Proposed Strategic Expansion of the Container Terminal at the Port of Walvis Bay

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EXECUTIVE SUMMARY

Namport proposes to expand the container terminal area at the port of Walvis Bay on reclaimed land. CSIR (South Africa) and Delta Marine Consultants (Netherlands) have been appointed by Namport to conduct an Environmental Impact Assessment (EIA) in order to establish the best suitable design, as well as the environmental impacts of the proposed development. Enviro Dynamics have been contracted to conduct the public participation for the EIA, as well as the Social Impact Assessment.

This report provides an overview of the social as well as the economic environment of Walvis Bay, contextualized within the broader Erongo Region. The population and growth, poverty and unemployment as well as housing and existing services are discussed. Existing social pathologies including crime, prostitution and health and disease are also touched on. In addition, the economic pillars of the economy of Walvis Bay, namely, fishing, tourism, manufacturing, and the harbour, along with transport and the salt works, are mentioned. Special attention is also given to Namport, its workforce and policies as well as land use in and around the port.

This information provides the baseline against which potential impacts are identified and assessed. The methodology followed for this task included a literature review, interviews, risk identification, the assessment of impacts and reporting.

Specific issues investigated include education and employment opportunities, influx of workers and associated pressure on resources, economic benefits, impacts on existing industrial base, waste disposal and the compatibility of the project with current and future land planning issues. Furthermore, issues such as noise, traffic, bad odours and visual impacts were also given attention to.

Potential positive impacts, with the extent thereof varying, can be summarised as follows:

- Employment creation for Namibians, both during construction and operations;
- Skills transfer and educational opportunities;
- Visual barrier caused by the current container terminal will be reduced;
- Increase in economic activities of companies related to the construction industry during the construction phase;
- Increase in economic activities of companies related to the transport industry during the operational phase;
- Increased scope for a marina development;
- Increase in the number of business men to the area, benefiting the hospitality industry;

This proposed development can also have potential negative impacts on the community and economy of Walvis Bay. This includes the following:

- Influx of workers which in turn places increased pressure on available resources;
- Increased risk for the spreading of communicable diseases such as HIV/AIDS, especially with the associated increase in transport;
- Liberation of bad odours during dredging;
- Increase in traffic in Walvis Bay as well as through the Erongo Region, along with associated safety risks;
• Increase in noise levels, impacting residents near the harbour as well as those resigned on routes used by heavy vehicles;
• Visual Impacts resulting from the construction of the proposed noise barrier;
• Lack of collaboration between Walvis Bay Municipality and Namport, limiting the realization of opportunities;
• A potential threat to the lagoon can impact on tourism, the amenity of the area and the property value of houses situated near and around the lagoon;
• A low water quality, resulting from both construction and operational activities, can increase the costs of the treatment of water of the fishing plants.

A potential threat to the lagoon is of serious concern and would call for the consideration of alternatives. Also, the impact on water quality, affecting the activities of the fishing plants, calls for further studies.
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<tr>
<td>CBD</td>
<td>Central Business District</td>
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<tr>
<td>CETN</td>
<td>Coastal Environmental Trust of Namibia</td>
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<td>DOTS</td>
<td>Directly Observed Treatment Short-Course</td>
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<td>EIA</td>
<td>Environmental Impact Assessment</td>
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<td>EMP</td>
<td>Environmental Management Plan</td>
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<td>EPZ</td>
<td>Export Processing Zone</td>
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<td>GDP</td>
<td>Gross Domestic Product</td>
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<td>HIV/AIDS</td>
<td>Highly Infectious Virus/ Accumulated Immune Deficiency Syndrome</td>
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<td>IBA</td>
<td>Important Bird Area</td>
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<td>MFMR</td>
<td>Ministry of Fishing and Marine Resources</td>
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<td>NGOs</td>
<td>Non-Government Organization</td>
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<td>NHE</td>
<td>National Housing Enterprise</td>
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<td>PHSL</td>
<td>Primary Household Subsistence Level</td>
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<td>RED</td>
<td>Regional Electricity Distributor</td>
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<td>SADC</td>
<td>Southern African Development Community</td>
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<td>SMME</td>
<td>Small and Medium Manufacturing Enterprises</td>
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<tr>
<td>STD's</td>
<td>Sexually Transmitted Diseases</td>
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<td>TB</td>
<td>Tuberculosis</td>
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<td>TEU</td>
<td>Twenty-foot Equivalent Units</td>
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WBM  Walvis Bay Municipality
WBYC  Walvis Bay Yacht Club
WHO  World Health Organisation
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Appendix A: Background Information Document.
CHAPTER 1. INTRODUCTION

1.1. BACKGROUND

Between the dunes of the Namib Desert on the East and the Atlantic Ocean on the West, lies Namibia’s second largest city, Walvis Bay. It was incorporated into Namibia in 1994, three years after independence, and has since become one of the main growth centres in the Erongo Region enclave (Figure 2). Walvis Bay has Namibia’s only deep water port and is therefore an important gateway for maritime import and export commodities, while facilitating trade with other SADC countries. Furthermore, trade between SADC, Europe, the Americas, and the Far East also takes place via the port of Walvis Bay (Namport, 2009).

This trade has led to the Port of Walvis Bay attracting more containerized cargo. Currently, about 250 000 TEU’s are handled per annum and it is expected that this trend will increase. However, by 2011, the existing container terminal facility is predicted to reach its full capacity with no possibility for expanding the stacking area. In addition, the size of container ships is growing and the current berths are not capable of handling these large vessels. For these reasons, in addition to the strategic importance of such a venture for Namibia, Namport proposes to expand the container terminal area at the port of Walvis Bay on reclaimed land.

CSIR (South Africa) and Delta Marine Consultants (Netherlands) have been appointed by Namport to conduct an Environmental Impact Assessment (EIA) in order to establish the best suitable design, as well as the environmental impacts of the proposed development. Enviro Dynamics have been contracted to conduct the public participation for the EIA, as well as the Social Impact Assessment.

It is recognized that a development of this magnitude can not only affect the biophysical environment, but also the socio-economic environment. The purpose of this specialist report is to predict the various ways in which the community and economic activities could be affected, and to provide enhancement measures that will optimize positive impacts and mitigation measures to curb potential negative impacts.

An overview of the social as well as the economic environment of Walvis Bay will first be presented, contextualized within the broader Erongo Region. This information will provide the baseline against which potential impacts will be identified and assessed.

1.2. PROJECT DESCRIPTION

The proposed expansion of the container terminal will be conducted in three phases. Namport aims to commission Phase 1 by 2012 (Figure 1). For more information on the project description please see Appendix A (Background Information Document) and Chapter 3 of the Final EIR at www.namport.com.na.

The potential sources of impacts on the social and economic environment of Walvis Bay, which can result from the proposed development, include the following:

- The channel has to be deepened in order to be used by bigger vessels. Thus, dredging will occur which can result in the emission of bad odours;
- A causeway will be constructed on reclaimed land, which can affect the water quality in the bay, potentially impacting on the fishing factories and the lagoon;
• Piling and drilling as well as other construction related activities can result in higher levels of noise;

• An increase in container handling and movement of vehicles can result in higher noise levels during operations;

• An increase in the movement of containers on land can contribute to an increase in traffic;

• An estimated 550 jobs will be created during construction: 500 labourers and 50 supervisors and managers.

• An estimated 218 jobs will be created by 2013 during the operational phase, with projections that this number can grow annually;

• Increased pressure on available housing resulting from an influx of workers, both skilled and unskilled.

Figure 1: The three phases of Development.
1.3. SCOPE OF WORK

1.3.1. Overall Objectives

The overall objectives of the EIA are to identify potential impacts that may occur during both the construction and operational phases of the activity. The assessment of impacts should also include direct, indirect, as well as cumulative impacts.

In order to identify and analyze potential impacts (both positive and negative) it is important for the nature of the proposed activity to be well understood. The process of identification and assessment of impacts should include:

- Determination of current environmental conditions in sufficient detail so that there is a baseline against which impacts can be identified and measured;
- Determination of future changes to the environment that will occur if the activity does not proceed (“no project” alternative);
- An understanding of the activity in sufficient detail to understand its consequences; and
- The identification of significant impacts which are likely to occur if the activity is undertaken.

1.3.2. Terms of Reference for the Socio-Economic Study

The following has been provided as the Terms of Reference which acts as a guide for this socio-economic study:

- Conduct a desktop study and identify issues informed by the Issues Trail to gain an understanding of the socio-economic concerns raised during scoping.
- Consult with relevant authorities, particularly the Walvis Bay Municipality, Namport, and the Erongo Regional Council.
- Investigate the following:
  - Expected increase in population size;
  - The benefits and risks associated with additional employment creation and job seekers, including job creation and poverty reduction, increased informal settlement, increased pressures on local housing, facilities and services;
  - Increased educational opportunities and skills transfer;
  - Economic benefits from the project - contribution to economic structure and existing socio-economic trends in the town;
  - Impacts on the existing industrial base;
  - Waste disposal and sewerage issues;
  - Interaction with social, recreational and tourism facilities;
  - Implications of the project for current land use planning and compatibility with existing land usage; and
  - Beneficiaries and losers of the project.
• Investigate health and safety and security issues associated with the project.
• Provide a baseline description of the socio-economic profile to be addressed at local, regional and national levels.

1.4. ASSUMPTIONS AND LIMITATIONS

The availability of recently updated documented statistics and information on both the Erongo Region and Walvis Bay is limited. Thus, in order to present the most recent information relevant to this study, key sources from personal communication with various institutions were correlated with available data. However, the lack of formal documented information is a limitation as it runs the risk of misrepresenting the real situation.

This report is also based on reports provided by the project team and has thus drawn on their conclusions. The reports include the Hydrodynamics, Noise and Traffic Reports (DMC & CSIR, 2009; Safetech, 2009; SSI, 2009).

1.5. LOCALITY

The locality of the proposed Expansion of the Container Terminal is within the borders of the Port of Walvis Bay. However, its impacts reach beyond those borders into the community and economy of Walvis Bay. Furthermore, since transport by road and railway forms an important downstream component of the project, some attention has to be given to the impacts on the Erongo Region that may result from increased haulage through this region.

1.6. METHODOLOGY

It is important to ensure that the proposed development at the Port of Walvis Bay is contextualized within the regional and local context of the Erongo Region, the background against which impacts will be assessed. The following methods were employed to obtain the relevant information:

• Interviews: Interviews were held with key personnel within Namport to obtain relevant data about the project, the baseline socio-economic conditions, and relevant Company policies. Key informants at Walvis Bay Municipality were also interviewed, which included the Town Planning Division, Tourism and Economic Departments as well as the Public Relations Division.

• Secondary Data: Publications such as the 2001 Housing and Population Census, the Erongo Poverty Profile, as well as in-house reports were consulted to sketch the conditions of the communities affected by Namport’s current operations. The websites of both Namport and the Municipality of Walvis Bay proved to be valuable in providing socio-economic information.

• Risk Identification: Socio-economic opportunities and risks identified are based on the project information obtained, dialogue with stakeholders during the Public Participation Process of this EIA and professional judgement.

• Impact Assessment: Potential impacts were assessed in terms of their nature, extent, duration, intensity, and probability. The status of the impact and the degree of confidence is specifically assessed with significance of the impact summarised as low, medium or high. This methodology is described in more detail under Section.
Figure 2: The locality of Walvis Bay.
CHAPTER 2. LEGISLATION

2.1. TOWNSHIP AND DIVISION OF LAND ORDINANCE; ORDINANCE 11 OF 1963

This Ordinance serves as a tool for the consolidation and amendment of the laws with regards to the establishment of townships. It furthermore makes provisions for controlling and regulating the development and subdivision of land.

The reclamation of land is subject to sub-division, where after it will be incorporated as an erf into the applicable township adjacent to it, in this case Walvis Bay Proper.

2.2. TOWN PLANNING ORDINANCE OF 1954

The Town Planning Ordinance of 1954 makes provision for the ‘preparation and carrying out of town planning schemes and for matters incidental thereto’. Such a town-planning scheme includes areas which fall within the jurisdiction of the particular municipality, in this case Walvis Bay and its township extensions. A scheme makes provision for regulations, restrictions, or prohibitions to the development of the area under it.

The current harbour is situated on one single property, which is zoned for “railway and harbour purposes” according to the Walvis Bay Town Planning Scheme. The Walvis Bay Municipality is presently in the process of amending its scheme clauses, including the definitions for each zone. The Namport activities do therefore fall under the jurisdiction of the Walvis Bay Municipality and do require close collaboration and adherence to the regulations in the Town Planning Scheme.

The new portion to be incorporated will have to either assume the same zoning as the existing portion, or be given a new zoning that matches the proposed container terminal activities.

The subdivision and rezoning application process will first be submitted to the Walvis Bay Town Council for approval, followed by submissions made to the Namibian Planning Advisory Board and Townships Boards. These applications need to be prepared for Namport by a registered Town and Regional Planner, in close consultation with the Walvis Bay Municipality.

2.3. ENVIRONMENTAL ASSESSMENT POLICY (1995)

The procedure currently followed for Environmental Assessments in Namibia, are in terms of the Environmental Assessment Policy of 1995. The EA procedure sets out to, inter alia:

- “better inform decision makers and promote accountability of decisions taken;
- consider a broad range of options and alternatives when addressing specific policies, programmes and projects;
- strive for a high degree of public participation and involvement by all sectors of the Namibian community in the EA process;
• take into account the environmental costs and benefits of proposed policies, programmes and projects;
• take into account the secondary and cumulative environmental impacts of policies, programmes and projects; and
• promote sustainable development in Namibia, and especially to ensure that a reasonable attempt is made to minimise anticipated negative impacts and maximise the benefits of all developments”.

The Policy therefore definitely includes socio-economic considerations in its objectives. Therefore this EIA includes the undertaking of a socio-economic specialist study to inform decision-makers on these risks associated with the project.

2.4. ENVIRONMENTAL MANAGEMENT ACT (2007)

The Environmental Management Act (2007) gives effect to Namibia’s Environmental Assessment Policy. Although the Act passed through parliament in 2007, it has not yet been implemented and its draft regulations have not yet been effected. However, all Ministries and implementing agencies have commenced to bring their operations in line with the Act, in order to respond to the requirements for achieving better environmental sustainability in the country.

The projects under discussion are listed in the act as activities requiring environmental assessment, under Part VII:

1(q) The erection and construction of buildings and structures for manufacturing, processing, industrial, or military activity.

1(s) the erection and construction of waste sites, including any facility for the final disposal or treatment of waste.

4(c) the import, processing, transit or export of waste.

The Environmental Management Act defines the “environment” as “the complex of natural and anthropogenic factors and elements that are mutually interrelated and affect the ecological equilibrium and the quality of life, including - (a) the natural environment that is the land, water and air, all organic and inorganic material and all living organisms; and (b) the human environment that is the landscape and natural, cultural, historical, aesthetic, economic and social heritage and values.” (MET, 2008).

As the case with the Environmental Assessment Policy, the Act therefore requires of proponents to include socio-economic aspects in their EIAs. The project under discussion has a strong social component that is the subject of this assessment.

2.5. HEALTH AND SAFETY REGULATIONS (OF THE LABOUR ACT OF 1992)

The Health and Safety Regulations of the Labour Act of (1992) oblige all employers to identify the hazards attached to any work that is performed at the workplace, including the risks to the health and safety of employees as well as to any other persons who may be affected by the Project activities. These health and safety risks need to be assessed and eliminated or reduced, or alternatively personal protective equipment is to be used if all other options are not practical or immediately implementable.
There are many sections of the Regulations that are applicable to the proposed project, of which the following are particularly relevant:

The following permits and administrative requirements must be in place in terms of the Regulations:

- Approval of Building Plans in terms of Reg. 19;
- 30 Days’ Notification of building or construction work in terms of Reg. 20; and
- Notification of accidents and dangerous incidents in terms of Reg. 22.

Chapter 3 of the Regulations deal with welfare and facilities at work-places and include the standards for buildings including aspects such as ventilation, floor space, natural lighting, ergonomic requirements, cleanliness, sanitary requirements, fire precautions, etc.

Chapter 5 of the Regulations deal with the transport, handling, and storage of hazardous substances. This Chapter contains general preventative measures and specific measures for the storage and handling of such substances; all of these with the general aim to eliminate any risk to the health of any person or to the environment.
CHAPTER 3. BASELINE DESCRIPTION

3.1. INTRODUCTION

The purpose of this chapter is to give a description of the receiving socio-economic environment in which the proposed Strategic Expansion of the Container Terminal at the Port of Walvis Bay will take place. This will form the baseline against which issues will be identified and impacts assessed. Consequently, only information relevant to this specific study will be highlighted.

Since the proposed development is located in Walvis Bay, its social and economic environment will be discussed. In addition, aspects of the Erongo Region relevant to this project also have to be described in order to contextualize the proposed development within the broader region.

3.2. ERONGO REGION

3.2.1. Population and Growth

The Erongo Region is one of the most affluent regions in Namibia, with the second highest per capita income in Namibia at N$16 819 per annum. This income is obtained from tourism, fishing, and mining. The region comprises six constituencies, namely Omaruru, Karibib, Arandis, Brandberg, Swakopmund, and Walvis Bay.

In 1991 the Erongo Region had a population of 55 470. A decade later, this number had increased to an estimated 107 663, resulting in a growth rate of almost 94% during the period 1991 to 2001 (NPC, 2001). This can partly be attributed to the inclusion of Walvis Bay into Namibia in 1994, as well as migration to the coastal towns that are predominantly urban. This urban nature can be ascribed to the harsh climatic conditions that limit agricultural activities and make survival in the desert almost impossible. In 2001, it was found that an estimated 80% of the Erongo Region population resided in the urban areas (NPC, 2001).

Excluding figures for Walvis Bay, the regional population is approximately 79 722 and grows at an estimated annual rate of some
3.7%. When compared to the national growth rate of 2.6% and a fertility rate that is lower than the national average, the high rate of population growth in the region can be attributed to immigration to these areas. Immigration is further reflected in that only 35% of the population was born in the Erongo Region while 30% was born in the north-central regions of Namibia (NPC, 2001). The main growth centres are Swakopmund and Walvis Bay. The influx of people to this region could be attributed to pull factors such as the fishing industry, mining activities, and more recently, to the ‘Erongo Region uranium rush’.

3.2.2. Economic Activities

The reporter, Des Erasmus, from Die Republikein noted ‘Erongo Region in the grip of Uranium Fever’ (Erasmus, 2006). This is due to the renewed interest in nuclear energy. Consequently, with the region now marked as globally important, a number of uranium mines have been established in this region over the last few years. Rössing and Langer Heinrich are some of the uranium mining giants currently operational. Furthermore, a number of exploration studies are being conducted to assess and indentify new prospective sites for mining.

Uranium exploration and mining activities are expected to have a significant impact on the Namibian economy during the next few years as increased production contributes to the growth in GDP. If the planned Trekkopje Mine comes becomes operational in 2010, this could increase GDP growth for that year by 2.2% (Smith, 2007). Although the Uranium industry can contribute to employment in the country, a larger concern is the sustainable supply of resources such as water and electricity and the creation of sustainable habitats and livelihoods.

Various other mining operations also occur in this region, for example, Navachab and the areas surrounding Uis. Small miners are frequently found in these areas. Furthermore, a marble industry has been established in Karibib, and there is the prospect of a cement factory that will make use of the railway link to the Walvis Bay harbour.

Farming in this semi-arid area is another economic activity; a combination of both communal and commercial farming is found in this region, which is mostly the keeping of livestock (Simon, 2009).

Industrial infrastructure is provided by a railway connection that runs from Walvis Bay through the Erongo Region to Otjiwarongo and Windhoek, the latter connecting further with South Africa. It is also used by the mines to transport ore to Walvis Bay from where it is shipped for export. Consequently, the increase in mining activities has also contributed to the increase in container shipments through the Port of Walvis Bay.

The Erongo Region is also connected by the national road network to the rest of the country via Okahandja, Windhoek, and Otjiwarongo. In addition, it forms part of the Trans Kalahari Highway which facilities trade as this road runs from Walvis Bay, through Botswana to Gauteng in South Africa. Also, the road network links Walvis Bay to the Trans Caprivi Highway and stimulates trade with other SADC countries such as Zambia and Zimbabwe. The Walvis Bay Corridor Group has put in a great amount of effort to ensure that these corridors assist with exports to other land locked countries.

Thus, the transport networks within the Erongo Region play a key role in the facilitation of trade via Walvis Bay, supporting it as a hub for commercial trade.
3.3. WALVIS BAY

Walvis Bay falls under the jurisdiction of the Walvis Bay Municipality, whose authority stretches up to the Swakop River in the North and to the Kuiseb River in the South. This area is divided by the road between Walvis Bay and Swakopmund, with the dune side under the jurisdiction of the Ministry of Environment and Tourism, and the coastal beach area under the control of the Walvis Bay Municipality.

3.3.1. Social Context

3.3.1.1. Population and Growth

According to the 2001 Population and Housing Census, the population of Walvis Bay is estimated at 42 015 people which represents 26% of the total Erongo Region population. However, with the polio vaccination in 2006, a shortage of vaccines indicated that the population is closer to 60 000. This number is expected to grow to 70 000 by the end of 2009, and to almost double within the next 10 to 12 years (Marques, 2009, Pers. Com. Communications Officer, WBM).

The population of Kuisebmond, one of the main neighbourhoods in this harbour city, has seen an increase from 23 259 in 1997 to an estimated 33 570 in 2004 (WBM, 2004). This resulted in an estimated average annual growth rate of 5.35% (Figure 4).

![Figure 4: Population Growth for Kuisebmond (WBM, 2004).](image)

The high growth rate of Walvis Bay, as a whole, can be attributed to the continuous immigration of workers over the years. This is reflected in the cultural diversity of the Walvis Bay community. English, Afrikaans, German, Oshiwambo, Herero, Khoekhoegowab, Damara-Nama, Lozi, Kwangali, Tswana, Portuguese, and Spanish are some of the languages spoken in Walvis Bay, an indication of the cosmopolitan character of the city (WBM, 2009).
The Walvis Bay Community Needs Survey conducted in 2004, revealed that only 20.1% of the heads of household in Kuisebmond were born in Walvis Bay. In addition, 44% of the participants indicated that they came to Walvis Bay alone, 18.7% brought their families with, and 37.3% only let their families come at a later stage (WBM, 2004).

In the Walvis Bay Urban and the Rural Constituencies, 67% and 63% of all households are headed by men, respectively (NPC, 2003). The main sources of income are wages and salaries, as 77-78% of all the households earn a living through paid labour (NPC, 2003). Thus, households are very vulnerable to losing a wage earner since few other options for earning an income exists within Walvis Bay and its surroundings. However, it is interesting to note that there is an increase in arts and crafts stalls in Walvis Bay (Marques, 2009, Pers. Com.).

A great pull factor that contributes to the multi-ethnicity of Walvis Bay is the fishing industry and its related employment opportunities, especially at the fish processing factories. The population of Walvis Bay can increase by up to 10 000 people during the months of March to August when the fishing season peaks, and activity at the fishing industries increases. Apart from the fishing industry, many people are also employed at the harbour terminal and for the processing of sea salt.

### 3.3.1.2. Poverty and Unemployment

The unemployment rate for Walvis Bay is estimated at 36%, which is higher than the national average of 31% (NPC, 2007). The unemployment rate for women in both the Walvis Bay Urban and Rural Constituency is higher than for males, with a rate of 40% for women in urban areas versus 29% for males, and 56% for women in rural areas versus the 32% for their male counterparts (Figure 6).
There are many factors that contribute to the high unemployment rate in Walvis Bay. One such factor is that the population is growing at a rate faster than the number of jobs being created, partly brought about by the high influx of workers. Further aggravating this problem is when heads of households who immigrate to Walvis Bay bring along their families. This in turn increases the competition with locals for employment. A possible explanation for why migrants relocate to Walvis Bay on a more permanent basis (WBM, 2009) is provided by the Needs and Desirability Study conducted in Kuisebmond, where 86.8% of the participants commented that they perceive their lives to be better than that of other people across Namibia.

Another factor that contributes to unemployment is the seasonal variation of the fishing industry. There is a direct correlation between the abundance of fish stock during the fishing season, size of a catch and the number of available employment opportunities for that period. In other words, the smaller the catch, the fewer the number of people needed for the processing thereof. Consequently, some migrants are only employed for a specific period during a year (Section 3.3.3).

Migrant labour has long been associated with risky sexual behaviour that increases vulnerability to HIV/AIDS (see Social Pathologies 3.3.2). This epidemic further aggravates unemployment and poverty as it affects mostly the economically active population between the ages of 15-49, and is associated with increased expenditure on medication, funerals, absenteeism, fatigue, morbidity, and mortality. This not only impacts on individual households, but on the national and regional economy. This epidemic is discussed further in Section 3.3.2.

The Primary Household Subsistence Level (PHSL), which refers to the amount of money a household needs to satisfy basic needs for food, clothing, energy, washing and cleaning, was set at N$1,200 in 1997 (WBM, 2004). Escalating at 10% per annum since 1997, the PHSL for Walvis Bay should now be in the region of N$2,402 for a family of five. An estimated 51.88% of households in Kuisebmond earn less than this PHSL. The high levels of income inequality between residential areas is illustrated by comparing it to Meersig, the southern suburb of the city which had an average income of N$10,000 in 1997 (WBM, 2004).
3.3.1.3. Housing

Walvis Bay has been zoned into four areas, namely, Walvis Bay North, Walvis Bay East, Walvis Bay South, and Walvis Bay Central. Each has different demographic and socio-economic characteristics.

- **Walvis Bay North**

  *Walvis Bay North* includes the lower income residential area, Kuisebmond, a former ‘black’ township which is part of the legacy of the apartheid government, situated on the northeastern border of Walvis Bay. Most migrant labourers reside in this area (Hoadley, 2009). Consequently, in 2004, Kuisebmond had a population of 36 000 people which is expected to have increased to 40 000 in 2008, while that for the whole of Walvis Bay is estimated at 65 000 (WBM, 2004). The majority of these people are employed in the fishing industry as unskilled workers.

  During a Survey conducted by the Walvis Bay Municipality in 2004, 44.3% of houses in Kuisebmond were classified as temporary. Furthermore, it was found that an average of 1.95 households live on one plot and that ‘backyard squatting’ is common (WBM, 2004). Thus, secondary households reside in temporary housing structures. Houses are overcrowded with approximately 5.5 people per house (WBM, 2004).

  In the light of the increased need for housing and basic human amenities, and the high number of ‘backyard squatters’, the Walvis Bay City Council launched the Hostel Redevelopment project to upgrade old compounds for migrant labourers (WBM, 2009). In August 2008, the fifth phase of the Hostel Re-development Project in Kuisebmond was completed. This included 12 one-bedroom and 27 two-bedroom houses, which brought the figures to more than 300 housing units created under this project. In addition, the 2009/2010 Operational Budget of the Walvis Bay Municipality makes provision for further Hostel Redevelopment projects of up to N$3, 000, 000 (WBM, 2009).

  A new area, Tutaleni, was created on the outskirts of Kuisebmond as another residential area for lower income groups. However, this area is now filled with shacks, which is a concern for the Municipality (Marques, 2009, Pers.Com.). No informal settlements are found in Walvis Bay, as all residential areas have been zoned in terms of the Walvis Bay Town Planning Scheme. However, some areas are ‘formally informal’ with many shacks in areas with formal structures (Marques, 2009, Pers.Com.).

- **Walvis Bay East**

  *Walvis Bay East* includes Narraville, which was known as a ‘coloured’ township under the apartheid government. In addition to being a residential area, it also is a light industrial zone. In 2004 an estimated 20% of the population of Walvis Bay lived in this area. Low cost housing projects and various self-help groups are common in Narraville (WBM, 2009).

- **Walvis Bay Central**

  The *Walvis Bay Central* area includes several low-density residential areas to the south. However, it predominantly contains zones for heavy industries, and is called the Central Business District (CBD) of Walvis Bay.

- **Walvis Bay South**
Walvis Bay South consists of low density residential areas. This includes Meersig around the lagoon, as well as developments to the north of Walvis Bay such as Langstrand. This area is mainly for high income groups, and has the lowest unemployment rate and highest household income levels in the city. Consequently, houses situated closest to the lagoon are often referred to by locals as ‘millionaires’ lane’ (Photo 1).

The Meersig area is almost filled up; a few vacant areas in this area are often the property of speculators who will be penalized if no development takes place on their plot within 2 years of the date of purchase. This is, however, a problem in Walvis Bay since many speculators with large pieces of land would rather pay their penalties (Kruger, 2009, Pers. Com.).

Walvis Bay generally has a housing problem, including a shortage of renting units. Furthermore, Gert Kruger, Manager of Tourism and Economic Development Department of the Walvis Bay Municipality, has stated that low cost housing is not the biggest problem, but rather housing for the middle-class income group (Kruger, 2009, Pers. Com.). This is based on the fact that low-income areas still have scope for future development and areas have been demarcated for housing developments aimed at the higher income groups. In contrast, little provision is being made for middle income groups.

For expansion of the town, the areas north of Kuisebmond have been zoned for housing, mainly for high income groups. Existing developments in that area include Dolphin Beach and the most recent development, Aphrodite Beach.

3.3.1.4. Public Services

The functional responsibilities of the Municipality of Walvis Bay include the provision and maintenance of sewerage, water supply and an acceptable site for the disposal of all domestic, garden, and industrial waste. This is the responsibility of the Water, Waste, and Environmental Management Department.

3.3.1.5. Water Supply

Regarding water supply, Walvis Bay is faced with limited water sources. During the rainy season in February and March of 2009, flooding of the Kuiseb River caused a disruption in the water supply to the harbour city, as electrical equipment operating the boreholes was damaged. Shortly after that incident, Namwater’s electrical infrastructure failed due to poor maintenance, which hampered both water and electricity supplies. At that stage only 133 cm³ of water could be supplied per hour, not even close to meeting the total demand of 700 cm³ per hour per day (Hartman, 2009).

According to Andre Burger, from the Municipality of Walvis Bay, the current facilities at the aquifers at Roobank and the Kuiseb River are struggling to meet the water demand (Hartman, 2009). Walvis Bay, therefore, is in a precarious situation, as no extra water reserves are available (Hartman, 2009). Should there be another water supply crisis like the above mentioned, Walvis Bay will only be able to supply water for about two to three days (WBM: Bay News, 2009). Apart from the inconvenience for residents, water crises are costly
and hamper various economic activities. During March 2009 an estimated N$ 20 million was lost in production (Hartman, 2009).

### 3.3.1.6. Electricity

Erongo Regional Electricity Distributor (RED) has taken over the responsibilities of the distribution and maintenance of the electricity network in the Erongo region in 2005. Municipalities and town councils in the region are shareholders in the company.

Due to the influx of workers and a booming industrial sector, there is an increased demand for electricity. A new coal fired power station is being planned by Nampower in an attempt to meet this increased demand. The location of this plant has not yet been decided on. However, the preferred site for it is behind Dune 7 since this area has been zoned for future industrial development (Nambahu, 2009, Pers. Com.).

### 3.3.1.7. Sewage and Solid Waste

In light of the expansion of the industrial sector, the Walvis Bay Municipality realized that provision had to be made in regard to increased sewage and solid waste. Thus, systems were upgraded in order to enlarge their capacity to handle increased pressure on the public services. The possibility of adding booster pumps to handle sewage as part of Namport’s expansion plans are currently being considered (Marques, 2009, Pers. Com.). However, due to the nature of the current intended expansion, i.e. the expansion of the container terminal, a drastic increase in sewage and solid waste removal is not expected (Marques, 2009, Pers. Com.).

As for sewage, all township areas are connected to sewer lines, whether for the discharge of domestic waste or industrial effluents. A few years ago, Kuisebmond struggled with overflowing sewers brought about by increased pressures on public services as a result of overcrowding in that area (WBM, 2009). In order to address this problem, another suburb, namely Tutaleni, was developed which brought relief to the sewage problem.

Currently, a trickling filter system is used as secondary treatment to all collected sewage (JICA, 2009). This is then disposed of in the desert area adjacent to the treatment facility. All municipal solid wastes are collected and disposed at the site on Rikumbi Kandanga Road. This site is also certified to receive hazardous waste (JICA, 2009).

### 3.3.2. Social Pathologies

#### 3.3.2.1. Crime

Walvis Bay has been struggling with crimes such as house breakages and theft. However, with the appointment of new Commissioner Festus Shilongo many neighbourhood watches have been established. The presence of these community based crime units has been successful in deterring criminal activities (WBM, 2008). In the higher income area of Meersig, for example, where house breakages were very frequent, months will now go by without a single report of criminal activity. Meersig has been declared as the safest neighbourhood, with Narraville in second place (WBM, 2008).

Walvis Bay is also increasingly being faced with drug smuggling and selling activities. In 2007 drugs to the value of N$200 000 were confiscated; by the end of 2008, illicit drugs of over N$500 000 worth were confiscated (WBM, 2008). This shows a marked increase in drug activities and, sadly, it has been found that drug abuse is becoming a general problem amongst the youth of Walvis Bay. The possibility of installing scanners at the harbour is a
demonstration of commitment to curbing smuggling activities, where all goods that pass
through would in future have to be scanned (Marques, 2009, Pers. Com.).

3.3.2.2. Prostitution

Not only is Walvis Bay Namibia’s only deep water port, but it is also an important node on
Trans-Kalahari and Trans-Caprivi Highways. Consequently, this area is linked with countries
beyond Namibia’s direct neighbours, such as Spain, Russia, and China.

Characteristically for a harbour town, prostitutes are found in Walvis Bay, further encouraged
by incentives from foreign fishermen and truck drivers. An estimated 200 prostitutes operate
in Walvis Bay, their market being mainly the truck drivers and those coming ashore from the
international vessels (Marques, 2009, Pers. Com.). Some of the prostitutes are found close
to the harbour, while others wait along the side the road between Swakopmund and Walvis
Bay. In a study done by Keulder (2006), it was found that many of these women have
foreign boyfriends, such as Spanish sailors who are often out to sea. During this time, the
women earn an extra income by operating as prostitutes from their homes given to them by
their foreign boyfriends. This income amounts to N$20 000 to N$30 000 per month
(Marques, 2009, Pers. Com.).

The main concerns with prostitution are the spread of HIV/AIDS and other Sexually
Transmitted Diseases (STD’s). The prostitutes, fishermen, and truck drivers form a web of
risky sexual behavior as this activity links areas with low HIV/AIDS prevalence rates such as
Spain and China, with areas with high HIV/AIDS prevalence rates, such as Walvis Bay,
Katima Mulilo and Zambia (Keulder, 2006). Infections picked up elsewhere are brought to
Walvis Bay and spread through prostitution throughout Namibia and beyond its borders.
The converse is also true.

Prostitution also aggravates other social ills such as drug abuse, since prostitutes often
deal with drugs (Keulder, 2006). In addition, there seems to be a link between
shebeens, alcohol, and sex workers, as the availability and consumption of alcohol is
related to prostitution. More research is needed on this link (Keulder, 2006).

3.3.2.3. Health and Disease

Walvis Bay has the highest rate of TB infections in Namibia. In part, this can be ascribed to
the high number of foreigners which call at the Port of Walvis Bay, contributing to the spread
of TB as well as other diseases. Another contributing factor is the overcrowded conditions,
especially in Kuisebmond, where airborne diseases can spread more easily (WBM, 2004). It
was found that those between the ages of 16 and 40 years are mostly affected and mainly
belong to the lower income groups (Marques, 2009, Pers. Com.).

Walvis Bay has a TB clinic right in the middle of the town. This is a quarantine area where
TB infected patients are kept and only discharged once they are in good health again.
Furthermore, mobile TB clinics are also found throughout Walvis Bay, to facilitate DOTS,
‘Directly Observed Treatment, Short-course’, which is at the heart of the cure for TB. The
DOTS program combines five elements, namely, political commitment, microscopy services,
drug supplies, surveillance, and monitoring systems. Highly effective management systems
are also used along with the direct observation of treatment (WHO, 2009).

In addition to this, according to the 2008 Ministry of Health Centennial Surveillance Survey,
Walvis Bay had a HIV/AIDS prevalence rate estimated at 21.4%. This implies that about
one fifth of Walvis Bay’s workforce is HIV/AIDS positive. In general, the age group 30-39
has the highest prevalence rate, while in the urban area specifically, the age group 40-49
was found dominant. Walvis Bay has the third highest prevalence rate in Namibia after
Katima Mulilo and Windhoek (NPC, 2003). Contributing factors are the high levels of immigration, seasonal employment opportunities, and the fact that it is a port, located at the end of two transport highways (SIAPAC, 2002).

However, a decrease in the number of HIV/AIDS infections has been detected over the last few years. This can be ascribed to the activities of some 40 HIV/AIDS NGOs within Walvis Bay as well as wellness programs advocated within various companies (Marques, 2009, Pers. Com.).

This pandemic imposes various costs on Walvis Bay’s economy. For example, it increases the cost of labour at the port caused by absenteeism and increased turnover of its labour force. However, since imports through the port are determined by the performance of the Namibian government, HIV/AIDS is unlikely to be the greatest negative impact on the activities of the port of Walvis Bay. Nonetheless, the pandemic and associated increased deaths can slow down the growth of the national economy, in turn indirectly reducing the growth of the port. Furthermore, the Namport Export Processing Zone (EPZ), which competes internationally for investment can be impacted by HIV/AIDS as increased labour costs can reduce the competitiveness of the EPZ (Namport, 2009).

3.3.3. Economical Context

The economic activities of Walvis Bay rest on four pillars, namely fishing, tourism, manufacturing, and the harbour. In addition, the retail sector in this area has shown growth over the last 10 years. The past 4 years have seen a growth in the number of businesses, increasing from 2 000 to between 5 000 to 6 000 SMMEs which are registered with the Chamber of Commerce (Kruger, 2009, Pers. Com.). It is expected that this number will grow rapidly as new business opportunities emerge. The growth can be attributed to the increase in mining activities, the corridor development, and the expansion of Namport.

The growth in the number of companies is mainly related to the transport sector. This includes companies involved with freight forwarding, truck and ship repairs, and storage facilities; for the latter, the request for warehousing has increased. The area near the weighbridge has been zoned for light industrial, warehousing and truck port activities.

3.3.3.1. Fishing

The Namibian shoreline is home to a diversity of fish stock. The commercial fishing industry is the cornerstone of Walvis Bay’s economy; it is the biggest employer as it employs approximately 10,000 people throughout its value chain. Employment opportunities arise at the more than 2 km of landing quays, cold storage, processing and canning facilities. Over a period of 50 years, the industry has established itself in the world fish market; while contributing approximately 7% to the overall GDP, it also accounts for 25% of foreign exchange earnings.
fishing, demersal is caught throughout the year; species such as snoek and kabeljou are
368 tonnes per month during the peak period of January to August. Sardine is principally used
for canning while fish-meal and oil are produced from by-catch species. Unlike pelagic
fishing, demersal is caught throughout the year; species such as snoek and kabeljou are
captured by long-line fishing boats.

<table>
<thead>
<tr>
<th>Category</th>
<th>Definition</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pelagic Fish</td>
<td>Fish found near the upper layers of the open sea.</td>
<td>Pilchards, Anchovy, immature Horse Mackerel, Tuna, Sardines.</td>
</tr>
<tr>
<td>Demersal Fish</td>
<td>Fish found close to the seabed.</td>
<td>Hake, Monk, Horse Mackerel.</td>
</tr>
</tbody>
</table>

Pilchards, anchovies, monk, sole and horse-mackerel are some of the species caught commercially. Niche markets have been found in Europe, Australia, United States and Hong Kong for processed high value fish and its related products. Spain is the main market for hake since 90% of it is exported there. For the past 50 years, sardine and hake have formed the core of Namibia’s pelagic and demersal fishing industry. However, large fluctuations in fish stock have also occurred over this period with an observed decrease in especially sardine stock. This in turn has led to a decrease in employment opportunities within this sector.

Even though the fishing industry is subject to seasonal and stock variation, it continues to play an important role in economy of Walvis Bay. More than 70% of the industries in Walvis Bay are directly or indirectly dependent on the fishing industry. Investment opportunities are presented in the support and service sectors, including marketing, production and packaging related to the industry.

Water from the bay is used in the fish processing and canning activities. The water is pumped from the bay into the water treatment plants of the fishing factories where it is purified before used (Geyser, 2009, Pers.Com.). Thus, a specific water quality has to be maintained in the bay, which makes these processes vulnerable to pollution and oil spillages in the bay. However, some of the activities related to fish processing, such as fishmeal production, causes air pollution which increases the risk of respiratory disease. The Walvis Bay community, especially Kuisebmond, is often subjected to offensive noxious odours released from the fish meal factories, which they regard as affecting
their quality of life (*Photo 4*), (WBL, 2004). In addition, pollution from the harbour activities along with fish processing result in oxygen depletion, polluted beaches and poor recreational water quality.

The Bay area lends itself to aquaculture as it takes about nine to fifteen months for oysters to grow from spat to market size, compared to elsewhere in the world where the market size is only reached after three years. This high productivity is attributed to favourable weather conditions as well as to the upwelling Benguela current which supplies nutrient-rich waters, i.e., food to the oysters. The Pelican Point split also protects mariculture activities in the Bay from the high energy of the Benguela current.

The MFMR has established an Aqua Park as part of its objective to have a fully established aquaculture industry by 2030. The Aqua Park is comprised of approximately 26 farms of which 25 are for aquaculture. The products, mainly oysters, are sold to other countries, but increasingly also to the booming tourism and hospitality industry in Namibia.

### 3.3.3.2. Tourism

Sunset dolphin cruises, kayaking with seals and enjoying a four wheel drive to Sandwich Harbour are but a few of the tourist attractions now offered in a city previously known mainly for its harbour and fishing hotspots. Today, a range of activities are provided by a number of tourism activity operators.

There are currently eight marine tour operators and two kayaking operators. Taken at a minimum, it is estimated that 600 tourists go on dolphin tours daily, departing from the yacht club area (Leippert, 2009, Pers. Com.)

The Namib Desert and Namib Naukluft, dolphins and whales in the bay, Dune 7 as well as the surrounding natural beauty are all pull factors in terms of tourism. However, it is important to note that the lagoon, a declared Ramsar site, is the centre around which many of the tourism activities revolve, whether kite surfing or bird watching. There are six Important Bird Areas (IBA), of which the 30km between Swakopmund and Walvis Bay is one. As already mentioned, the lagoon is another IBA (Leippert, 2009, Pers. Com.). Capitalizing on this resource, many guesthouses have been established around the lagoon, offering a view of the rich bird life against the backdrop of sunsets.

The number of guesthouses in Walvis Bay has grown since 1995; along with the Protea Hotels they have an average occupation rate of between 70-80% (Leippert, 2009, Pers. Com.). This is due to the increase in business tourism, as the increased economic activities in Walvis Bay draw business to this area. Often, teams working at the ship and rig repair yard reside at these guesthouses and hotels for long periods of time of up to two months or more. Furthermore, February and March sees an influx of fishermen to this area as they use Walvis Bay as their basis for angling excursions. Thus, the hospitality industry is growing in this region. Walvis Bay contributes 16% to the National Bed Occupancy (Leippert, 2009, Pers. Com.).

At national level, a survey revealed that the coast is the most desired visiting destination. Consequently, the Coast, including Walvis Bay and Swakopmund accommodates 54% of the tourists to Namibia. Furthermore, a study conducted in 2007 by Alberts and Barnes revealed that the Coastal Accommodation Sector output was N$ 833.2 million (Leippert,
2009, Pers. Com.). It should be noted that the majority of tourists residing in Swakopmund also make use of the seaborne activities which run from Walvis Bay.

3.3.3.3. Manufacturing

Namibia has a small manufacturing sector, amounting to 14.3% of total GDP at 2008 prices. This sector consists mainly of meat processing, processing natural products for export or producing basic consumer goods and fish processing on shore.

In an effort to diversify and expand the manufacturing sector in Walvis Bay, while stimulating economic growth, the EPZ was established in 1996. Incentives such as political stability, an almost crime-free environment, a reliable workforce, as well as lower production costs are offered to potential investors (WBM, 2008). In addition, activities in the EPZ are free from exchange controls and foreign currency accounts at local banks can be enjoyed.

In order to maximize these benefits, investors have to meet the requirements of making use of Namibian labour and on condition that they produce solely for export. Consequently, the EPZ contributes to the development of the country’s manufacturing sector while creating much needed employment opportunities.

The main manufacturing activities in Walvis Bay thus take place within the EPZ. The manufactured products include plastic pallets and products, automotive parts for Volkswagen and Audi vehicles, fishing accessories, bathroom fittings, clothing and fishing related accessories. The cutting and polishing of diamonds are also conducted in this area.

In addition, the scope for future investors in the EPZ includes the manufacturing of footwear, leather products, electronic equipment and various foodstuffs (WBM, 2009).

3.3.3.4. Salt Works

One of the products exported from Walvis Bay, is salt. The 4 000 hectare Walvis Bay salt field is situated about nine kilometers from the Port of Walvis Bay. It is one of the largest solar evaporation facilities in Africa as they process 24 million tons of sea water each year to produce more than 650 000 tons of high quality salt. The majority of the salt produced by Walvis Bay Salt Refiners is used by the chlor alkali industry for the production of chlorine and caustic soda. In addition, the salt is used as a fodder supplement for cattle and also refined for human consumption (WBS, 2008).

Sea water is the main input, and water is pumped from the natural lagoon into concentration ponds via pre-evaporation ponds at a rate of 240m³ per minute. Once the salinity level of the water in the concentration ponds increases to 25%, the water is pumped into crystallization ponds where it is left to form crystal pavements. After a process of harvesting and washing, bulk consignments of salt are taken to the Walvis Bay harbour with trucks, from where it is shipped to other countries, mainly South Africa.

The Walvis Bay salt field is also part of the Ramsar site and is important for the conservation of birdlife. Up to 120 000 birds have been seen on the salt fields, hence, its recognition as a component of one of the key wetlands in Africa (WBS, 2008). Walvis Bay Salt Refiners is also a commercial producer of high-quality oysters supplied to customers throughout southern Africa. The plankton-rich
seawater is an ideal food source for the oysters. In order to insure freshness, the oysters are flown to various destinations.

3.3.3.5. Transport

The transport sector as a whole has shown tremendous growth as there has been an increase of 300% in the transport of cargo over the past few years. Thus, the transport sector has been another booming industry. Where there were about 10 transport companies a few years ago, there are now more than 26 who have made their services available in Walvis Bay (Kruger, 2009, Pers. Com.).

This increase can be attributed to the strategic locality of the Walvis Bay harbour in terms of the distance to other countries as well as the time saved with transporting goods via Namibia (Kruger, 2009, Pers. Com.). Namport has made dry bulk areas available to Zambia and Botswana, helping to reduce time in getting goods to their destinations. In addition, Namport has a track record of zero corruption and transport routes through Namibia are safe with few threats of hijacking (Kruger, 2009, Pers. Com.). These all contribute to preference being given to Namport as the port of choice for handling cargo.

There are four modes of transport to and from Walvis Bay namely, maritime, railway, road and by air. The maritime mode is dominated by four major deep sea carriers. These are the Maersk and Safmarine/Delmas Line, the French CMA/CGM line which have been calling at the port since May 2009 and the Mitsui OSK Lines (JICA, 2009).

As for rail and road transport, the Port of Walvis Bay is linked to neighbouring countries via four major cross-borders corridors. The Trans-Kalahari Corridor links up with Botswana and Gauteng in South Africa, the Trans-Caprivi Corridor with Zambia and Zimbabwe, the Trans-Kunene Corridor with Angola and the Trans-Orange Corridor which links up with the Western Cape in South Africa. In order to promote the use of these corridors, the Walvis Bay Corridor Group was established in 2000, which has contributed to stimulating the transport sector in Walvis Bay (SIAPAC, 2002).

The roads are generally in good condition with the B2 between Karibib and Okahandja currently being upgraded as it is an important link with various corridors. The roads are frequented by trucks as a result of Walvis Bay being the first or last port of call on the Trans-Kalahari or Trans-Caprivi Highways. An estimated 150 trucks call at Walvis Bay per day. Thus, while the freight is loaded or off-loaded, the truck drivers stay in town for this period of time during which they often visit shebeens and sex workers (Keulder, 2006).

Figure 8: Transport corridors (Namport, 2009).
The railway is progressively aging, and surface deformations are visible in some areas of the tracks (JICA, 2009). The tracks of the section between Kranzberg and Tsumeb have been found in a dangerous state, and all passenger trains in this section have been discontinued in order to prevent derailment. The speed of freight trains has also been reduced to 10km/h. As for the railway line between Swakopmund and Walvis Bay, the tracks are often covered with sand as it is located close to the dunes. This however, does not pose a threat to train operations in the long run as the wind again uncovers the tracks (JICA, 2009).

TransNamib Holdings Limited is responsible for operating the railway. This organization is the national logistical provider to Namibia and transports bulk and containerized freight via road and rail.

Walvis Bay has the prospect of further developing its airport. During phase 1 of this development, the landing strip will be lengthened and broadened and furnished with state of the art landing systems. This will make the airport accessible for freight aircraft such as the A380, further diversifying the transport network from Walvis Bay to other areas. Phase 2 of the airport development includes the construction of hangars, terminals and associated facilities (Kruger, 2009, Pers. Com).

3.4. NAMPORT

3.4.1. Workforce

Namport has a total of 593 employees which includes 41 temporary workers and 82 fixed term contractors. Furthermore, the level of skills required ranges from managerial and administrative to technical expertise such as with the handling of mechanical equipment. Mechanics, carpenters, engineers, cargo coordinators, technicians, and general workers are some of the job descriptions found at Namport, to mention but a few. It can thus be concluded that the level of expertise ranges from unskilled to specialized skills.

A Special Skills Retention Policy was approved by the Board of Directors on 9 November 2007 which stipulates that, since skills shortage may be experienced due to the unique nature of the activities within Namport, a special premium may be paid in order to attract and retain skills.
At Namport, 121 unskilled men and only 3 unskilled women are employed. As for casual or temporary work the women employed are outnumbered by the men 26 to 92. A total of 117 skilled men versus 20 skilled women are employed at Namport. Interesting to note is the gender inequality reflected in the workforce of Namport. One could ascribe this to the hard, physical nature of some of the work done on-site for which men are more fit. However, no women are found amongst the senior management, with only three women at middle management level.

The above mentioned figures are all representatives from what Namport refers to as the racially disadvantaged employees. A skew distribution in the number of people employed from the racially disadvantaged versus the racially advantaged groups is reflected in the employed 336 and only 39 men respectively.

The racial disparity is a result of the Affirmative Action and Appreciating Diversity Policy of Namport. This organization aims to create and enabling environment within which previously disadvantaged Namibians can be included in areas from which they have been excluded in the past. It further aims to create a culture of diversity appreciation amongst the workforce.

In addition to skills retention, skills capacity building is also promoted by making available bursaries and study loans to prospective students, especially in the fields of Engineering and Human Resources Management. Furthermore, training needs of employees are assessed and then addressed through a training matrix designed per job as well as per individual. The aim of this is to increase the competence of the workforce at Namport. The Talent Management and succession Planning Policy provides guidelines for the inclusion of succession planning into workforce plans. The aim of the latter is to enhance to strategic management of its human capital.

Six of the 20 men employed at Middle Management level are Non-Namibians. No non-Namibian women are employed at Namport.

3.4.2. Health and Disease

During July 2004, Namport conducted a study in order to establish the HIV/AIDS prevalence rate amongst its employees. An estimated 86% (446 employees) of the workforce participated, of which 15.5% were found to be HIV/AIDS positive. Furthermore, the study revealed that the highest prevalence rate was amongst the age group 30 to 59 years. Irregular partners and unprotected sex are some of the contributing factors to the latter finding.

In the light of this, Namport initiated an HIV/AIDS program to prevent new infections amongst its workforce and to promote the health of its employees. Some of the aspects of this program include the development of an HIV/AIDS policy, the appointment of a full time Health Counsellor/Nurse and training of Peer Educators who can raise awareness with regards to the epidemic. Furthermore, Voluntary Counselling Testing is promoted and treatment for both HIV/AIDS and TB are provided on-site.

The HIV/AIDS Policy makes provision for the promotion of a non-discriminatory working environment for all people living with HIV/AIDS. At no stage should any of the infected or affected employees be stigmatized or discriminated against. Also, a safe working environment is advocated along with precautionary measures in order to limit the risk of on-site infections.
3.4.3. Housing Schemes

Under the Housing Benefit Scheme of Namport, and employee may be granted a home loan, for which subsidies may be payable for the purpose of purchasing or building a home. Various terms and conditions apply. Nonetheless, the employees have the benefit of obtaining a loan at an interest rate lower than at other financial institutions.

Provision is also made for the employees interested in low cost housing under the Low Cost Housing Subsidy Scheme. This includes employees participating in the National Housing Enterprise (NHE) who would like to purchase erven or houses in Kuisebmond and Narraville respectively.

3.4.4. Land use

3.4.4.1. Within Port Limits

The port of Walvis Bay can be seen as a multifunctional harbour since it offers a range of berthing and service facilities. Ships enter the harbour through the entrance channel which is 6200m long, 134m wide and has a depth of -12.8m CD. Ships are allowed to anchor within the port limits where they are protected by the bay. The current northern limit is a line between Bird Island and the Dolphin Park Resort. It has been proposed to extend this port water area limit up to the caution reef close to Swakopmund. This will give Namport the authority to charge vessels that used to anchor just outside the current Namport water area, while still being protected by the bay.

Berths 1-3 have been marked as the current working berths for container and bulk commodities with available equipment such as two rail-mounted wharf cranes. Furthermore, quayside mobile tower cranes are used to handle containerized cargo on a 24-hour basis, 7 days a week. The surface area of the current container terminal is 3.2 ha. Within the container terminal yard, reach stackers and forklifts are used for handling and moving the containers (HPC, 2007). The Container Terminal has recently been extended behind berths 1-3 (Figure 9).

Photo 8: Harbour activities (Namport website, 2009).

Fluorspar bulk storage and loading facilities are available at berths 2 and 3. At berth 3, the Walvis Bay Salt Refiners Terminal is connected to a ship loader.

Photo 9: Aerial View of the current container terminal (Namport website, 2009).
Furthermore, berth 3 along with berth 6 makes provision for the accommodation of Ro-Ro vessels. Berths 6 and 7 are only used for excess cargo.

Berths 4 and 5 have been demarcated for Cold Storage. Berth 5 up to berth 7 offers various break bulk and General cargo facilities. In addition, berth 7 and 8 are marked as the Walvis Bay Bulk Terminal. All in all, Namport had a total of 28.540 m² of warehouse space in 2007 (HPC). In addition, two new warehouses were erected, both covering 3.000 m² each.

Just north of the Walvis Bay Harbour, a tanker berth with a depth of – 10.0 CD is found. Other facilities and services offered by Namport, which include the floating dock operated in a joint venture with Namdock, is located further north of the tanker berth. A synchrolift with a lifting capacity of 2,000 tones as well as repair facilities are also located in this area. Adjacent to the Walvis Bay Harbour, between the tanker berth and Breakwater, the Fishing Harbour is found where private fish factories are accommodated (HPC, 2007).

Important to the facilitation of trade, the port is well connected to the national road and railway networks. Being divided by a fence, TransNamib’s shunting yard forms the Eastern limits of the Walvis Bay harbour. The three tank storage areas are available for petroleum and sulphuric acid which conveniently have rail sidings. Fuel, coal, cement, copper concentrate, salt, sugar, maize, and grain are the main items transported via railway.
Figure 9: Map of land use within Harbour (Namport).
3.4.4.2. Surrounding the Port

To the south of the port is the Walvis Bay Yacht Club (WBYC). From here, many tourism activities such as dolphin cruises are operated. Also, private boats and yachts are either anchored in the bay area or launched at the available slipways.

In order to maximize the potential of the locality of the WBYC, a marina development has been proposed which will have a new yacht club and related facilities incorporated into the design. Even though the Municipality of Walvis Bay supports the idea of the potential marina development at the lagoon, an independent dedicated developer with sufficient funds to finance a development project of this magnitude is needed (Marques, 2009, Pers. Com.). Namport was a key driver in the development of the idea of a marina, however, due to changes in structure at Namport, the marina has been put on the backburner.

In addition to the WBYC area, many residential units surround the Walvis Bay harbour, whether it is to the south of or to the east of the port. Since some of the access points to the harbour run through these areas, increased traffic and noise has become a great grievance of these communities.

![View of the harbour from the south](image)

Photo 10: View of the harbour from the south and tourism activities.

3.4.4.3. Existing Dust and Noise Pollution

Various complaints with regards to dust and noise pollution have been lodged with the Health Division of the Walvis Bay Municipality, as well as at Namport. The residents and businesses closest to the port are subject to noise pollution resulting from activities at Namport such as the moving of containers, both during the day and at night hours.

3.4.4.4. Existing Visual Impact

The current container stacking area is creating a visual barrier to houses and businesses in close proximity.

3.4.4.5. Future Development Areas

It is important to note that the area behind the dune belt has been zoned for future Heavy Industries. Provision has also been made for lodges on the Airport Road; a desert design could contribute to the unique selling points of these lodges.
The maps below have been obtained from the Walvis Bay Structure Plan. These indicate important future land use development scenarios.

Figure 10: Future Development Plans (WBM, 2009).
Figure 11: Current and future land use plans.
CHAPTER 4. KEY ISSUES IDENTIFICATION

Public Participation formed an important component of the scoping phase as it allowed for the opportunity to solicit issues or impacts which the general public as well as Interested and Affected Parties could foresee with regards to the proposed development at the port of Walvis Bay. These issues were then listed and included in the Scoping Report. Consequently, the list of issues identified during the scoping phase, along with professional judgement are briefly outlined below, having been divided into social and economic issues.

4.1. SOCIAL ISSUES

4.1.1. Employment

As a motivation for this project, it is anticipated that more direct and indirect employment opportunities will result from the proposed development, both during construction and operational phases. These opportunities will cut across the spectrum of unskilled, semi-skilled, and skilled workers. The extent of these benefits should be assessed.

4.1.2. Increased Educational and Skills Transfer Opportunities

It is argued that the proposed development will contribute to a skills transfer and educational opportunities to Namibians as they will be taught how to operate and manage specialized container handling equipment.

4.1.3. Influx of Workers

Increased employment opportunities, whether realistic or only perceived to be, could lead to an influx of job seekers to Walvis Bay. This in turn can increase the competition for employment opportunities while placing additional pressure on available services and resources. Also, this could lead to an increase in unemployment, lack of housing and increase the risk of communicable diseases.

4.1.4. Contribute to the spreading of HIV/AIDS

During construction, people from outside of Walvis Bay and the Erongo region will also be employed which can contribute to the faster spread of HIV/AIDS. Furthermore, during the operational phase the transport of cargo via roads are expected to increase. Since truck drivers are often associated with prostitution, the risk of the spreading of HIV/AIDS within and via this region can increase.

4.1.5. Bad Odours

During dredging, sulphur Dioxide may be released which could emit bad odours which could cause inconvenience to the nearby residence.
4.1.6. Noise

Noise resulting from the harbour activities is an existing issue. Will there be an increase or decrease in the noise resulting from moving the container yard to the reclaimed area? Also, what will the impact on noise be during the construction phase?

4.1.7. Traffic

An increase in traffic would not only inconvenience the community, but can also increase the risk associated with increased traffic, while also contributing to noise pollution. The roads used by trucks during construction as well as operational phases should be considered, taking into account which areas are residential and where the schools are located in 5th Road.

4.1.8. Visual Impacts

Amenity of area might be increased, especially near Mola Mola Coffee shops as containers will be removed. It is envisaged that the area will then be used for break bulk storage. Measures on how to increase the amenity of this area should be outlined. Furthermore, the visual impact of the new construction, i.e. the platform in the sea, should be assessed.

4.1.9. Health and Safety

Health and Safety issues related to proposed development, both during construction and operation should be assessed.

4.2. ECONOMIC ISSUES

4.2.1. Increased economic Activities

The proposed development can contribute to an increase in economic activities by stimulating business activities of transport and transhipment companies. It is anticipated that by attracting more mother vessels which carry more containers, the costs of transport per container to and from Namibia can be decreased.

However, should the water quality in the bay be compromised, the fish processing companies as well as the salt works will bear the brunt as these industries rely on water of a specific quality for their operations.

4.2.2. Tourism

Should the number of people attracted to this area for business increase, whether directly or indirectly as a result of the proposed expansion, the Hospitality and Tourism Industry could benefit. In addition, if the Marina Development has potential of obtaining more space for its development, tourism as well as the economy can benefit from it. However, should the lagoon and other cetaceous species be negatively impacted, a key tourist attraction will compromised.
4.2.3. Land use

The expansion of the container terminal and associated activities should be contextualized in current and future land use planning.

4.2.4. Disposal of Dredged Materials

Should the dredged material not be suitable for reclamation, it will have to be disposed of which will have costs involved. The capability of the Municipality to handle the waste should be assessed.

4.2.5. Impact on Aquaculture

Aquaculture activities are located within the Bay. Pollutants and increased water turbidity could negatively impact on its operations.

4.2.6. Ownership

It should be established whether the reclaimed land will fall under the jurisdiction of the Walvis Bay Municipality or Namport.
CHAPTER 5. IMPACT ASSESSMENT

5.1. METHODOLOGY USED FOR IMPACT ASSESSMENT

For the assessment of alternatives and impacts the following methodology is to be applied to the prediction and assessment of impacts. Potential impacts should be rated in terms of the direct, indirect, and cumulative affects:

- **Direct impacts** are impacts that are caused directly by the activity and generally occur at the same time and at the place of the activity. These impacts are usually associated with the construction, operation, or maintenance of an activity and are generally obvious and quantifiable.

- **Indirect impacts** of an activity are indirect or induced changes that may occur as a result of the activity. These types of impacts include all potential impacts that are not immediately apparent when the activity is undertaken, or which occur at a different place as a result of the activity.

- **Cumulative impacts** are impacts that result from the incremental impact of the proposed activity on a common resource when added to the impacts of other past, present or reasonably foreseeable future activities. Cumulative impacts can occur from the collective impacts of individual minor actions over a period of time and can include both direct and indirect impacts.

- **Spatial extent** – The size of the area that will be affected by the impact:
  - Site specific;
  - Local (<2 km from site);
  - Regional (within 30 km of site); and
  - National.

- **Intensity** – The anticipated severity of the impact:
  - High (severe alteration of natural systems, patterns or processes);
  - Medium (notable alteration of natural systems, patterns or processes); and
  - Low (negligible alteration of natural systems, patterns, or processes).

- **Duration** – The timeframe during which the impact will be experienced:
  - Temporary (less than 1 year);
  - Short term (1 to 6 years);
  - Medium term (6 to 15 years);
  - Long term (the impact will cease after the operational life of the activity); and
  - Permanent (mitigation will not occur in such a way or in such a time span that the impact can be considered transient).

Using the criteria above, the impacts will further be assessed in terms of the following:

- **Probability** – The probability of the impact occurring:
  - Improbable (little or no chance of occurring);
  - Probable (<50% chance of occurring);
  - Highly probable (50 – 90% chance of occurring); and
  - Definite (>90% chance of occurring).
• **Significance** – Will the impact cause a notable alteration of the environment?
  o Low to very low (the impact may result in minor alterations of the environment and can be easily avoided by implementing appropriate mitigation measures, and will not have an influence on decision-making);
  o Medium (the impact will result in moderate alteration of the environment and can be reduced or avoided by implementing the appropriate mitigation measures, and will only have an influence on the decision-making if not mitigated); and
  o High (the impacts will result in major alteration to the environment even with the implementation on the appropriate mitigation measures and will have an influence on decision-making).

• **Status** - Whether the impact on the overall environment will be:
  o positive - environment overall will benefit from the impact;
  o negative - environment overall will be adversely affected by the impact; and
  o neutral - environment overall not be affected.

• **Confidence** – The degree of confidence in predictions based on available information and specialist knowledge:
  o Low;
  o Medium; and
  o High.

• **Management Actions and Monitoring of the Impacts (EMP)**
  o Where negative impacts are identified, mitigatory measures will be identified to avoid or reduce negative impacts. Where no mitigatory measures are possible this will be stated;
  o Where positive impacts are identified, management actions will be identified to potentially enhance positive impacts; and
  o Quantifiable standards for measuring and monitoring mitigatory measures and enhancements will be set. This will include a programme for monitoring and reviewing the recommendations to ensure their ongoing effectiveness.

### 5.2. SOCIO-ECONOMIC IMPACT ASSESSMENT

#### 5.2.1. Employment creation for Namibians

**5.2.1.1. Description**

As a result of high inward migration rates to the coastal area, especially to Walvis Bay, as well as the seasonality of work, high unemployment rates prevail in the area. The proposed project will create jobs both during construction and the operational phases.

As for the construction phase of the proposed project, an estimated 550 jobs will be created of which 500 are laborers and the remaining 50 employees constitute of supervisors and managers (SSI, 2009).

The expansion of the container terminal will require infrastructural construction on a large scale. Since Namibia has limited capacity to manage a project of such a magnitude, along with the lack of experience with land reclamation, contractors will be recruited from elsewhere (JICA, 2009). However, as local contractors possess the capabilities to construct
Furthermore, equipment and special vessels have to be recruited from overseas as Namibian companies do not have the necessary equipment for a construction of this nature (JICA, 2009). This further limits the use of local companies as service providers.

The JICA Study Team identified the number of jobs that are also likely to result from the operational phase of the container terminal. These are in addition to the people already employed at the current Namport container terminal (Kanime, 2009, Pers. Com.). Table 1 indicates the number of staff needed for operating the Namport container terminal, increasing over the period from 2013 to 2025 (JICA, 2009).

It is envisaged that the proposed container terminal will be commissioned by 2013 (Namport, 2009). During this period, an estimated 218 jobs will be created. This number is likely to increase up to 406 jobs by 2025 and includes managers, administrators and the staff responsible for the operations.

**Table 1: Number of Staff necessary during operations of the Container Terminal.**

<table>
<thead>
<tr>
<th>Department</th>
<th>Stages</th>
<th>2013</th>
<th>14</th>
<th>15</th>
<th>16</th>
<th>17</th>
<th>18</th>
<th>19</th>
<th>20</th>
<th>21</th>
<th>22</th>
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<tbody>
<tr>
<td>Management</td>
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<td>4</td>
<td>4</td>
<td>8</td>
<td>8</td>
<td>8</td>
<td>8</td>
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<td>8</td>
<td>8</td>
<td>8</td>
<td>8</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>Administration</td>
<td></td>
<td>75</td>
<td>75</td>
<td>104</td>
<td>104</td>
<td>104</td>
<td>104</td>
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<td>104</td>
<td>104</td>
<td>104</td>
<td>104</td>
<td>104</td>
</tr>
<tr>
<td>Operation</td>
<td></td>
<td>139</td>
<td>148</td>
<td>187</td>
<td>193</td>
<td>199</td>
<td>224</td>
<td>232</td>
<td>237</td>
<td>239</td>
<td>254</td>
<td>254</td>
<td>259</td>
<td>264</td>
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<tr>
<td>Total</td>
<td></td>
<td>218</td>
<td>227</td>
<td>299</td>
<td>305</td>
<td>311</td>
<td>366</td>
<td>374</td>
<td>379</td>
<td>381</td>
<td>396</td>
<td>396</td>
<td>401</td>
<td>406</td>
</tr>
</tbody>
</table>

Source: JICA Study Team

Namibian companies do not have the necessary equipment for a construction of this nature. Moreover, buildings and pavements, they can be sub-contracted for these purposes. Nonetheless, the number of employment opportunities that will arise during the construction phase, for local Namibians, is limited.

Namibian companies do not have the necessary equipment for a construction of this nature. By 2025 this number is expected to almost double (JICA, 2009). Also, considering current trends in this workforce, all unskilled labourers are Namibians, with a small amount of skilled and middle management staff being non-Namibians. In terms of new employees, it is recommended that this trend is to continue, whereby locals can benefit from the job opportunities created by the proposed development during operations.

During the operational phase, it is important to note that highly specialized container handling equipment will be used. Thus, skilled labor will be sought, but this will also call for a skills transfer to locals in order to equip them with the know-how of operating and servicing the new equipment. This can contribute to smooth container handling operations.

**5.2.1.2. Enhancement**

A clause stipulating the use of Namibian sub-contractors during the construction phase should be included in the agreement between Namport and the main contractor. Furthermore, it should be stressed that local labor is used as far as possible, especially where unskilled and semi-skilled labor is concerned.

With regards to the recruitment of construction workers, the clause should further stipulate that preference should be given to Namibians, and especially people that have already been residing in Walvis Bay for a certain period of time. This might act as a deterrent for inward migration to Walvis Bay. In other words, a ‘Locals First’ policy should be adopted. Remuneration should also meet Namibian set standards.
Skills transfer should be encouraged by identifying people with the potential and the capacity to learn the new required skills. On-site, in-job training should be stimulated and form part of the policies of Namport.

<table>
<thead>
<tr>
<th>Impact</th>
<th>Spatial Extent</th>
<th>Intensity</th>
<th>Duration</th>
<th>Probability</th>
<th>Significance &amp; Status Without Enhancement</th>
<th>With Enhancement</th>
<th>Enhancement</th>
<th>Confidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Job Creation through the recruitment of contractors</td>
<td>National</td>
<td>Medium</td>
<td>Short Term</td>
<td>Definite</td>
<td>Low Positive</td>
<td>Medium Positive</td>
<td>‘Locals first’ policy where Namibian Contractors are used as far as possible</td>
<td>High</td>
</tr>
</tbody>
</table>

### Construction phase

### Operations phase

| Job Creation | Local to Regional | Medium | Long Term | Definite | Medium to Low Positive | Medium Positive | ‘Locals first’ policy | High |

### 5.2.2. Influx of Workers

#### 5.2.2.1. Description

New developments, especially large scale developments such as the proposed container terminal extension at the Port of Walvis Bay, act as pull factors for immigration as people flock to the area in search of employment opportunities. However, this proposed development is not the cause of immigration, but might only further stimulate an existing trend.

An influx of workers gives way to many problems. An increase of people in Walvis Bay will put increased pressure on existing services, especially water. The ability of the Municipality to meet the water demands of this harbour town is already under pressure.

Furthermore, studies reveal that most migrants tend to reside in Kuisebmond (Hoadley, 2009). Thus one can expect an increased demand on housing in this area which already is limited. Backyard squatting is likely to increase.

During peak construction, an estimated 500 jobs will be created for labourers, assumingly unskilled and semi-skilled. Using the national average size of households in Namibia of 5.1 members per household, 500 employees along with their families amounts to 2 550 immigrants (NPC, 2001). However, the Needs Assessment Survey Conducted in 2002 in Kuisebmond revealed that only 18.7% of immigrants bring their family along immediately, while 37.3% bring their family at a later stage. Thus, at the outset, 421 people might immigrate to Walvis Bay, with a further 951 people relocating to the harbor town at a later stage.

A population increase also leads to an increase in waste production and sewerage. The waste disposal and sewage system facilities of Walvis Bay are however able to handle this increase without any major problems.
5.2.2.2. Mitigation

The adoption of a ‘Locals first’ policy could potentially act as a deterrent for inward migration to Walvis Bay. The policy could stipulate that preference will be given to people that have been residing in Walvis Bay for more than a year.

Namport already has a housing scheme in tact. The new employees should also be able to benefit from this scheme.

The “locals first” policy will hopefully also assist in reducing the number of additional shelters needed for newcomers to Walvis Bay. Namport should manage this process in collaboration with the Walvis Bay Municipality, however. The number of in-migrants should be estimated and the number of additional shelter needs confirmed with the Municipality for planning purposes.

Additional infrastructure needs such as electricity should similarly be discussed with the Walvis Bay Municipality.

Namport should adopt a reduce-at-source policy whereby the need for electricity and water is limited through conservation initiatives.

<table>
<thead>
<tr>
<th>Impact</th>
<th>Spatial Extent</th>
<th>Intensity</th>
<th>Duration</th>
<th>Probability</th>
<th>Significance &amp; Status</th>
<th>Mitigation</th>
<th>Confidence</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Without Mitigation</td>
<td>With Mitigation</td>
<td></td>
</tr>
<tr>
<td>Impact of new development on Walvis Bay as population increase through influx of workers.</td>
<td>Local</td>
<td>Medium</td>
<td>Medium to Long Term</td>
<td>Probable</td>
<td>Medium Negative</td>
<td>Low Negative</td>
<td>‘Locals First’ Policy.</td>
</tr>
<tr>
<td>Increased pressure on existing services.</td>
<td>Local</td>
<td>Medium to high</td>
<td>Medium Term</td>
<td>Probable</td>
<td>Medium Negative</td>
<td>Low Negative</td>
<td>Collaborate with the WBM. Adopt a ‘reduce-at-source’ policy.</td>
</tr>
</tbody>
</table>

5.2.3. Educational Opportunities

5.2.3.1. Description

The proposed new container terminal will be furnished with the latest technologically advanced equipment. This will require specialized skills for the operation thereof. Consequently, this will call for a skills transfer, increasing educational opportunities that can arise from this project.
5.2.3.2. Enhancement

The skills needed for operating the new equipment should be transferred to Namibians instead of recruiting expatriates for the job, i.e. a ‘locals first’ policy should be adopted as far as possible. This will contribute to the broadening of the skills base in Namibia, and especially in Walvis Bay. The Human Resource department of Namport will be responsible for the coordination of effective training programs as well as employee development and growth.

<table>
<thead>
<tr>
<th>Impact</th>
<th>Spatial Extent</th>
<th>Intensity</th>
<th>Duration</th>
<th>Probability</th>
<th>Significance &amp; Status</th>
<th>Enhancement</th>
<th>Confidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Educational opportunities and skills transfer.</td>
<td>Local</td>
<td>Medium</td>
<td>Long Term</td>
<td>Probable</td>
<td>Medium Positive</td>
<td>High Positive</td>
<td></td>
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</tbody>
</table>

5.2.4. Spread of Communicable Disease

5.2.4.1. Description

A high HIV/AIDS prevalence rate already exists within Walvis Bay (Marques, 2009, Pers.Com.). Although the proposed development will not be the cause of the spreading of this disease, it will contribute to existing trends. A related downstream activity which can result from the proposed development is the increase in the transport of cargo via road. As mentioned, HIV/AIDS infections are related to truck drivers and prostitution. Thus, an increase in transport can lead to an increase of HIV/AIDS infections in Walvis Bay, but also throughout the region across the borders of Namibia. However, the spread of disease is not only limited to HIV/AIDS, but includes TB and other communicable diseases.

During construction, as mentioned, it is anticipated that outside contractors will be used. The coming in and going out of people to an area also often contributes to the spread of communicable disease.

5.2.4.2. Mitigations

Namport already has an existing and very active HIV/AIDS program. This should be continued. It will also be best if awareness could be raised amongst truck drivers as well as men from the international vessels, as ignorance often contributes to the problem of the spreading of disease.

For this purpose, Namport could link-up with NGO’s for assistance with awareness raising programs amongst transport companies, both locally and internationally.

Namport should continue with the DOTS treatment for TB on site as this makes it more accessible to the workforce.
5.2.5. Bad Odours

5.2.5.1. Description

The residents of Walvis Bay have been inconvenienced by the odours emitted from the fish processing factories. However, the community will be further inconvenienced during the construction phase of the project as sulphur dioxide will be liberated during the dredging process. It is not possible to predict the times when this nuisance will occur as the occurrences are expected to be sporadic during dredging operations.

5.2.5.2. Mitigation

The Walvis Bay community has in the past been exposed to the odour of sulphur dioxide released from dredging in the harbour and the lagoon entrance. Thus, the odour resulting during the construction phase of the development, i.e. during dredging, will not be a new phenomenon to the Walvis Bay community. However, the public should be informed about when and the length of time that dredging will be undertaken, e.g., notices in the newspapers and radio announcements.
5.2.6. Traffic

5.2.6.1. Description

The specialist study on Traffic provides useful information for the assessment of the impact of increased traffic on the Walvis Bay community (SSI, 2009). This report, which can be perused for more detailed information, has revealed the following.

During the construction phase of the project, the traffic is likely to increase as construction workers, materials and equipment have to be transported to the site. As a result, the Walvis Bay community will be subject to increased traffic, especially at intersections where bottlenecks often form. The specialist report on traffic shows that the most traffic will occur during the construction phase. Third Street which is east of 13th Road will be subject to the most increase in traffic, thus impacting residents in this road the most. In addition, the intersect 4-way stop at Third Street and 13th Road could act as bottlenecks. An increase in traffic can also be expected at the B2/C14 traffic circle (SSI, 2009).

As for the operational phase, the traffic will gradually increase. More containers will be transported on land via the port of Walvis Bay. As a result, traffic through the Erongo region will also increase as goods are transported along the corridors to other land locked countries. This in turn can increase the safety risk for all traveling by road (SSI, 2009).

It is also expected that the number of people employed at Namport will increase, thus increasing the traffic to and from the port. Section 5.2.7. deals with the increased noise levels associated with an increase in traffic.

As for traffic safety, the Traffic Impact Assessment predicts that approximately 6 casualties are likely to occur during the construction phase (SSI, 2009). In addition, there is a 40% chance of one fatality occurring during the construction period (SSI, 2009). During operations, it is expected that an additional 12 casualties are to occur annually, increasing by 10% each year (SSI, 2009).

The expected increase in traffic is likely to be a nuisance to the community. The residents may face restricted accessibility to the CBD and issues such as limited parking bays can arise. The increase in movement and the number of vehicles on the road will change the sense of place.

5.2.6.2. Mitigation

The use of public transport services should be encouraged by Namport as this will reduce the number of private cars on the road. The specialist report also advises the installation of traffic signals at some of the intersections which can decrease exhaust fumes emitted and noise.

Namport should collaborate with the Traffic Department of the Walvis Bay Municipality with regards to the facilitation of traffic. The management of traffic, especially during the construction phase will call for the support of the Traffic Department.

It is recommended that Namport and the Walvis Bay Municipality Traffic Department investigate the possibility of restricting the movement of heavy vehicles, especially those transporting containers on land, to certain times of the day. The road between Swakopmund and Walvis Bay is daily used for commuting, thus traffic on this road peaks between 7am and 9am, as well as 4pm and 6pm. For this reason, heavy vehicles should avoid this route during these times in order to limit the risk of safety issues, if possible.
Even though mitigation and management measures are proposed for the traffic and safety issues, it is nonetheless not easy to mitigate the nuisance and change in the sense of place caused by an increase in traffic.

<table>
<thead>
<tr>
<th>Impact</th>
<th>Spatial Extent</th>
<th>Intensity</th>
<th>Duration</th>
<th>Probability</th>
<th>Significance &amp; Status Without Mitigation</th>
<th>Significance &amp; Status With Mitigation</th>
<th>Mitigation</th>
<th>Confidence</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Construction phase</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Increased traffic in Walvis Bay</td>
<td>Local</td>
<td>Medium</td>
<td>Short Term</td>
<td>Highly Probable</td>
<td>Medium Negative</td>
<td>Medium to low Negative</td>
<td>Namport employees should be encouraged to make use of public transport. Installation of traffic signals. Collaboration between Namport and Traffic Department.</td>
<td>High</td>
</tr>
<tr>
<td><strong>Operations phase</strong></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Increased on land traffic in Walvis Bay and Erongo Region.</td>
<td>Regional to National</td>
<td>Medium</td>
<td>Long Term</td>
<td>Highly Probable</td>
<td>Medium Negative</td>
<td>Medium to Low Negative</td>
<td>Heavy vehicles should avoid routes running through the town, especially residential areas. More containers should be transported via rail than road. Namport employees should be encouraged to make use of public transport.</td>
<td>High</td>
</tr>
<tr>
<td>An increase in heavy vehicles on the road between Swakopmund and Walvis Bay can bring about safety issues, especially for</td>
<td>Local</td>
<td>Medium</td>
<td>Long Term</td>
<td>Highly Probable</td>
<td>Medium Negative</td>
<td>Medium to low Negative</td>
<td>Namport and WB Traffic Department should investigate the restrictions of movement for heavy vehicles to certain times</td>
<td>Medium</td>
</tr>
</tbody>
</table>
5.2.7. Noise

5.2.7.1. Description

The specialist study on noise assisted with the following conclusions on the impact of noise on the Walvis Bay community:

The Walvis Bay community, especially those residing closest to the port, is already inconvenienced by noise pollution resulting from activities at the port during night hours. The specialist study on noise revealed that the noise levels will increase during construction as there will be piling and drilling (Safetech, 2009). This will result in the ambient noise levels being exceeded. It has been confirmed that no blasting will take place.

During construction, the noise will be dispersed in a radius of 640 metres, thus impacting on all those who fall in this range. The sensitive receptors include the Protea Hotel to the South of the harbour, as well as the residential areas surrounding the port (Safetech, 2009).

As for noise occurring during the operational phase, the increase in vehicle traffic will be the main source for increased noise. Also, high noise levels will result from containers being dropped during operations, especially impacting on the residents on 5th Road and Atlantic road. This noise will be the highest when a northerly wind is blowing. Also, even though the current container terminal will be moved, trucks making use of the internal route through the harbour, will generate noise. In addition, the residents of 18th Road will also be impacted by noise as vehicle movement through this area will increase.

5.2.7.2. Mitigation

According to the specialist report, the noise resulting from the piling and drilling during the construction phase will be difficult to mitigate. In order to limit the impact of noise on the community, no piling should occur during nighttime and should be restricted to the hottest time of the day (Safetech, 2009).

The shortest possible access route to the harbour which has been determined in order to avoid or limit the amount of vehicles passing through residential areas should be adhered to.

Noise sensitivity training should be given to employees, especially with regards to handling and dropping of containers. In addition, the noise specialist has advised that a sound barrier should be built between the port and 5th street. Great care should also be taken in order to limit the visual impact of such a barrier by implementing measures such as landscaping.
5.2.8. Visual Impacts

5.2.8.1. Description

The area currently used for container stacking has created a visual barrier. Thus, should these containers be relocated to the new container terminal, the amenity of area might increase, especially near Mola Mola Coffee shops. However, it is envisaged that the area will then be used for break bulk storages.

A visual impact that may result during the construction phase of the proposed development will be the use of flood lighting as construction might also be undertaken after sunset. This light can be bothersome to the community.

5.2.8.2. Mitigation

Should the new break bulk storage facilities also pose to be a potential eye-sore, the amenity of the area can be increased by clever architectural design. For example, ‘breaks’
should be included in the design in order to prevent the structure forming a solid barrier. In addition, landscaping designs should be incorporated. Shrubs and palms adapted to survive the coastal climate should be planted forming the fence between the Namport and public areas. This can contribute the visual barrier being softened as the barrier will be more natural in contrast with the constructed barriers. Another benefit of using natural vegetation as a barrier, although more subtle, is the positive contribution it can have to the ‘sense of place’ in especially the Mola Mola Coffee Shoppe area.

Great care should also be taken when selecting a color for the new break bulk facilities. A natural hue such as grey would decrease the contrast between the new facilities and its surroundings.

As for the flood lighting, it should be directed away from the land in order to limit the impact it can have on the community.

<table>
<thead>
<tr>
<th>Impact</th>
<th>Spatial Extent</th>
<th>Intensity</th>
<th>Duration</th>
<th>Probability</th>
<th>Significance &amp; Status</th>
<th>Mitigation</th>
<th>Confidence</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Without Mitigation</td>
<td>With Mitigation</td>
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<td></td>
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<td></td>
<td>Low Negative</td>
<td>Low Negative</td>
<td>Medium</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Direct flood lighting away from the town.</td>
<td>Medium</td>
</tr>
<tr>
<td><strong>Construction phase</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flood lighting during construction.</td>
<td>Local</td>
<td>Medium</td>
<td>Short term</td>
<td>Probable</td>
<td>Medium Negative</td>
<td>Low Negative</td>
<td>Medium</td>
</tr>
<tr>
<td><strong>Operations phase</strong></td>
<td></td>
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</tr>
<tr>
<td>Construction of new storage facilities on current container terminal.</td>
<td>Local</td>
<td>Medium</td>
<td>Long Term</td>
<td>Probable</td>
<td>Medium Negative</td>
<td>Low Negative</td>
<td>Medium</td>
</tr>
<tr>
<td>Noise barrier having negative visual impact.</td>
<td>Local</td>
<td>Medium</td>
<td>Long Term to Permanent</td>
<td>Probable</td>
<td>Medium Negative</td>
<td>Low Negative</td>
<td>Medium</td>
</tr>
</tbody>
</table>

5.3. **ECONOMIC ISSUES**

5.3.1. **Economic Activities**

5.3.1.1. **Description**

It would be expected that the economic activities of companies related to the construction industry, will increase. However, as previously mentioned, the feasibility study indicates that many of the equipment that will be used during the construction phase will have to be imported, thus limiting the benefits to local companies which could have resulted from servicing and supplying in the building needs of Namport. Nonetheless, although limited, some local companies may benefit from supplying building materials such as cement, etc.
As for the operations phases, the economic activities of transport companies are likely to increase as more containerized cargo will be transported via road to other land-locked countries in Southern Africa. The opening up of corridors to neighboring countries will facilitate and stimulate this trade.

It is expected that the new container terminal will impact positively on the container shipping industry as tariffs may decrease. The latter can result from more, as well as larger vessels being able to call at the port. An increase in transshipments holds economic benefits to Namport which in turn, can indirectly benefit the Namibian economy.

5.3.1.2. Enhancement

Namport has to identify all the areas where Namibian contractors can be used. These companies should then be invited to participate in the construction phase of the project.

<table>
<thead>
<tr>
<th>Impact</th>
<th>Spatial Extent</th>
<th>Intensity</th>
<th>Duration</th>
<th>Probability</th>
<th>Significance &amp; Status</th>
<th>Enhancement</th>
<th>Confidence</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Without Enhancement</td>
<td>With Enhancement</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Low</td>
<td>Medium Positive</td>
<td>Medium</td>
</tr>
<tr>
<td>Increased economic activities of construction companies during construction.</td>
<td>National</td>
<td>Low</td>
<td>Long term</td>
<td>Probable</td>
<td>Use Namibian contractors as far as possible. ‘Locals first policy’.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Impact</th>
<th>Spatial Extent</th>
<th>Intensity</th>
<th>Duration</th>
<th>Probability</th>
<th>Significance &amp; Status</th>
<th>Enhancement</th>
<th>Confidence</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Without Enhancement</td>
<td>With Enhancement</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Low</td>
<td>Medium Positive</td>
<td></td>
</tr>
<tr>
<td>Increased economic activities during operations, especially those related to the transport industry.</td>
<td>National</td>
<td>Medium</td>
<td>Long Term</td>
<td>Highly Probable</td>
<td>Medium Positive</td>
<td>Medium Positive</td>
<td>none</td>
</tr>
</tbody>
</table>

5.3.2. Land use

5.3.2.1. Description

The position of the entrance to the causeway of the new proposed container terminal opens up adequate space for development to the south of the proposed causeway. This will increase the scope for a future Marina Development which could also bring about new upgraded facilities for the yacht club. Such a new marina development could potentially further stimulate tourism activities in Walvis Bay.

However, Namport has not included liner Berths in its current or future planning. Thus, an outside investor could facilitate the development of liner berths at their own cost.
As mentioned under Section 2.2 there is an administrative planning process that needs to be followed in collaboration with the Walvis Bay Municipality to incorporate the newly created land into the Walvis Bay Township and afford it an appropriate zoning.

The Planning Staff of the Walvis Bay Municipality have indicated that there is ineffective collaboration between their department, in particular, and Namport (Nambahu, 2009, Pers. Com.). This is a constraint to the success of future planning initiatives around the harbour and should be addressed through strengthening relationships and collaboration.

### 5.3.2.2. Mitigation

Contact should be made with the Walvis Bay Town Planning Division in order to create the necessary forum for future planning initiatives in the area and to take forward the town planning procedures needed in terms of the Town Planning Ordinance and the Walvis Bay Town Planning Scheme.

<table>
<thead>
<tr>
<th>Impact</th>
<th>Spatial Extent</th>
<th>Intensity</th>
<th>Duration</th>
<th>Probability</th>
<th>Significance &amp; Status</th>
<th>Enhancement/ Mitigation</th>
<th>Confidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lack of collaboration between Namport, WBM and other stakeholders, leading to the limited realisation of opportunities.</td>
<td>Local</td>
<td>Medium</td>
<td>Long Term</td>
<td>Highly Probable</td>
<td>High Negative</td>
<td>Medium to low Negative</td>
<td>Collaboration and concerted planning efforts between Namport, Stakeholders and WBM.</td>
</tr>
</tbody>
</table>

### Operations phase

<table>
<thead>
<tr>
<th>Impact</th>
<th>Spatial Extent</th>
<th>Intensity</th>
<th>Duration</th>
<th>Probability</th>
<th>Significance &amp; Status</th>
<th>Enhancement/ Mitigation</th>
<th>Confidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increased scope for marina development and associated tourism activities.</td>
<td>Local to Regional</td>
<td>Medium</td>
<td>Long Term</td>
<td>Highly Probable</td>
<td>Medium Positive</td>
<td>High Positive</td>
<td>Foster collaboration between Namport, investors and WBM.</td>
</tr>
</tbody>
</table>

### 5.3.3. Tourism

#### 5.3.3.1. Description

The Hospitality and Tourism Industry can further benefit through an increased number of people to this area. This study has revealed that a major income to the hospitality in Walvis Bay result from the businessmen to the area. It can be expected that the business sector, especially those related to the transport industry might be stimulated by the increase in the number of containers which are transported via the port of Walvis Bay. This in turn will stimulate the local economy, including the tourism and hospitality industry.
As mentioned, the opening up of more space for the Marina Development would be beneficial to such a project. This in turn can stimulate and further enhance tourism activities in the area.

However, a potential threat to the physical appearance, ecological function and conservation status of the lagoon could have an adverse effect on tourism related economic activities as the lagoon as a RAMSAR site is a great tourism attraction (CETN, 2009). In addition, many guest houses have been established around and near the lagoon utilizing the tranquility offered by the lagoon.

Furthermore, should the construction of the new container terminal also threaten the aesthetics of the lagoon, the property value of the houses situated around and near the lagoon may decrease. However, with the current design, the new container facilities will not be visible along the eastern Esplanade.

**5.3.3.2. Enhancement and Mitigations**

As for the enhancement of the positive impact on tourism and hospitality, a forum should be developed between Namport and the Walvis Bay Municipality in order to facilitate discussion on tourism and especially the possibility of a Marina development in Walvis Bay.

It is clear that the lagoon does play a role in tourism and contributes to the economy as well as the amenity of Walvis Bay, not to mention the ecological value it holds as a Ramsar site.

<table>
<thead>
<tr>
<th>Impact</th>
<th>Spatial Extent</th>
<th>Intensity</th>
<th>Duration</th>
<th>Probability</th>
<th>Significance &amp; Status</th>
<th>Enhancement/ Mitigation</th>
<th>Confidence</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Without Enhancement/ Mitigation</td>
<td>With Enhancement/ Mitigation</td>
<td></td>
</tr>
<tr>
<td>Increase in number of business men to the area.</td>
<td>Local</td>
<td>Medium</td>
<td>Long Term</td>
<td>Probable</td>
<td>Medium Positive</td>
<td>Medium Positive</td>
<td>Medium</td>
</tr>
<tr>
<td>Threat to lagoon can decrease property value around and near the lagoon.</td>
<td>Local</td>
<td>Low</td>
<td>Permanent</td>
<td>Improbable</td>
<td>Very Low Negative</td>
<td>Very Low Negative</td>
<td>None</td>
</tr>
</tbody>
</table>
5.3.4. Disposal of Dredged Materials

5.3.4.1. Description

No hazardous materials shall be generated during the construction or operational phases of the development (JICA, 2009).

Dredged material not suitable for land reclamation will be disposed of at the current spoil sites. Thus, there will be no on-land disposal of dredged material; hence, no costs will be imposed on the Municipality for the disposal thereof in terms of disposal space and infrastructure required.

5.3.4.2. Mitigation

Communication between the Walvis Bay Municipality and Namport could make it clear to the parties involved with waste management that there will be no on-land disposal of dredged material nor will hazardous waste be generated.

<table>
<thead>
<tr>
<th>Impact</th>
<th>Spatial Extent</th>
<th>Intensity</th>
<th>Duration</th>
<th>Probability</th>
<th>Significance &amp; Status</th>
<th>Mitigation</th>
<th>Confidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction phase</td>
<td>Local</td>
<td>Low</td>
<td>Temporary</td>
<td>Improbable</td>
<td>Low to very low Neutral</td>
<td>Low to very low Neutral</td>
<td>none</td>
</tr>
</tbody>
</table>

5.3.5. Impact on Fishing and Aquaculture

5.3.5.1. Description

Both the fish factories as well as aquaculture are dependent on the water quality in the bay for their operational activities. According to the Draft Hydrodynamic Modeling Report changes in water quality due to the proposed development will not affect the salt works, aquaculture or fish factory operations (Delta Marine Consultants & CSIR, 2009:57).

For the fish factories, water is extracted from the bay and treated at the water purification plants of the individual fishing factories. The quality of water extracted from the bay is tested often in order to establish the treatment it should receive (Geyser, 2009. Pers. Com.). It can be expected that an increase in heavy metals and sediments released will lower the water quality, and therefore likely increase the costs incurred for purification. From the Draft Hydrodynamics Modelling Report (2009), current in the bay flows in a northern direction. Thus, it is possible that suspended sediments from dredging will be transported along this current towards the fisheries.
5.3.5.2. Mitigation

A real time monitoring system will be set up as part of dredge operations to monitor suspended sediment concentrations at locations adjacent to the aquaculture farms and the fish factories. Should any sediment plumes from dredge operations exceed minimum quality standards, the dredge operator will be expected to take corrective action that will lower the suspended sediment concentrations in the water column.

<table>
<thead>
<tr>
<th>Impact</th>
<th>Spatial Extent</th>
<th>Intensity</th>
<th>Duration</th>
<th>Probability</th>
<th>Significance &amp; Status</th>
<th>Mitigation</th>
<th>Confidence</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Without Mitigation</td>
<td>With Mitigation</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Low Negative</td>
<td>Very Negative</td>
<td>High</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Real time monitoring of dredge plumes.</td>
<td></td>
</tr>
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<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td>None.</td>
<td>High</td>
</tr>
</tbody>
</table>

Construction phase

Operations phase

Impact of low water quality on the costs incurred by the fishing plants for the treatment of the water.

Impact of water quality on the fishing plants.
## 5.4. Monitoring Table

<table>
<thead>
<tr>
<th>No</th>
<th>Enhancement/ Mitigation Recommendation</th>
<th>Monitoring Responsibility</th>
<th>Action Required</th>
<th>Monitoring Method</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>During both construction and operations a ‘Locals first’ policy has to be adopted whereby Namibian Contractors and employees are used as far as possible.</td>
<td>Namport Project Manager and HR Manager.</td>
<td>During recruitment preference should be given firstly to Walvis Bay residents, then Namibians followed by International contractors and employees as far as possible.</td>
<td>Review of employee records.</td>
<td>During recruitment.</td>
</tr>
<tr>
<td>2.</td>
<td>Foster collaboration with the WBM with regards to available resources such as water and electricity and increased housing needs.</td>
<td>Namport Project Manager and HR Manager.</td>
<td>Establish forums to facilitate discussion.</td>
<td>Review of minutes.</td>
<td>Quarterly, ongoing process.</td>
</tr>
<tr>
<td>4.</td>
<td>Managing the transferring of skills programmes.</td>
<td>HR Manager.</td>
<td>Establish skills transferring programmes. Manage individual development plans.</td>
<td>Review employee records.</td>
<td>Quarterly and as need for new skills arises.</td>
</tr>
<tr>
<td>5.</td>
<td>Continue DOTS programme for TB along with HIV/AIDS programme, link up with NGO’s for awareness raising on HIV/AIDS.</td>
<td>HR Department/ Health and Safety Officers.</td>
<td>Continue the availability of the DOTS programme along with HIV/AIDS awareness raising through pamphlets, posters, workshops and campaigns.</td>
<td>Review the implementation of programmes and policies.</td>
<td>Continuously.</td>
</tr>
<tr>
<td>6.</td>
<td>Keep Public informed through the media on</td>
<td>Project Manager in</td>
<td>Place notices in newspapers</td>
<td>Align notices with the</td>
<td>Before dredging occurs.</td>
</tr>
</tbody>
</table>

Social Impact Assessment
Proposed Container Terminal Expansion: Namport
Enviro Dynamics (Pty) Ltd
March 2010
<table>
<thead>
<tr>
<th>No</th>
<th>Enhancement/ Mitigation Recommendation</th>
<th>Monitoring Responsibility</th>
<th>Action Required</th>
<th>Monitoring Method</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>Namport employees should be encouraged to make use of public transport or transport provided by Namport (SSI, 2009).</td>
<td>HR Department in collaboration with WB traffic department.</td>
<td>The HR department should encourage employees to make use of public transport and raise awareness amongst employees on available transport.</td>
<td>'Appointed Inspectors must record buses arrival and departure times at designated pick-up points and count passengers on buses' (SSI, 2009).</td>
<td>'Once a week on a randomly selected day each week' (SSI, 2009).</td>
</tr>
<tr>
<td>8</td>
<td>Installation of traffic signals (SSI, 2009).</td>
<td>Project Manager in collaboration with WB Traffic department.</td>
<td>Specific sites should be identified by the WB Traffic department for the installation of traffic signals.</td>
<td></td>
<td>Once Off.</td>
</tr>
<tr>
<td>9</td>
<td>Improve collaboration between Namport and Traffic Department.</td>
<td>Project Manager and WB Traffic Department.</td>
<td>Establish forums to facilitate discussions.</td>
<td>Review of minutes.</td>
<td>Quarterly.</td>
</tr>
<tr>
<td>10</td>
<td>Heavy vehicles, including construction vehicles, should avoid routes running through the town, especially residential areas.</td>
<td>Project Manager and WB Traffic Department.</td>
<td>The WB Traffic department should identify and indicate routes to be used by heavy vehicles.</td>
<td>Spot Checks.</td>
<td>Continuously.</td>
</tr>
<tr>
<td>11</td>
<td>More containers should be transported via rail than road (SSI, 2009).</td>
<td>TransNamib and Namport.</td>
<td>'TransNamib to investigate using more wagons for conveying containers' (SSI, 2009).</td>
<td>'Namport to record to supply of wagons by TransNamib and delivery time between origin and destination of selected container trains' (SSI, 2009).</td>
<td>'Monitor trains on a daily basis and discuss progress with TransNamib on a monthly basis' (SSI, 2009).</td>
</tr>
<tr>
<td>12</td>
<td>Namport and WB Traffic Department should investigate the restrictions of movement for Swakopmund and</td>
<td>Namport and WB Traffic Department.</td>
<td>Investigate safety risks on road between Swakopmund and</td>
<td>Review minutes of discussions and studies</td>
<td>Continuously, especially before operational phase</td>
</tr>
</tbody>
</table>

*Social Impact Assessment*

*Proposed Container Terminal Expansion: Namport*

*Enviro Dynamics (Pty) Ltd*  

*March 2010*
<table>
<thead>
<tr>
<th>No</th>
<th>Enhancement/ Mitigation Recommendation</th>
<th>Monitoring Responsibility</th>
<th>Action Required</th>
<th>Monitoring Method</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>12.</td>
<td>If noise from piling exceeds accepted levels, it should be restricted to specific times, e.g. not at night between 22h00 and 06h00.</td>
<td>Contractor.</td>
<td>Construction schedule should be designed in such a way that piling is restricted to specific times of the day.</td>
<td>Review construction schedule and monitor piling actions.</td>
<td>Continuously.</td>
</tr>
<tr>
<td>13.</td>
<td>Employees should receive sensitivity training with regards to handling of containers.</td>
<td>Project Manager, HR department.</td>
<td>Employee development programmes should be introduced of which sensitivity training on handling of containers forms a component.</td>
<td>Review development programmes, employee records.</td>
<td>Do spot checks once very week on how containers are being handled.</td>
</tr>
<tr>
<td>15.</td>
<td>Noise barrier, which should be constructed, should be subject to clever architectural design and landscaping in order to limit visual impact.</td>
<td>Project Manager and architects.</td>
<td>Consider design.</td>
<td>Review designs.</td>
<td>Before Construction of barrier.</td>
</tr>
<tr>
<td>17.</td>
<td>Storage facilities should be subject to clever architectural design and landscaping in order to limit visual impact.</td>
<td>Project Manager and architects.</td>
<td>Consider design.</td>
<td>Review design and development plans.</td>
<td>Before Construction.</td>
</tr>
<tr>
<td>18.</td>
<td>Collaboration and concerted planning efforts between Namport, Stakeholders, Investors and WBM, especially the Town Planning Division.</td>
<td>Project Manager and HR division</td>
<td>Establish forums.</td>
<td>Review Minutes</td>
<td>Quarterly.</td>
</tr>
<tr>
<td>No.</td>
<td>Enhancement/ Mitigation Recommendation</td>
<td>Monitoring Responsibility</td>
<td>Action Required</td>
<td>Monitoring Method</td>
<td>Frequency</td>
</tr>
<tr>
<td>-----</td>
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</tr>
<tr>
<td>19.</td>
<td>Develop a forum in order to facilitate collaboration between Namport and Walvis Bay Municipality with regards to tourism and the marina development.</td>
<td>HR Manager.</td>
<td>Establish forums.</td>
<td>Review Minutes.</td>
<td>Quarterly.</td>
</tr>
</tbody>
</table>
CHAPTER 6. THE NO PROJECT ALTERNATIVE

The Walvis Bay community currently has to deal with nuisances such as noise and dust pollution. These are present regardless of whether the proposed container terminal expansion is undertaken or not. Should the project not proceed, the ecological functioning and social amenity of the lagoon area would maintain existing trends.

In the absence of the proposed development and the economic stimulus associated with its construction and operational requirements, economic growth in Walvis Bay would continue at its current modest rate. However, the social benefits that accompany much needed employment would be lost. In addition, the opportunity to make better use of land within the harbour would be lost, while the visually intrusive barrier of the existing container stacks near the Yacht Club area will remain.

Should the proposed development not proceed, the port of Walvis Bay will forfeit an opportunity to establish itself as a competitive leader in the maritime industry.
CHAPTER 7. CONCLUSIONS AND RECOMMENDATIONS

It can be concluded that benefits resulting from this proposed development for the Walvis Bay community are relatively significant. Jobs are created while an increase in trade can stimulate economic activities.

Improved collaboration between Namport and the Walvis Bay Municipality can contribute to the project reaching its full potential, together with other spin-offs.

Any threat to the lagoon will negatively impact on the tourism sector and the amenity of the lagoon area which can contribute to the decrease in property value in the surroundings. However, this has not been identified by the EIA.

The mitigation and enhancement measures recommended in this report provide Namport with the opportunity and responsibility to maximize positive benefits and to minimize negative impacts. Implementation of these interventions, with appropriate monitoring, would ensure that the proposed expansion of the container terminal provides social and economic benefits, as well as environmental protection.
REFERENCES


**Websites:**


[www.tripadvisor.com](http://www.tripadvisor.com) (n.d.).


**Personal Communication:**


APPENDIX A

Background Information Document