

**SCOPING REPORT
FOR
THE OPERATION OF PLASTIC PELLETS MANUFACTURING PLANT
WALVIS BAY INDUSTRIAL AREA, ERONGO REGION**



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LIST OF ACRONYMS

AECA:	Advanced Environmental Consultancy Agency
BID:	Background Information Document
CBD:	Central Business District
DEA:	Department of Environmental Affairs
DRT:	Department of Roads and Transport:
EAP:	Environmental Assessment Practitioner EIA: Environmental Impact Assessment
EIASR:	Environmental Impact Assessment Scoping Report.
EMP:	Environmental Management Plan / programme
I&AP:	Interested and Affected Party
I&Aps:	Interested and Affected Parties
IDP:	Integrated Development Plan
NEMA:	Namibia Environmental Management Act (Act No. 7 of 2007)
PPP:	Public Participation Process
RA:	Road Authority
SDF:	Spatial Development Framework
WWTW:	Waste Water Treatment Works

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1. Executive Summary

This Scoping Report provides relevant information and an environmental consideration of the proponent's (Xin Ming Da Plastics Trading CC) intention to seek approval from Ministry of Environment and Tourism for the development of manufacturing plastic pellets on Erf 2671 in industrial area, Walvis Bay.

The property (warehouse) measures approximately 1700 m² in area and will be converted into a plastic pellet manufacturing plant. It's therefore stated under the Environmental management Act (7 of 2007) section 44 of a list of activities that manufacturing of such cannot be undertaken without an Environmental clearance certificate.

Plastic pellets Plastic (resin) pellets are the raw materials that are melted and molded to create plastic products. Plastic may be formed into pellets of various shapes (e.g. spherical, ovoid, cylindrical), sizes (range: 1- to 5-mm diameter), and colours (most commonly clear, white, or off-white). After being formed, the pellets will be packaged and transported to processors for molding into plastic products through shipping.

This report identified impacts and mitigations measures that the proponent will look at. The manufacturing of plastic pellets requires, water, raw materials which are thermos plastic, heavy duty machines, and a well-trained staff to control the production line. The production will release waste water during the production process. Raw materials will be imported from all over the world to meet the demand this will require enough space to make sure the Environment is kept clean, plastic pellets spills easily during transportation and packaging which can lead to then entering the sewer line.

The transportation of plastic pellets through the harbor is believed to cause negative impact on aquatic ecosystem as well as wildlife, point being that when they spill birds and other animals mistake them for food and when swallowed they lead to wild life dying. The production of plastic pellets requires heavy duty machines to be installed, demanding well trained staff to reduce injuries.

Different mitigation measures are proposed to in order to reduce the impacts on the physical environment, water, wildlife as well as the environmental management plan is prepared to make sure all measures a are well implemented.

11 Introduction

Advanced Environmental Agency (AEA) has been appointed by the (XIN MING DA PPLASTICS TRADING CC) as an independent environmental practitioner to undertake a Scoping and Environmental Impact Assessment for the development of installing plastic manufacturing plant. The EIA conforms to the Regulations of Namibia as promulgated in terms of the Environmental Management Act (No. 7 of 2007). It's stated under the Namibian management act that any residential or commercial use activity should obtain an environmental clearance certificate from the Ministry of Environment and Tourism.

12 Proponent

The proponent, Xin Ming Da Plastics Trading CC is a newly registered company in Namibian that wish to manufacture plastic pellets. The company got technical knowledge from China and will be imparting it to the Namibian market. Xin Ming Da Plastics Trading CC will recruit both skilled and unskilled dynamic and talented young Namibian to work in the factory. The company will establish its manufacturing plant in Walvis Bay

13 Objective of the study

The world has been facing many environmental challenges as a result of different human developments activities. To reduce these environmental burdens, EIA has been used as the divine tool to control and make decisions in order to make sure development becomes sustainable and actions are put in place to protect the environment.

The republic of Namibia under section 44 of the Environmental management act has taken a step to make sure that sustainable development is maintained by ensuring that all listed activities mentioned under the Environmental Management Act (Act No. 7 of 2007) cannot be undertaken without an Environmental Assessment being complete. The world has been facing environmental issues, caused by different developments.

In practice the EIA phase determines the significance of the impact of the proposed activity on the surrounding environment. During the EIA phase, an Environmental Impact Report (EIAR) will be produced by AEA Consultants and submitted to the Directorate of Environmental Affairs (DEA). The EIAR (this report) will provide an assessment of all the identified key issues and associated impacts on socio-economic, vegetation, fauna etc. from the scoping phase as well as a description of appropriate mitigation measures. All environmental impacts are assessed both before and after mitigation to determine:

- The significance of the impact despite mitigation.
- The effectiveness of the proposed mitigation measures.

As usually done in the scoping phase, there is a detailed public participation process that ensures all interested and affected parties (I&APs) are informed of the proposed activity and provided an opportunity to give their input and comment.

14 Environmental Impact Assessment Scoping Report

The aim of the EIASR is to document the outcome of the scoping phase and includes the following:

- Policy and legal frame work;
- A detailed description of the proposed activity;
- A description of the property and the location on the property of the proposed activity;
- A description of the need and desirability for the project;
- A description and assessment of feasible and reasonable alternatives;
- A description of the receiving environment;
- Documentation of the Public Participation Process and a register of Interested and Affected Parties, (See Section 6);
- A description of environmental issues and impacts associated with the project proposal and alternatives;
- A description of the methodology used in the assessment of impacts;
- An assessment of each impact and a description of appropriate mitigation measures;

- An environmental impact statement that includes an opinion on the authorization of the proposed activity a summary of the findings;
- An assessment of the positive and negative impacts;
- An Environmental Management Plan (EMP) and
- Any other information required by the authorities.

After public review, the Environmental Impact Assessment Scoping Report will be submitted to DEA for their approval.

15 Methodology used in determining impact significance

The EIA Regulations require “a description of the significance of any significant effects, including cumulative effects, which may occur as a result of the undertaking of the activity”. In order to determine significance each of the potential impacts identified, the following steps formed the methodology for assessing the significance of the effects or impacts identified through this EA process:

- The first step is to screen out all impacts which do not fall within the scope of this project and responsibility of the developer;
- Consultation of all stakeholders which includes the nearest factories and warehouses;
- Data collection through visiting the warehouse where the project is proposed to take place, meetings with the nearest factories as well as the municipality of Walvis Bay;
- The next step is to determine whether sufficient information exists to assess the potential impacts of those that remain. If insufficient information is available to assess (with a high degree of confidence) and recommend mitigation measures to address a given impact further investigation will be required. However, if sufficient information is available to assess (with a high degree of confidence) and recommend mitigation measures to address a given impact no further investigation will be required and the impact will be addressed in the EMP;
- Mapping; and
- All data and information collected are compiled in the report.

16 Other Aspects

Other aspects that should be taken into consideration are:

- Impacts should be described both before and after the proposed mitigation and management measures have been implemented;
- All impacts should be evaluated for the full life cycle of the proposed development including installation and operational phases; and
- The impact evaluation should take into account the cumulative effects of other activities which have occurred or are in the process of occurring within the study area.

1.7 Policy legal and administrative frame work

POLICY	SUMMARY
Marine Resources Act 27 of 2000	To provide for the conservation of the marine ecosystem and the responsible utilization, conservation, protection and promotion of marine resources on a sustainable basis; for that purpose, to provide for the exercise of control over marine resources; and to provide for matters connected therewith.
Namibian Labour Act No.11	Employers, by law, must provide employees with a safe and healthy working environment. Occupational Health and Safety in Namibia is governed by the Labour Act No.11 of 2007 in conjunction with Regulation 156, 'Regulations Relating to the Health and Safety of Employees at work
Atmospheric Pollution Ordinance 11 of 1976	To provide for the prevention of the pollution of the atmosphere, and for matters incidental thereto.
Environmental Management Act 7 of 2007	Requires that activities with significant environmental impact are subject to an environmental assessment process (Section 27).
Water Resource Management Act, 2013	Provide for the management, protection, development, use and conservation of water resources; to provide for the regulation and monitoring of water services and to provide for incidental matters.
Environmental Management Act of 2007	Wildlife is part of the natural environment that people depend on, and based on Article 95 (l) of the Constitution, must be maintained throughout the country as part of the sustainable development that the Government of Namibia is committed to pursue

WASTE TYPE	STRATEGIC DIRECTION
Commercial waste	<p>Strengthening collection and transport systems (similar to municipal solid waste).</p> <ul style="list-style-type: none"> • Focus on increasing separation of recyclable fractions (e.g. paper, cardboard, plastic). • Reducing illegal dumping by commercial enterprises through monitoring and enforcement.
Specific types of MSW.	<p>Plans will be developed, and consultation carried out, to address specific types of waste, for example:</p> <ul style="list-style-type: none"> • In the short-term to plan a charge on plastic bags in shops.

Table 1: Solid Waste Management, section 4 (b) of the Environmental Act No. 7 of 2007

2 Particulars of Environmental Impact Assessment Practitioner

21 Advanced Environmental Consultant Agency CC

Advanced Environmental Consultant Agency Cc is an Environmental consulting company whose environmental division comprises 3 individuals of whom all are Environmental Assessment Practitioners. The Environmental division has undertaken over five (5) Environmental Impact Assessments for development projects within Namibia.

22 Details of EAP that prepared the EIA Report

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23 Expertise of the EAP

Ms. Albertina Simon:

The owner and founder of Advance Environmental Agency is an Environmentalist with 3 years' experience in EIA regulation and conservation research support in Namibia. She has served as an environmental officer reviewing applications with environmental issues for different environmental assessment/consulting companies, before embarking on registering her own company. Her key expertise includes: Review of Environmental Impact Assessments and related reports, compilation and quality control of records of decision for environmental authorizations, and development of operational guidelines, procedures and templates for administration of environmental applications.

3. Project Background

3.1 Description of the proposed Activity

The study area includes a warehouse in Walvis Bay industrial area, size 1700 m², where the proponent Xin Ming Da Plastics Trading CC proposes to install a plastic pellet manufacturing plant. Xin Ming proposes to be importing plastic raw material to Walvis Bay to manufacture plastic pellets which will be exported out to its customers. These pellets can be either disc shaped or barrel shaped, with their sizes ranging from 2mm to 5mm in most cases.

These are pellets which will be turned into plastic containers used in our daily lives, however Xin Ming will manufacture pellets only for now, in the future the company will consider venturing into plastic manufacturing as well. The project entails the installation of heavy duty machines, measuring 10m approximately each, raw materials for production will be imported from all over the world to meet the demand. The raw materials will be stored in the storage facility at the aforementioned Erf.

The company is looking at the amount of 25 to 50 tons of raw materials to begin with, and increase up on the business growth. After the production, the pellets will be carefully packaged and will be exported through the harbor to be shipped out.

The facility has provision of storage room, production line area and the packaging area, offices as well as ablution facilities and Parking area for the loading trucks.

It is anticipated that beside the possible 24 direct employment opportunities associated with the production and packaging as the time passes furthermore 20 - 30 jobs could be generated during this phase of the development.



Ben Amadhila Street(industrial area)

32 Raw material

Thermoplastic raw materials will be used in the production of plastic pellet products so they could hold features that will suit the market's demand. Plastics are flexible objects which density and strength could vary and undergo a molding process so they could be produced into various forms. The type of raw material will be plastic polymers. The raw materials will be unused plastic bags. Various raw materials are mixed to assemble and mold the polymers into the desired shape. By putting together different mix of properties, plastic of various qualities and characteristics could be produced. Some could be lightweight but have great tolerance to stretch before tearing apart like disposable polyethylene (PE) bags while some could contain properties more suitable to use as beverage bottles called high density polyethylene (HDPE). The latter is the preferred material in the manufacture of plastic because it is moisture resistant, durable, and affordable and holds features such as being translucent and transparent. Low density polyethylene (LDPE) has the same chemical properties as HDPE but the former is more expensive and compatible to use with more types of consumer goods. The disadvantage of LDPE is that it has very low resistance.

S.N	Description inputs	Unit of measure	Amount needed per month
1	HDPE, LDPE,PP	Tone	18, 000

Table 2: Amount of Raw materials to be used



Figure 1: Plastic raw material to be used

33 Product Mix

- Thermoplastic; and
- Rigid Plastic Packaging Materials

34 Production process

Plastic resins are created by heating hydrocarbons in a process known as the "cracking process." The goal is to break down the larger molecules into ethylene or propylene which comes from the crude oil refining process or other types of hydrocarbons. The amount of these two compounds produced will depend on the cracking temperature used. The monomers then undergo polymerization reactions that produce polymer resins. These are collected and processed further. This processing can include the addition of dyes, flame-retardant chemicals, or plasticizers.

Following the completion of the cracking process, the compounds are formed into chains known as polymers. Each different polymer is combined to make the plastic resin that has the characteristics for various applications that in turn make the bottles, containers, closures, and caps for your products. Once the various hydrocarbons are obtained from cracking, they are further processed to make hydrocarbon monomers and carbon monomers such as styrene and polyvinyl chloride that are used in plastic resins.

The polymer resins are then processed into the final plastic products. They are heated, molded, and allowed to cool. Depending on the products desired, there are several processes involved in this stage. The final polymer resins are generally in the forms of beads or pellets. A process known as injection molding is used to form your bottle caps while blow molding is used to make your plastic bottles.

35 Factory waste management system

The factories will not generate large amounts of waste. It will however generate a considerable amount of granular/waste material. In addition, it is difficult to estimate the amount of waste generated that will be per day for production type because it depends on the quality of raw materials used per day. This could be known later on. However, it is mandatory to assess and put some mitigation strategies for the wastes that are going to be flowing from the factories.

3.6 Final Product (plastic pellets)



Figure 2: Final product (plastic pellets)

3.7 Locality and description of the project site

The production plant is proposed to be installed at Walvis Bay, industrial area Erf 2671 co-ordinate-22.935715°, 14.515534° near Ben Amadhila Street. During the visit at the warehouse, the building is constructed separately from other nearest factories, space of 1700 m², including space for storage, production process offices, ablution facilities and packaging space. In accordance with the requirements of the regulation that the feasible and reasonable alternatives be considered which includes the consideration of alternatives, however there are no alternatives identified for the proposed development yet apart from the aforementioned Erf.



Figure 3: Erf 2671

Factory/Operation side

Offices

38 Need and desirability

Facilitation of the development of the local plastic manufacturing plan is an acknowledged objective of both the Walvis Bay residents, Erongo region residents. Council and the government, as evidenced by the prominence given to it in the various policies, strategies, plans and frameworks published. The promotion of business and job creation is addressed in the current Integrated Development Plan for Walvis Bay and the whole of Namibia, as a priority sector for local economic development and the GC Spatial Development Framework indicates various Business zones based economic development of which (Xin Ming Da Plastics Trading Cc) functions as the centre for these.

The community has agreed with the project to go ahead, with positive comments and inputs by conceding on how much they been suffering to find jobs. That it will make things easier for them, since Walvis Bay has been dry when it comes to employment. Walvis Bay is one of the overcrowded towns in Namibia by a number of people in search of jobs. The activity will as well increase the number of exports.

It is believed that the proposed combined development would be ideally placed to provide a variety of services to other countries.

39 Timing and activity

The development process for this project, including permitting, detailed design of installation of machines is likely to take in the about 1 to 2 months.

The Economic study further indicates that the factory component should only be considered for development in the medium-term, i.e. in about 3 years' time, otherwise with the demand for the type of business in the area, the proponent might lose out to other business venture who would steal the same idea from them.

4 Affected Natural and Social Environment

This section is intended to fulfil the requirements of GRN Sub-regulation Act (GRN 30 GG 4878 OF 6 February 2012)

4.1 Introduction

This provide a description of the receiving environment within the study area, of which three (3) to the environment are recognized.

- Physical
- Biological;
- Socio-economic environment.

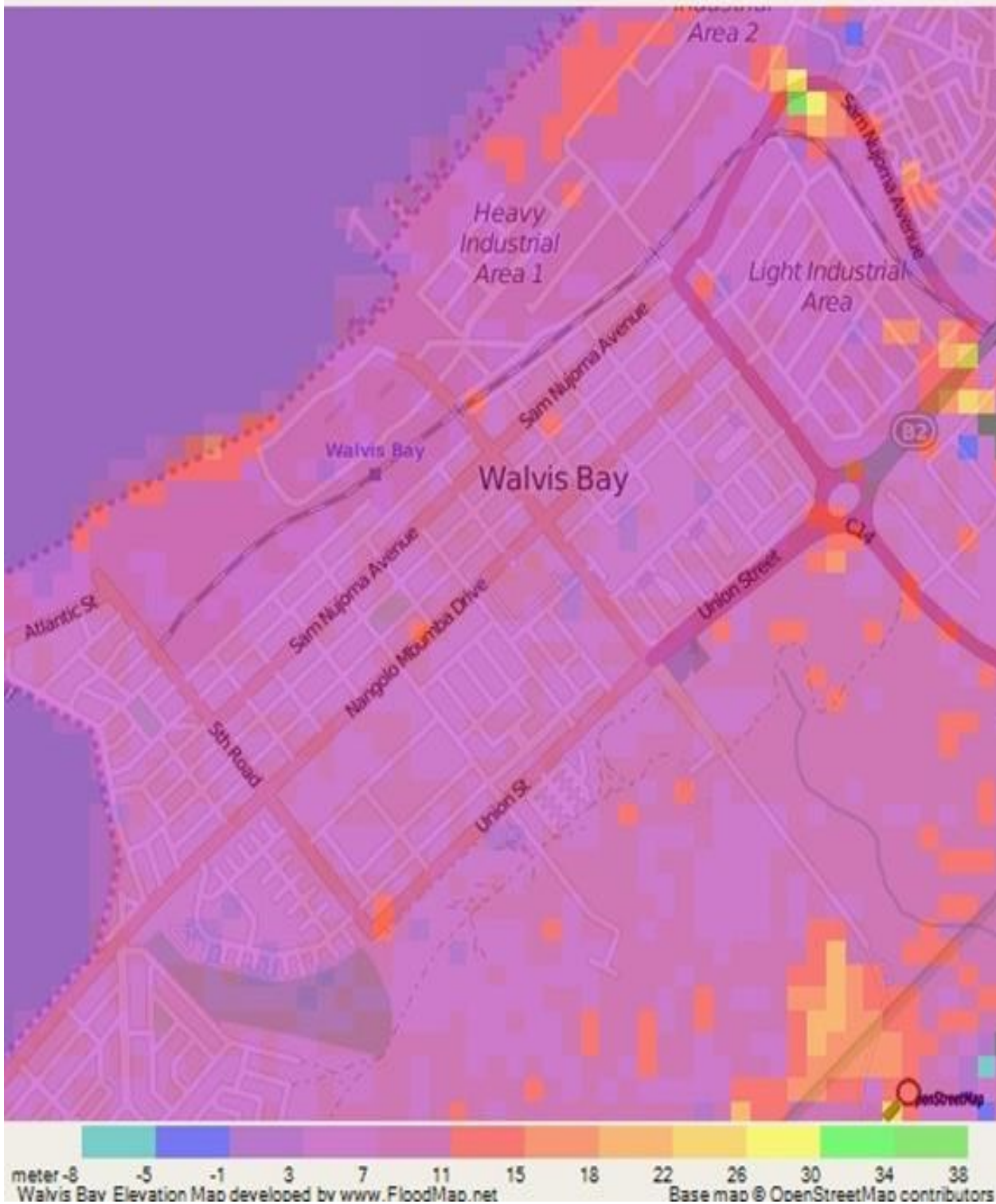
Only those elements of the Environment that have a direct bearing on the impact assessment process of the project are discussed. The severity of the potential impacts is largely determined by the state of the receiving Environment.

4.2 Physical Environment

4.2.1 Topography

Walvis Bay lies on the edge of the Namib Desert at the mouth of the intermittently Kuiseb river. Portion of the town lies below sea level (1.2m) and is protected by the dike against flooding a coastal. Namib Desert is partly rocky and partly in the central stretch dunes. The activity will take place at the industrial area which is approximately 2 km from the sea. Walvis bays elevation map.

Walvis Bay Elevation: 24 meter Map by www.FloodMap.net (beta)



4.2.2 Climate

Walvis Bay is situated at the Atlantic coast. The largest Namibian harbour is situated here making it a suitable place for the proposed activity since the pellets will have to be exported. The Walvis Bay lies on 6m above sea level Walvis Bay is considered to have a desert climate. During the year, there is virtually no rainfall. The Köppen- Geiger climate classification is Bwk. In Walvis Bay, the average annual temperature is 16.6 °C | 61.8 °F. The production of plastic

pellets in Walvis Bay will have no negative impact on the climate change of the city. In a year, the rainfall is 11 mm 0.4 inch. Walvis Bay features the very rare mild variation of the cold desert climate (BWk) according to the Köppen climate classification. It is caused by the rain shadow of the Naukluft Mountains and the cooling effect of the coastal sea temperature by the Benguela Current. Walvis Bay receives only 13.2 millimetres (0.52 in) average precipitation per year, making it one of the driest cities on earth. Despite its dry climate, the city is relatively humid. Average relative humidity throughout the year remains above 80%. The warmest month is February with average temperature 17.9 °C (64.2 °F), while the coolest months are August and September with average temperature 13.2 °C (55.8 °F). The diurnal temperature range is also low, averaging only 5.7 °C (10.2 °F). As one of the effects of man-made climate change, there has also been considerable warming at the airport in recent years. On 17 May 2015, the temperature at Rooikop near Walvis Bay International Airport reached 37.4 °C.

4.2.3 Flora and fauna

Walvis Bay is a port town on the coast of Namibia. Sheltered by the Pelican Point sand spit, its tidal lagoon is home to abundant birdlife including flamingos, pelicans and Damara terns. The harbour hive of activity with fishing boats and ships. Dolphins, whales and Cape fur seals inhabit the Atlantic waters around the Pelican Point Lighthouse which might be negatively affected by the production of pellets during the transportation, plastic pellets easily spill when they are not well handled, and they are known to have an impact when eaten by birds or sea animals this leads to loss of marine wild life. The city is covered by coastal sand dunes like Dune 7 mark the start of the Namib Desert.

4.2.4 Socio - Economic Environment

Walvis Bay is the commercial capital of the Erongo region. The town has the second population density and is known by the sea and a large fish production and mining. The fishing industry employees a number of Namibian youths. It is therefore another epicentre of investment attraction that the city will welcome on the production of pellets as this will also fill a gap in the supply chain management of the supply of plastics. Hence the manufacturing plant will provide much needed employment to Namibians.

4.2.5 Ensuring regional and rural economic development

Operationalisation of the plant will not only bring relieve to job seekers but it will also create economic spin-offs. The plant will contribute to GDP of the country and act as an anchor for foreign currency generation of the country.

4.2.6 Creating employment opportunities

The company will employ more than 40 Namibians both skilled and unskilled thereby provide source of livelihood to those families. Some SMES will be able to supply raw materials and consultancy services through the vertical integration thereby indirectly creating employment in a spin off supply chain.

4.2.7 Improving infrastructure

By utilising their warehouse and using transport modes, the company will force improved infrastructure of roads rail and air in Namibia. These will extend to sea transport too where products will be shipped out of the country to China and other European nations for sale

4.2.8 Coordinate training of community members in entrepreneurial skills

The company will support community development project through the municipality and constituency. This will be done through donations and engaging consultants to assists SMEs that are in the Supply Chain of the Organisation and imparting knowledge and skills

4.2.9 Educate the community with regard to the prevalence of HIV/Aids and TB cases

Health issues will be dealt with through the municipality LED department who will coordinate with the community and utilise the organisation's donations

5. Environmental Impacts and Mitigation Measures

This section seeks to fulfil the requirements of GRN, Sub-regulation (GRN 30 in GG 4878 of 6 February 2012) with respect to the description of environmental issues that could have been identified during the process, their significant and potential for mitigation; and 32(2)(K) with respect to the assessment of identified significant impacts.

5.1 Description of negative impacts

5.1.1 Ecological/Biological Impacts

a. Disturbance of Fauna

Pellets can spill during packaging and transportation, which causes the wildlife to mistake them for food and later die if ingested e.g. birds and fish, causing threatened species to extinct.

Marine organisms encrusting plastic debris may be a desirable food source or may mask the artificial nature of the debris, thereby inhibiting a rejection reflex by the sea turtles. Under conditions of extreme hunger when available food stocks are limited, sea turtles may feed on items that they would not normally eat. Prey that has consumed debris is ingested by a predator. Balazs suggested that "the increasing volumes of plastic particles in the oceans make this mechanism distinctly possible." Walvis Bay is a rich city in marine ecosystem because of its harbor and sea and the production of pellets will have an impact on the wildlife, different types animals like pelicans, Damara turns will be negatively affected.

b. Pollution

In the context of this project the impact potential could be in terms of toxicological or biological elements. During the manufacturing and packaging some solid waste will be given off with minimal impact on the environment.

- i. **Storm-water discharges:** Spilled pellets may be carried by rainwater into storm-water drains, which in turn transport the water into the municipal wastewater treatment systems. The pellets may be then discharged into the aquatic environment through storm-water discharges or, where the sewage and storm sewers are combined. Pellets in the municipal wastewater treatment systems;
- ii. **Careless routine operations:** Whenever pellets are handled, there is potential for pellet spillage. Manual pellet handling is more likely to result in spills than handling by mechanical conveying systems (i.e. Pneumatic systems that move pellets by using air flowing through sealed pipes);
- iii. **Inadequate housekeeping practices:** If pellets are not quickly picked up after they are spilled, they may be scattered and eventually released into the Environment and become solid waste creating environmental pollution; and
- iv. **Easily damaged or leaky packaging:** Paper and cardboard packaging is easily damaged during transportation.

5.1.2 Physical environment impacts

a. Above Ground

Impacts affecting the above ground physical environment which could result from the proposed development include impacts on air quality and impacts relating to waste management. There is no need for chimneys as the production process might release less smoke that is harmless to the air quality.

b. Solid and liquid waste Generation

Solid waste will be generated during production and packaging as plastic pellets they spill during transportation of the site for foundation works and landscaping. Storm water.

Potential mitigation measures:

- The proponent and municipality shall work hand in hand with private refuse handlers and local authorities to facilitate dust bins for waste management.
- The wastes shall be properly segregated and separated to encourage recycling of some useful waste materials.
- Employ integrated solid waste management system through a hierarchy options: source reduction, recycling, composting and refuse. This will facilitate handling during occupation.

c. Surface Water

Possible impacts associated with the operation phase include contamination of sewer system with substances such pellets, from poorly maintained packaging process.

d. Occupational Health and Safety (OHS)

During the proposed operation, there may be increased risks to health and safety such as: air, noise pollution and handling of machines during production and packaging. The workforce and general public involved would be more subjected to these environmental hazards and disturbances.

Potential mitigation measures

- Sanitary facilities shall be provided and cleanliness shall be ensured as per set standards;
- A fully equipped first aid kit shall be provided and shall be managed by qualified persons;
- Adherence to environmental health and safety regulations;
- Individual workers at the factory shall be controlled and monitored to ensure that proper handling of machinery during the production phase is put into action;
- Ensure consistently good water quality through regular water analysis to ascertain compliance to public health standards; and
- Proper training should be given to all employees before starting with the work.

e. Sewage and Effluent

Effluent/sewage resulting from sanitary facilities and wastewater from washrooms, from byproducts of the factory, and chemicals are significant concerns with respect to the environment if it is untreated. It shall be handled by draining effectively into the existing sewer system. Sound sanitation will be ensured to influence prevention of outbreak of diseases detrimental for the general health of the workers, visitors and the general public alternatively a sewerage system with advanced design will be in place and waste will be channeled in to it.

Potential mitigation measures

The proponent shall ensure that there are adequate means for handling the large quantities of sewage generated by the units being directed to the Walvis Bay sewer line.

f. Surface drainage

The drainage of the general site is necessary to enhance effective flow of the much- anticipated surface run-off from impermeable areas within the site.

Potential mitigation measures:

Staff should be made aware about the danger of pellets spilling around in the environment as well as in drainage system.

g. Security

Security of the site and those working and living within is of utmost significance. The house-for guards within the facility must be assured of their security at all times.

Potential mitigation measures

Hiring security guards within the property to provide security in a 24-hour basis.

h. Water Use

During the operational phase, the various activities will require large quantities of water, i.e. cleaning as well for production.

Potential mitigation measures

- Upon occupation of the warehouse, metering per unit of water shall be done and conservation be promoted; and
- Any water leaks through damaged pipes and faulty taps shall be fixed promptly by qualified staff.

i. Fire hazards

The operations that lead to fire outbreaks include poor handling of electricity systems, faulty electrical equipment, carelessness etc. It is important to consider the issue of fire by bringing in the element of preparedness. In this regard, the design of the project has provided and recommended implementation of firefighting measures and control facilities. These include the following:

- All fire control and fighting facilities shall be installed following country government fire master requirements and approval.
- The dwellers shall be encouraged to be aware of requisite actions basic first aid to take in case of fire outbreaks.
- The proponent shall ensure that all firefighting equipment are strategically positioned, regularly maintained and serviced.

5.1.3 Description of positive impacts

a. Employment Creation

With the implementation of the project, there will be employment opportunities for not only those who will be providing manual work, but also those providing professional works and consultancy.

b. Creation of business opportunities

As a result of the proposed project a large number of people (skilled and unskilled) will be required during the operational stage of the factory. The construction will provide a ready market for various goods and services, leading to several business opportunities for small-scale traders such as plastic manufactures. Even when the factory starts its material production many customers will gather and create market opportunity.

c. Increase of exports

The project will create new export industries, therefore significantly expanding markets. Export serve the purpose of earning foreign currency. Importing raw materials and exporting pellets will be necessary and will benefit Namibia's economy, for they (import and export) play a major role in the development and growth of national economies.

5.2 Environmental Management Plan

Environmental or social impact	Potential changes	Environmental impacts	Mitigation measures	Executive bodies
Production of integrated plastic and plastic products	Accumulation of residual materials	Solid waste pollution	Strict solid management	Municipality Health office the proponent
Excretion of employee	The accumulation of liquid wastes	Health hazard of employees and out siders	Careful removal of liquid wastes	Manager at the factory
Production and distribution of integrated plastic and plastic products	Potential hazard on employees	Employees injury	Provision of protective wear, materials and equipment for employment insurance coverage.	Xin Ming Plastics Trading should provide the first aid kit at the factory.

Table 3: Environmental Management Plan (EMP) of plastic pellet factory

6. Public Participation

Public participation according to Environmental Management Act (Act No.7 of 2007). Public participation basically involved encouragement of the public to express their views. Essentially, it seeks to ensure that due consideration is given to public values, concerns and preferences when decisions are made. Consultation and public participation for this proposed project was carried out as detailed here below:

- The first consultation took place with the consultants calling for the meeting, posters were put up on site and at the municipality on the 25 February 2020.
- NEWS PAPER ADVERTS DONE ON THE ON THE 24 FEBRUARY 2020 according to Environmental Management Act (Act No.7 of 2007) in the following newspapers;
 - The Republikein;
 - The Namibian Sun; and
 - Confidante Newspaper on 12 March 2020 and 18 March 2020.

The issues discussed during the first consultative meeting are the following:

- Impacts of the proposed project.
- Impact to nearest factories.
- Mitigation measures to the negative impacts.

Second consultation took place between the consultant and the neighbors business. After inspecting the site, the consultant approached immediate neighbors who include factory operators of the area close by. The objectives of consultation with neighbors was focused on;

- Dissemination and informing the area residents about the proposed project with special reference to its key components, location and expected impacts;
- Creating awareness among area residents on the need for EIA for the proposed project and its due process.
- Gathering of comments, concerns and suggestions of the immediate neighbors;

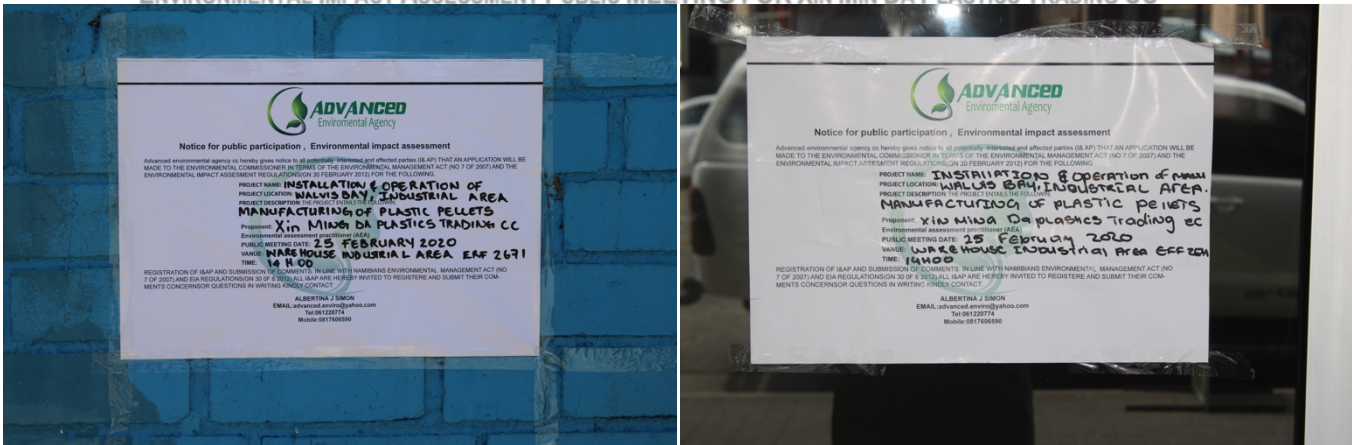
- Ensuring their concerns were known to the developer and associates at an early phase of project development planning; and
- Establishing a communication channel between the residents, consultants and the proponent.

The consultant moved from door to door explaining the proposed project details. A questionnaire was used to elicit views of stakeholders concerning the proposed project. A sample of the neighbor's comments, occupation, contacts and signatures is provided.

7. ANNEXURES



ENVIRONMENTAL IMPACT ASSESSMENT PUBLIC MEETING FOR XIN MIN DA PLASTICS TRADING CC



ATTENDANCE SHEET

DATE: 25 FEBRUARY 2020

#	Name	Comment	Contact Number	Signature
1	Linda Vermark	Not bad Idea at all	0812427467	
2	Hedwig	A bad idea to manufacture plastic given the environmental impacts	08144007642	
3	Arnold	I am happy with idea for Job Creation and good opportunity for other businesses	0818 817 343	
4	Miranda	Am spectacle on pollution But as long as there is measures in place then I am happy for it will create job opportunity and vertical integration for SMEs	0813177931	
5	Deize	It has both the negative and positive impacts. But after mitigations are explained I like the positive impacts	0812626446	
6	Robert	The project will contribute to Walvis Bay town so it's a positive	0811466626	
7	Leon	Most of the produce are exported generating forex. Thus good for our economy. Plastic can be used positively too	0812149970	

8. CONCLUSION

All wastewater will be collected. Water used for cooling will be recycled continuously for longer time and that from the cleaning and sanitation will be collected in sewage tanks once filled and disposed, according to the acting municipality regulations and handling. Workers wear suitable masks as well as be provided with adequate safety attires when needed, sustainable maintenance for all machinery and continuous surveillance. The solid waste to be generated shall be properly collected, properly managed to avoid any possible retrieval and finally either recycled or incinerated, while the liquid waste shall be collected and treated properly before discharge. The noise protection for the manufacturing unit shall implement an effective hearing conservation program. The consultants strongly feel that the proponents shall respond to the location and recommendations provided to mitigate the environmental impacts. Through the future build up waste treatment design recommended requires the proponent's additional commitment; the benefits are believed to significantly outweigh the escalation of commitment. Xin Ming trading needs to take a stand to facilitate and monitor the implementation of the mitigation measures. Proper handling of raw materials should be maintained.

Dump containers and trucks are short of supply, yet the factory needs to access the services in competition with the local population. This may adversely affect the health of the local population, so the proponent should bring at least liquid waste disposal vacuumed track. Introducing of a solid waste storage and sorting facility for the safe disposal of organic and inorganic wastes. The assortment would enable the company to separate the materials to be recycled, reused and the solid organic wastes to be transported to the municipality garbage disposal site. There was no alternative site considered for the project apart from Erf. 2671.

9. RECOMMENDATION

- Ensure that worker's occupational health and safety standards are maintained through facility provision, proper training, providing protective clothing and managing their residential camps up to the required health standards;
- Annual environmental audits should be carried out on the project in order to ensure compliance of the project with the mitigation measures outlined in the Environmental Management Plan (EMP);
- All activities concerning construction and maintenance such as, work execution, site inspection, and material testing, shall be strictly monitored by an engineer or a designated official. This is important to ensure quality of maintenance works; and
- The proponent should therefore follow the guidelines as set by the relevant departments to safeguard and envisage environmental management principles during construction and operation/occupation phases of the proposed project.