specification in relation to water supply and sewerage handling so as not to threaten public health of future residents on this piece of land. Contractors, employees and residents will be subjected to wearing personal protective gears when entering the site during establishment and the production areas during operations.
Soil Conservation Act (No 76 of 1969)	This Act deals with the combating and prevention of soil erosion. It states that the soil should be conserved, protected and improved. It further necessitates improvement of the soil, vegetation and other related resources.	Proper mitigation measures will be followed during the implementation phases. Planting of natural décor shrubs, natural turf and other shade trees is also part of the project structure and layout design.
Water Act No. 54 of 1956	Section 23(1) deals with the prohibition of pollution of underground and surface water bodies.	During construction there will be strict control of any possible water resources pollution. There will be recommended storage amenities for any substance or material that carries possible water pollution threat. Hence such materials utilization will be collectively monitored. Once the project begins operations, there will be a portable waste water recycling machines to recycle less contaminated waste water as semi-purified water for watering the plants, shrubs and natural turf.
Water Resources Management Act, 2013 (Act No. 11 of 2013)	This Act provides for the management, protection, development, use and conservation of water resources. This also forms the regulation and monitoring of water resources.	As it is indicated in the infrastructure and service section of this EMP, the project will source its water from Okahao Town Council.

Protected Areas and Wildlife Management Bill	The bill recognizes that biological diversity must be maintained, and where necessary, rehabilitated and that essential ecological processes and life support systems be maintained. It protects all indigenous species and control the exploitation of all plants and wildlife.	Prior to the project establishment, the proponent will fence off the site in order to prevent any harmful substance to fall within the boundaries of any protected area such as the nearby communities pearl millet fields. Operability, the project existing definition is directed at sustainable farming and ecosystem preservations. Therefore, there will be no conduct of activities that will not destroy or cause harm to significant vegetation and animals on site.
Local Authorities Act No. 23 of 1992	The Local Authorities Act prescribes the manner in which a town or municipality should be managed by the Town or Municipal Council.	The acquiring of the portion of land and expected project development are in compliance with the provisions of the Local Authorities Act.
Pollution Control and Waste Management Bill	The bill recognizes that biological diversity must be maintained, and where necessary, rehabilitated and that essential ecological processes and life support systems be maintained. It protects all indigenous species and control the exploitation of all plants and wildlife.	On top of its waste water portable purification machine the proponent will further ensure that waste is effectively managed and disposed of to ensure that pollution does not occur on site and in the surroundings.
Nature Conservation Ordinance 1996	To consolidate and amend the laws relating to the conservation of nature; the establishment of game parks and nature reserves; the control of problem animals; and to provide for matters incidental thereto.	The project location is in a town land and not in any or nearby any known or demarcated conservation area, national park or unique environments. The portion of land was selected with this ordinance in mind to ensure that Namibian nature is conserved.
Labour Act no 11 of 2007	Chapter 2 details the fundamental rights and protections. Chapter 3 deals with the basic conditions of employment.	Due to diverse employment opportunities presented during construction and operation, compliance with the labour law is essential.
Atmospheric Pollution Prevention Ordinance (No. 11 of 1976).	The Ordinance objective is to provide for the prevention of the pollution of the atmosphere, and for matters incidental thereto.	All activities on the site will have to take due consideration of the provisions of this legislation.
National Rangeland Policy and Strategy, 2012	The policy aims at enabling natural resource users to manage their rangeland resources in a sustainable manner. Sustainable in that they are economically viable, socially acceptable, environmentally friendly and politically conducive.	The proponent has indicated that the project has a profitable community corporate task that will benefit the local community economically and socially. This is in line with the HPP 1&2 and NDP 4&5.
National Heritage Act 27 of 2004	This Act improvise that heritage resources must be conserved in development.	During the project implementation as soon as objects of cultural and heritage interests are observed such as graves, artefacts and any other object will be taken protect these objects until the National Heritage Council of Namibia have been informed, and approval to proceed with the operations granted accordingly by the Council.

		Once the project start operating, the proponent has indicated that the project as business will include some the domestic tourist attraction heritages in its marketing activities to unleash the value of the area to attract more investors.
National Monuments Act of Namibia (No. 28 of 1969) as amended until 1979	"No person shall destroy, damage, excavate, alter, remove from its original site or export from Namibia: (a) any meteorite or fossil; or (b) any drawing or painting on stone or a petroglyph known or commonly believed to have been executed by any people who inhabited or visited Namibia before the year 1900 AD; or (c) any implement, ornament or structure known or commonly believed to have been used as a mace, used or erected by people referred to in paragraph (b); or (d) the anthropological or archaeological contents of graves, caves, rock shelters, middens, shell mounds or other sites used by such people; or (e) any other archaeological or palaeontological finds, material or object; except under the authority of and in accordance with a permit issued under this section.	The awarded portion of land is not within any known monument site both movable or immovable as specified in the Act. However, if any material, site or archeologic aspect get identified, during establishment phase, the proponent will notify the relevant commission.
National Biodiversity Strategy and Action Plan (NBSAP2)	The action plan was operationalized in a bid to make aware the critical importance of biodiversity conservation in Namibia putting together management of matters to do with ecosystems protection, biosafety, biosystematics protection on both terrestrial and aquatic systems.	The project establishment and operation activities will timely recognize, adjust and adapt to changing environmental and business environment towards addressing the need for ecosystems protection.
Wetland Policy, 2004	The policy provides a platform for the conservation and wise use of wetlands, thus promoting inter-generational equity regarding wetland resource utilization. Furthermore, it facilitates the Nation's efforts to meet its commitments as a signatory to the International Convention on Wetlands (Ramsar) and other Multinational Environmental Agreements (MEA's).	In compliance to this Policy, the development will ensure a standard environmental planning such that it does not affect any wetlands within its locale through recognition of wetlands to promote the conservation and wise utilization of wetlands resources.
Roads Ordinance 17 of 1972	This Ordinance consolidates the laws relating to roads.	Irrespective of the fact that the site is only 10m away from the gravel road, it is vital that the provisions of this

		legislation have to be taken into consideration in as far as access to the development site from and to the gravel road is concerned.
Roads Authority Act, 1999	Section 16(5) of this Act places a duty on the Roads Authority to ensure a safe road system.	In addition to the project's relevance to Road Ordinance 17 of 1972, through its responsibility of enforcing the implementation of the EMP, the proponent will address all contractors to ensure that any of their logistical activities from and to the sire are in full compliance of this Act and they shall by no mean cause unsafe road system.
Convection on Biological Diversity	Namibia is a signatory of the Convention on Biological Diversity and thus is obliged to conserve its biodiversity.	There are no any significant trees on site and if any happen to grow between the time of drafting this EMP and the establishment of the project, then such shall be preserved.
United Nations Convection to combat Desertification	Namibia is bound to prevent excessive land degradation that may threaten livelihoods.	The proponent will conserve vegetation on and around the area, to avoid encroachment of the desert environs in the area. Furthermore, as it is indicated under the project revelence to Soil Conservation Act (No 76 of 1969), the project will plant shade trees, shrubs and natural turf to extensively conserve the land.

Table 1: Applicable Legislative

7 MANAGEMENT PLAN

Unlike a sole chicken farm, an integrated poultry project poses several negative environmental impacts through different types of pollutant substance that will be released or excrete as unwanted. Collectively, pollutant substances are equally harmful to human, chickens and the environment where the project is operating. Therefore, the proponent laid a management plan for the drafted framework to control health, safety and environmental impacts which are likely to emanates from the project's construction, operation, production and decommissioning.

7.4 ADMINISTRATION

It is a fundamental practice that, for every plan to be successfully implemented and executed, there must be a management team to direct and take action to complete the activities according to the tabled directives. Specifically, the primary task for this EMP management team is to coordinate establishment and operation activities to prevent negative impacts and reduce or minimize the extent of any possible negative impact when it occurred.

Collaboratively, the team has to ensure that during construction and operation, long-term and permanent environmental degradation are prevented at all costs as per the legal instruments adapted. In so much, the exact services delivery level of each accounted personnel or entity is achieved when their roles and responsibility are clearly outlined, irrespective of having a guiding tool at hand. The proponent is expected to implement the EMP through its appointed manager and delegate other tasks to entities and, or qualified individuals as indicated below.

Role	Responsibilities
Alpha Events and Marketing CC	Employ a Site Manager to enforce the implementation of EMP by all contractors
HSE Officer	Present health and safety tips, prerequisites and guidelines. Review and evaluate HSE adherence. Draft HSE reports to present to ECO, Site Manager, DEA and Engineers.
Environmental Control Officer	Implement, review and update the EMP. Make sure that all records and reports required under the EMP are undertaken, documented and distributed. Train and induct all personnel about environmental aspects at the site. Audit environmental impacts at the work site and rule out all non-conformances. Make sure materials being used at the site are environment friendly and safe.
Department of Environmental Affairs	Review and approve the EMP and any amendments to it. Evaluate reports of environmental issues and non-conformances as issued. Review and approve environmental reports submitted as part of EMP enactment.
Engineers	Control and monitor actions required by the EMP. Communicate all environmental issues to the ECO or HSE Officer. Make sure that tabled procedures are adhered to and records taken. Address any complaints to the management within 24 hours of receiving it.
Workers	Adhere to directives of the EMP as issued by the site engineers. Report any potential environmental issues to the site engineer or project manager, Practice HSE protocols when executing their daily duties.
Draughtsman	Site layout setting and affirm drawings with Engineers and Workers

Table 2: EMP Implementation Roles and Responsibilities

8 CONSTRUCTION

Throughout the establishment of a poultry project, most of environmental impacts that poses high implications often occur during the construction phase. This is due to the fact that about 90% of the workload under this phase are conducted in an open space by heavy machineries and various equipment that generate air, noise, water pollutant materials and soil disturbance activities. Practically, the construction phase is temporary and the impact that it has on the environment is permanent. Therefore, collective measurements have to be implied and strictly controlled to curb possible environmental impacts under this most environmental sensitive phase.

Impact	Description	Effects	Time frame	Responsible Person	Action
Noise pollution	Noise will be generated through: • Construction of Buildings and related infrastructure. • Moving vehicles. • Operations on site.	Affect the site workers' health. Disturbance of community residents. Drive away animals in the nearby surrounding.	18 Months	ECO Site Manger	Adhere to construction intervals and protocols. Provide earplugs for workers. Communicate and notify the public about construction activities. All construction activities will be conducted during daytime. Place sign board of various construction activities warning on site and around the site to notify and warn nearby residents of different hazards on site.
Dust Generation	Dust will be generated during land earth works, movements of vehicles and machines, wind blowing, sand and concrete deliver by tipper trucks and construction.	Affects the respiratory system of onsite workers. General air pollution. Nuisance to nearby residents. Drive away animals within the area surroundings	18 Months	ECO Site Manger	Dust suppression will be timely through watering dusty surfaces. Provide NK95 mask and other respirators protective equipment to workers and visitors. Place sign board of various construction activities warning on site and around the site to notify and warn nearby residents of different hazards on site.
Loss of Biodiversity	Destroy various animal and tree species. Disturbance of soil on the site and surrounding areas.	Even if there are no much of animals living around the area, few birds and rodents will be driven away or die. Any sort of ecosystem food chain that use to occur on the site and	4 Months	ECO Site Manager	No major tree or animals living on the site. Earth works and other ground disturbance activities will only be conducted within the boundary area of the site.

		surrounding area will be broken.			There will be no multiple road tracks created on the site, to the site and around the site. Killing and hunting down any animal during land clearing will not be practiced.
Waste Generation	There are various waste materials to be disposed during construction as a result of construction materials and humans in forms of solid, liquid and air that results in pollution	Oil spill can result in chemical pollution which will further destroy the biodiversity. Site workers can generate unwanted waste if they are not provided with proper ablution and sanitation amenities.	18 Months	ECO Site Manger	Any solid waste will be collected, contained and stored awaiting disposal to the Town Council dumping site. Workers will be provided with proper ablution and sanitary amenities.
Surface and Groundwater contamination	Waste water, chemicals, paints and other waste materials are extracted during construction phase. Logging of oil spills on the soil surface and further mix up with open pan water.	Some waste water excreted from various construction phases are contaminated with chemicals and oil which can further contaminate the surface and groundwater which animals drink.	18 Months	ECO Site Manager Workers	All waste products to be extracted during construction will be collected, contained and stored awaiting disposal to the Town Council dumping site. Appropriate clean up and recovery measurements will be conducted in case of any surface or groundwater contamination. Avoid excessive use of chemical and address proper handling of all liquid waste.
Hydrocarbons	Accumulate from storage of oils and fuel on site. Leakage of hydrocarbons from maintenance of vehicles and machineries.	Soil pollution will affect small living organisms habituating the soil. Washing away of contaminated soils by rains into nearby open pan of water. Leads to possible pollution of groundwater. High risk rate of fire breakout on site and nearby area.	18 Months	ECO Site Manager Engineers Workers	Machineries and vehicles will be properly supervised and maintained on time to avoid possible leakage and spills. Setup a contained and pave designated area for vehicle maintenance, preferably off-site or outsource the maintenance service to local mechanics. Hire specialist waste removal contractors. Dispose oil and chemicals as hazardous waste at a licensed facility by a specialist hazardous waste handler.

					Treat oil residue and spilled surface with bioremediation. Avail spill kits and train workers to use and handle any hazardous substance in a proper and safe manner. Cleaning of organic solvent substances will be conducted in liquid waste container.
Safety and Health risks	This is related to bodily injury, sickness and all other health and safety related issues for the entire ecosystem.	Occupational dermatitis and injuries caused by falling of object unto human can cause permanent and temporary damage to their physical bodies. Disposing of chemical and exposing hazardous materials can affect humas organs performance with various diseases such as loss of sight, loss hearing, lungs cancer, skin rushes and kidney malfunctions.	18 Months	HSE Officer Site Manager	All workers and visitors will be equipped with PPE. Conduct meeting and briefing of possible safety and hazardous activities on site. Place sign board of various construction activities warning on site and around the site to notify and warn nearby residents of different hazards on site.
	Electrical hazards	This can cause fire and death.	18 Months	HSE Officer Site Manager	Offer training on electrical hazards emergency management to workers before they commission with their duties on site. Place sign board of various construction activities warning on site and around the site to notify and warn nearby residents of different hazards on site.
Population Influx	There will be a lot of outsourced job from within the country and abroad. The project will employ low skilled labour from all 12 political branches of Okahao Constituency mostly for low skilled labour.	With people of different cultural practice and ethnic groups coming to a small sized town as Okahao, there is a high potential of increased population and civil clashes. The town have high rate of unemployment and the population influx might instigate hidden prostitution activities which can further lead to the spread of HIV/AIDS and other STDs.	18 Months	ECO Site Manger HSE Officer	All migrating workers will be briefed about the local people cultures and behaviours. Providing condoms, as well as counselling to those that are affected by HIV/AIDS and other STDs,

Utilities consumption	Water and electricity are highly utilized in poultry farming and meat processing businesses.	Any reduction in water supply and cut in electricity provision can negatively affect the completion timeframe of the project establishment.	18 Months	ECO Site Manger	There will be water storage tanks and water saving tactics will be strictly enforced. Portable power storage supply will be used to reduce electricity consumption and as a backup plan during construction. Fuel powered electrical generators will also be considered as an alternative and the release of hydrocarbon with be handled accordingly.
Flooding and Storm Water	The site soil type is clay-loamy, which make its infiltration rate very low.	With low infiltration rate, the site carries a high rate of flooding probability. Chickens and all chickens' products are sensitive to wet conditions. Such increase mortality rate of live chickens and spoilage of eggs and meat.	18 Months	ECO Draughtsman Engineer	Storm water drainage are incorporated in the water reticulation designs and they can be accorded to the town planning directives. Heavy machines and vehicle movements will be limited to avoid soil compaction which can further worsen the soil infiltration rate. All storm water drainage run-off is likely to dissipate soil particles and unwanted object into the drains, they will be properly installed and protected to avoid any unwanted in flow.
Employment creation	The construction phase will provide various temporary and permanent job opportunities for individuals. There will be further outsourced jobs for business entities.	Community members and all other Namibian inhabitants stand a chance to scoop a means of income generation to improve their livelihood.	18 Months	Site Manger	Work together with Regional and Local Authority Councilors to acquiring unskilled labour force from the community.

Table 3: Project Construction Management Procedures

9 OPERATIONS

All sort of poultry projects are often associated with air pollution that emanates from the odour of chicken manure. It is commonly reported to be worse with those that are practicing intensive farming under traditional farming system. As prior alluded, it is much easier to curb environmental impacts during operations rather than construction. During operation, building structures and plan layout play an imperative role towards reducing environmental impacts with over 60%. The remaining percentage is known to be eliminated by the following mitigation actions.

Impacts	Mitigation
Lack of environmental knowledge among employees	Train all employees about environmental aspects and EMP procedures before commencing with work on site. ECO shall review and evaluate the EMP compliance on a timely basis.
Monitoring	ECO monitor the implementation of the EMP and documents all findings on regular basis. Biannual reports are to be submitted to the Ministry of Environment, Forestry and Tourism.
Infrastructure services	There will be a solar power plant to supplement the NORED electricity provision. Solar geysers will be used at all facilities and sections of the factory. Water saving strategies are in place to reduce wasting of water. There will be portable wastewater treatment plant to semi-purify the water for re-use. Regular maintenance of drainage and sewage system. Adhere to water quality guidelines in terms of the Water Act, 1956.
Generation of noise.	Adherence to the requirements of the Labour Act No. 11 of 2007 which address the hearing protection and noise control measures. All noise generation equipment, machineries and vehicle shall be maintained regulary. All equipment and machinery housing will be furnished with appropriate soundproof. No sound amplification systems shall be used unless in case of emergency. Any excessive noise pollution workload will be communicated to the ECO, the community and the Local Authority leadership.
Surface and Ground Water	No waste product shall be dumped on the surface of water bodies. There will be strict prevention of contaminated water to be discharged into the environment or runoff the ground. All contaminated water or chemical material which can be possibly water washed away in the ground runoff will be channeled to the storm water drainage system. All wastewater and chemical material will be managed and disposed in proper manner. Toilets and other ablution dispensary will be connected to a direct sewage system as required by the bidding legislative. Imply and adopt a regular preventative maintenance plan of the service infrastructure.
Waste management.	Timely record, monitor and report any waste substance from the production and operation processes. Every waste management plan will register type of waste, description, source, storage, disposal method, disposal facility and responsible person. The waste management plan shall ensure: Provision of sufficient waste bins skips or bulk containers. All waste storage will be demarcated according to their type. Timeframe of waste storage will be limited to prevents pest habouring. Emptying of bins and disposal of waste will be done every working day. Certificate of waste disposal shall be acquired where necessary and disposal shall be in full compliance of the verdicts of those certificates guiding principles.
Chicken mortality	Chicken mortalities management will be subjected to waste management procedures. The chicken mortality storage section accessibility will be strictly controlled, and disposal bins will be permanently sealed prior disposal. Mass mortality will be reported to the state vet as resolution to the of the business contingency plan. The state vet shall table the resolution based on the cause of mortality and severity.
Litter management.	Litter management be subjected to waste management plan. Chicken manure litter will be kept dry prior packaging to prevent formation of noxious odours and ammonia. All chicken houses will be dry cleaned efficiently after every production cycle.
Run off of contaminated water	High-pressure hoses will be used to wash the houses to minimize the amount of water used. Use biodegradable soaps and disinfectants to wash and sanitize chicken houses. Use biodegradable soaps and disinfectants in the footbath and showers.

	Use biodegradable soaps and disinfectants for washing of vehicles. Disposal of contaminated water will be accorded to the mitigation strategies of the Surface and Groundwater management of this environmental operation verdicts.
Storm water management	All storm water channels will be cleaned of all materials, chemicals and contaminations prior and during challenging it into the storm water drainage system. No storm water shall be allowed to runoff in the environment. Thoroughly cleaned water will be diverted and stored for later possible usage. The storm water drainage system shall be regular inspected to ensure that the structures are functional and not causing soil erosion. Provision of culverts underneath road foundations will be accorded were necessary.
Hazardous substances	Identify and obtain the material safety data sheet of each of these chemical substances to keep the handling responsible person safe and the environment at large. All Safety Material Data Sheets and Emergency Kits for all hazardous chemical substances will be readily available on site. The management plan of hazardous substances will be developed based on: • Waste Management Procedures • Material Safety Data Sheets of all identified chemical substances • Hazardous Substances Ordinance (No. 14 of 1974) Register and records inventories of all chemicals in the storage. All powders products are to be stored above liquids. Standard fire safety regulations principles shall apply upon storage of all hazardous materials. Ensure proper and safe storage of chemicals and other hazardous products. Install and display safety signage such “No Smoking”, “Flamable”, “No Naked Lights” and “Danger”, on products and around endangered zones. Provide PPE to all personnel handling hazardous chemicals and hazardous materials. Fuel tanks will be in a bunded area with capacity of holding 110% of the total storage volume. Fuel and oil drip or spill trays shall be used upon machineries or equipment filling and maintenance. Train all employees about the hazardous aspects of any relative material according to its material data sheet. Soil contaminated with hazardous chemical substances shall be treated as hazardous waste and removed from site.
Hydrocarbon pollution of soil, surface and groundwater.	There shall be regular inspection and maintenance of equipment, generators and vehicles owned by the proponent to reduce the risk of pollution through oil or diesel spillages. The standing and storage ground of the generators will have a concrete floor and designated in a bunded area. Management plan of hazardous substances will be developed in accordance to: • Waste Management Procedures • Material Safety Data Sheets of all identified chemical substances • Hazardous Substances Ordinance (No. 14 of 1974) All Safety Material Data Sheets and Emergency Kits for all hydrocarbon substances will be readily available on site. Soil contaminated with hazardous substances, fuel or oil shall be treated as hazardous waste and removed from site. During any on site refueling, the ground must be protected and proper dispensing equipment Such as hand pumps and funnels are to be used. Ensure proper and safe storage of chemicals and other hazardous products.
Unsanitary conditions	There will be ablution facilities in every operation structure, separated for men and women. All ablution facilities will be regularly cleaned, inspected and maintained to prevent or minimize blockage and leakages. All toilets will have closing doors, refresher, cleaning brush and toilet paper at all times. Employees and visitors will receive proper hygiene protocols especially when entering the production area.
Poultry diseases outbreak	Priorities are set that all chickens stock intake must originate from a closed bio-security compartment and disease-free sources. There will be generational separation of chicks and chickens. Strict access control to any production area and chicken houses. Install footbaths with disinfectant at all the entrances to each of the chicken facilities. Showers installation for all staff working on site. Use a sound vaccination program. Keep wild birds, rodents and predators away from the chicken coops. Installation of rodent bait traps and flytraps. After every production cycle the chicken houses will be cleaned with biodegradable soaps and disinfectants. Severe disease outbreak will be outsourced, monitored and audited by a contracted veterinarian or State Vet to find the appropriate solution. Disposal and handling of affected flocks will be accorded to the measurements articulated by the State Vet or outsourced veterinary and waste management procedures.

Inefficient and redundant use of electricity.	Offer training and awareness programmes to ensure that all employees have profitable knowledge on the importance of natural resources and environment. Conduct regularly inspections and research and development pertaining to determination factors and areas of improve, identify technologies and practices that may reduce resources and electricity consumption. Apply electricity saving measurements. Use halogen light bulbs that convert approximately 80% of the energy used into heat rather than light. Replace spent light bulbs with energy saving CFLs (compact fluorescent lights) or newer and more efficient LEDs (light-emitting diodes). Use solar powered electricity in times of inefficient supply of electricity from NORED.
Inefficient and redundant use of water.	Offer training and awareness programmes to ensure that all employees have profitable knowledge on the importance of natural resources and environment Conduct regular site inspection and maintenance of the entire water appliances and reticulation system to prevent leakage and other possible malfunction that may lead to wastage of water. Apply water saving strategies. Store water to use in times of water provision by the Town Council. Recycle and semi-purify water for applicable usage. Conduct research and developments to improve and conserve water. Use high pressure hoses to clean the chicken houses to reduce the use of water. Repair any water leaking appliances immediately.
Sewage	Discharging of wastewater into the environment is prohibited. Regularly, inspect and maintain the entire sewage system. Sewage system will be accordance the applicable nation legislative, bills and ordinance. Secure relevant sewage permits. The management of the sewage waste shall be in accordance of the following: • Waste management procedures • Surface and groundwater procedures • Contaminated water runoff procedures • Storm water runoff management procedures • Unsanitary Condition on site procedures
Visual and Sense of Place	Green technologies are incorporated in the architectural designs and building materials of the facility to minimize the visual prominence of such a development within the more natural surrounding landscape. The selection of facility colours and logo are reflecting natural beauty and attractions. Natural turf, shrubs, plants, trees, stones, woods and fountains incorporated as well as in the architectural design to further beautify the development.
Health, Safety and Security	Make sure that all personnel are properly trained depending on the nature of their work. Provide first aid kit and a properly trained person to apply first aid when necessary. Initiate cross-sectorial programmes to raise awareness on health issues. Adhere to the existing protocols in terms of Covid-19. Offer safety and health training programmes. Demarcate dangerous zones and restriction on such areas. Visitors will also be inducted to preliminary health and safety protocol and emergency procedures. The proponent will comply with all applicable occupational health and safety requirements.
Social	Offer skill transfer through community training programmes. Support community inhabitants for various social welfare. Support career affairs and offer a platform of practical teaching and learning. Employ community members for low skilled labour to generate income to improve their livelihood. Procure various production inputs from locals were available.
Traffic	Limit and control access to the production area. Make sure that road junctions have good sightlines. Implement traffic control measures as per industrial specifications and Road Authority Act.

Table 4:Project Operations Management Procedures

10 MONITORING

Setting up a plan alone cannot ensure that the plan will be implemented effectively and procedures will be adhered to compulsory. Therefore, monitoring the implementation of the EMP is very important to attest the appliance of the applicable legislative and weighing the successful application of mitigation measurements for impacts identified during site preparation and construction. There will be ten different monitoring checklists will be developed for all four-project environmental impact concerned phases.

This means that there will be a questionnaire checklist for the community members, ECO, HSE Officer, workers, site manager, draughtsman, contractors, Local Authority and the proponent for the construction, production, operation and decommissioning phase respectively. Under monitoring actions, there will be identification of impacts that have not been foreseen and then give enough time to analyze the situation and formulate strategies to minimize the impacts proactively.

Survey records and results will be documented for all monitoring and inspections activities, highlighting any problems or shortcomings towards the action taken to address any impact. At the forefront of implementing this EMP the main contractor will present a temporary environmental architectural plan siting the inter alia, location of construction camp and toilet facilities, location of material storage areas, solid waste management plan, dust control measures and activity schedule.

That specific plan will be drafted after appointment of the contractor and execution of the construction contractual agreement by the proponent. The plan will be presented to all EMP administrators prior site preparation and construction activities. Therefore, it will be reviewed and approved by the DEA, Local Authority, ECO, Site Engineer, HSE Officer, Draughtsman and the Site Manager.

Thereafter, the proponent or the individual who shall be appointed to enforce the implementation of the EMP should then prepare an environmental monitoring programme which considers the approved contractors plan in accordance with the requirements of the EIA, and conditions of the development permit. The major elements of the environmental impact monitoring programme to be implemented during the preparation and construction phase are as follows:

- Site clearance
- Prevention of soil erosion
- Site drainage and surface runoff
- Ablution and sanitary facilities
- Provision of water and power resources
- Landscape management
- Safe logistical and deliverable transportation plans

- Proper management of waste and hazardous materials
- Procedural solid waste disposal practices

11 DECOMMISSIONING

The proponent is granted an agreement to lease 2 hectares piece of land from Okahao Town Council for 25 years, starting from the day of the agreement signage. The most profound active term and condition of the lease is that the land is approved for the proposed project only and the proponent is giving 12 months to develop the land from the day of signing. Be it that the proponent did not make any development as per such verdict then the lease shall be withdrawn without any environmental impact activities pertaining to the decommissioning phase.

Proactively, Alpha Events and Marketing CC will develop the awarded portion of land as per the Local Authority and inline Ministerial approval. After running the project for 25 years, the proponent has an underlying plan of proposing for the renewal of the leasehold agreement with new or similar terms and conditions to the Town Council. This will be a profitable act for the Town Council, proponent, community members and the Namibian nation at large.

Environmentally, this will help in permanently curbing of any possible unfavorable environmental impact that might arise from the decommissioning phase of this vital prestigious project. However, if closure is considered, an extensive closure and rehabilitation plan of the area will be drafted and sent to the ECO, Local Authority, HSE Officer and DEA prior to the commencement of decommissioning. In such instance, decommissioning will be an easy workload due to the construction materials and structure setup.

Promptly, there will be less environmental impacts factors to be generated during this phase, since 90% of the entire project construction will be done by semi-permanent materials assembled together. The most likely impacts to be experienced during the decommissioning phase are these related to noise pollution and dust generation. In case of an occurrence of any off these environmental impact factor, such will be handled as per corresponding measurements and procedures of this EMP with the applicable legislative applied.

12 CONCLUSION

This EMP is drafted in relation to the preliminary survey, engineering exploration and assessment conducted in accordance with the Environmental Management Act 2007 and EMA Regulation 2012. Upon consolidations, further consideration was given to relevant legislation throughout the entire process to ensure an assessment process with facts and integrity. Possible impacts that are likely to occur during construction, operation and decommissioning phases were assessed and relevant mitigation measures are assigned to minimize potential impacts of any development.

Apart from possible negative environmental impacts aspects, the project has tremendous positive impacts to the community, environment and the country at large. Therefore, diversification and retaliation of development is not an option or an alternative on the table of

the proponent. It is significant imperative to highlight that this project implementation is fired with great enthusiasm of an ever-increasing population, constantly rising market demand and high dependence on imported chicken products annually. This development is also a concrete answer to the Okahao Town Council Strategic Plan, regional and primary national leadership strategic goals such as mass job creation and food security.

In details, it will add immense value to the town land of Okahao Town Council and contribute to the urban agriculture development objective of Omusati Regional Council. Furthermore, the inclusive and integration of chicken meat processing plant will meet the government halfway through industrializing the agricultural sector. Fostering the food processing industry and reduce dependency of imports through sustainable agricultural practices are other national priorities demanding utmost facilitation and implementation of this project.

With recommendations of alleviating any negative impacts that may emanate from the construction, operation and decommissioning phases of the development, relevant and cost-effective management and mitigation measures are in place as indicated in this EMP. All machineries and equipment to be used under the three development phases are to be regularly inspected, monitored and maintained to avoid any possible environmental impact fallout. Whereas management actions inked in the EMP are acclaimed to be set as a condition for ECC approval.

This is to ensure that the project reduces its potential negative impacts at the project site and to the surrounding environment. Upon the Okahao Town Council resolution of approving the project proposal for lease and land approval, the community and the nation at large have been presented a fair opportunity to object the development of the project on a town land, if they foresee it to have any potential harm to the community members and the entire ecosystem, see Figure 13 below. Accordingly, there have not been any objection of that nature tabled or brought up.

OKAHAO TOWN COUNCIL

NOTICE FOR INTENT TO LEASE COUNCIL'S LAND

Notice is hereby given in terms of Section 63 (1) (c) of the Local Authorities Act, (Act 23 of 1992) as amended, that the Council of Okahao Town intends to lease the Council's land to the following applicants for purposes of conducting the understated business activities:

#	APPLICANTS	ERF NO.	SIZE (M²)	ZONING	TOWNSHIP	MONTHLY LEASE (VAT INC.)	COUNCIL'S RESOLUTION	NATURE OF BUSINESS	LEASE PERIOD
1	Twali-Life Style and Wellness Centre cc	1208	6 667	Public Open Space	Ext.4	N$786.00	Resolution No. C07/28/06/2021/ 06th ODCM	Entertainment Centre	2 years
2	Wan-Well Trading Enterprises cc	884	11 421	Public Open Space	Ext.3	N$5750.00	Resolution No. C06/28/06/2021/ 06th ODCM	Bricks Manufacturing Factory	5 years
3	Alpha Investment cc	Portion of Okahao Townlands Extension No.1213	2ha	Undetermined	Townlands	N$5750.00	Resolution No. C20/04/06/2021/ 06th ODCM	Poultry Farming	25 years
4	ANATECH Namibia	Portion of Okahao Townlands Extension No.1213	50ha	Undetermined	Townlands	N$5750.00	Resolution No. C03/28/02/2019/ 2nd ODCM 2019	Waste Water Treatment Plant and Irrigation Crops Plantation	25 years

Any objections to the lease of these properties should be done in writing and forwarded to the Acting Chief Executive Officer on or before **Friday, 24th September 2021.**

Written objections shall be addressed to:

The Acting Chief Executive Officer, Okahao Town Council, P.O. Box 699, Okahao

Enquiries: Ms. B. Mwashindanga/Ms. F. Kambonde, Tel: 065 252204/5

Figure 12: Okahao Town Council Land Lease Notice for Public

13. REFERENCES

Noya Natural Chicken Business Plan. 2021.

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